5ᵗʰ Impression - 2020

Annotated Bibliogrphy of
Dissertations and Theses
Presented to PGIM by Postgraduate Trainees
2016 - 2019
(Acc. Nos. D 3633 - D 4841)

Complied by

M.P.P.Dilhani (Senior Assistant Librarian)
Chandima Wadasinghe (Senior Assistant Librarian)
L.K.Weragala (Senior Staff Assistant)

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5th Impression – 2020

Library

PGIM Academic Centre

Postgraduate Institute of Medicine

University of Colombo

Sri Lanka

October 2020

Compiled by

M.P.P. Dilhani - Senior Assistant Librarian

Chandima Wadasinghe - Senior Assistant Librarian

L.K. Weragala - Senior Staff Assistant

PREFACE

It gives me great pleasure and pride to acknowledge the dedicated commitment and untiring efforts of the Senior Assistant Librarians and staff of the Postgraduate Institute of Medicine for the compilation of " Annotated Bibliography of Theses and Dissertations submitted to PGIM by the trainees of MD and MSc. study programmes from 2016 – 2019". This issue will be the 5th updated publication which will be available online for easy access at a low cost.

The PGIM, Colombo is the sole institution, which provides postgraduate training in all medical disciplines. One common feature of all these degree-awarding programs is the emphasis laid on research. Inclusion of a research project, culminating either in a dissertation, thesis or research publication is thus a ubiquitous feature of all these programs. Not all research conducted is published and hence this Bibliography will serve as a useful tool in the search for literature especially in relation to recent and locally conducted research.

Despite its name, the contents in the publication are not limited to a list of references, but include the abstracts as well. This is an added feature, which will make the task of a literature survey less tedious. I am confident that the Bibliography will put to maximum use by all the postgraduate trainees and others. Thus strengthening the research culture, which would generate a wealth of evidence, enabling the provision of high quality health care services.

Professor Senaka Rajapakse
MD, FRCP (Lon), FRCP(Edin), FCCP, FACP, FNAS(SL)
Director
Postgraduate Institute of Medicine
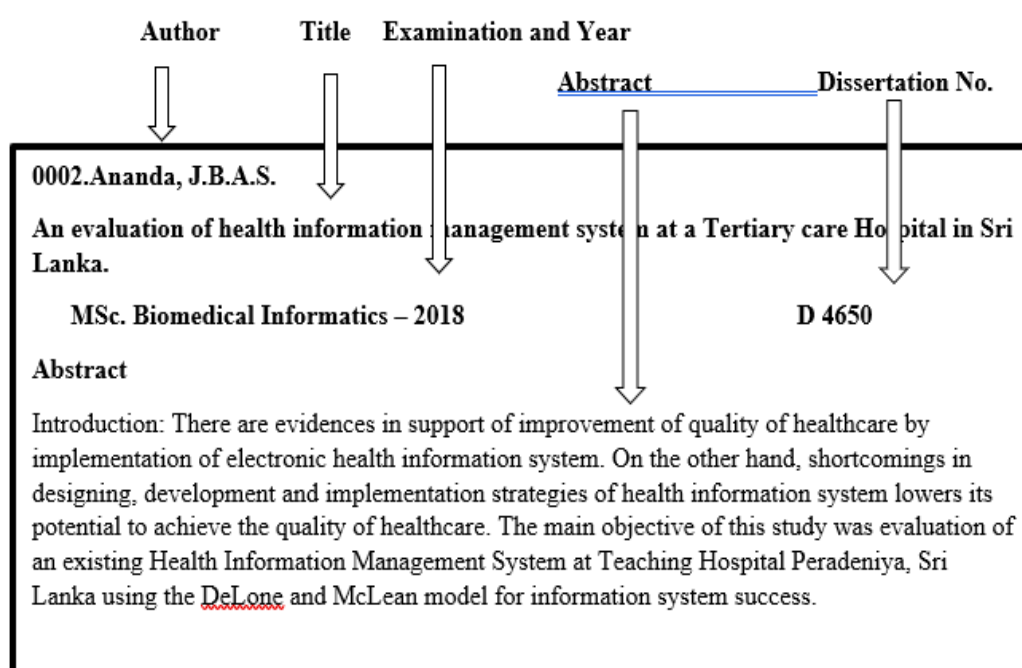University of Colombo
Sri Lanka

FOREWORD

As secondary and primary information sources bibliographic indexes bridge the gap between generated literature and the end user. This compilation an attempt to bring together bibliographic details of dissertations, theses presented to Postgraduate Institute of Medicine (PGIM) by postgraduate trainees during the period of 2016-2019 (Acc. Nos. D 3633-D 4841). It is hoped that this bibliography while functioning as a bibliographic record of the areas of research engaged by the PG trainees will also serve as an indicator of the subject interests and priorities from the point of view of the profession.

This bibliography comprises four sections namely;

1. Subject Index   2. Author Index   3. Title Index   4.Keyword Index.

Bibliographic data pertaining to documents including the annotations are given in the main section which is arranged alphabetically under the name of the author. Therefore, this file function as an author index as well. Each entry assigned as a sequence number which functions as the unique identifier of the entry. The title, Examinations, and the Subject index refer to the main file through this sequence number where detailed information could be found. Annotations in the main file are mainly based on summaries or abstracts given by respective authors but with necessary modifications and abridgements. In the keyword index, MeSH database and Google scholar used for assigning keyword for this compilation. Each bibliographic reference is associated with a set of MeSH terms that describe the content of the item.

A sample entry of a record of the main file is given below.

Mrs. M.P.P Dilhani

BA(Hons), MSSc, ASSLA

Senior Assistant Librarian

Postgraduate Institute of Medicine

University of Colombo

Sri Lanka.

Content Page

Annotated Bibliography of Dissertations and Theses Presented to PGIM by Postgraduate Trainees 2016- 2019 (Acc. Nos. D 3633 – D 4841)

ABSTRACTS

Biomedical Informatics

0001. Amarakoon P.M.
   Development and implementation of multi sector national nutrition surveillance system.
   MSc. Biomedical Informatics -2016   D 4351
   Background

Nutrition in first three years of life is the key determinant that helps to produce an individual with physical and intellectual well-being, who can contribute to development of the nation. In spite of interventions from health sector, progress of overcoming malnutrition has been poor. Lack of understanding of root causes for malnutrition and the absence of coordinated multi sector involvement in eliminating causative factors has been attributed to the delay of progress. Thus, multi sector action plan for nutrition has been initiated by Presidential Secretariat to bridge this gap. Requirement of an electronic surveillance information system arises for fast, efficient transfer of information between the complex involvements of stakeholders.

Following a detailed analysis of requirements and problem domain, it was decided that an information system with a central server supported by a mobile application would be an ideal solution. A mobile application was designed for data collection in field and periodic synchronization with an open source solution as the central web server. Information system was implemented at Matale district as a pilot project. Public health midwives of Matale district were provided with an in-service on-site training on use of mobile application. Observations were done on user interaction with system during the training and feedback was obtained following field level training and implementation.

Results

Midwives were enthusiastic on participating for the training. They positively appraised the use of a mobile application for data collection and the training they received on the use of the application. They understood the requirement of

multisector intervention and the need for an information system. Suggestions to improve the application were highlighted by end users during the training programme. User feedback suggested that implemented information system satisfied the information demands of multi sector action plan for nutrition.

Conclusion

Mobile applications had a relatively feasible learning curve and better acceptance by field level health workers. Further development and sustainability of the application and empowering the end user needs efforts from multiple stakeholders involved with the project.

0002.Ananda, J.B.A.S.
Evaluation of health information management system at a Tertiary care Hospital in Sri Lanka.
MSc. Biomedical Informatics – 2018 **D 4650**

Introduction: There are evidences in support of improvement of quality of healthcare by implementation of electronic health information system. On the other hand, shortcomings in designing, development and implementation strategies of health information system lowers its potential to achieve the quality of healthcare. The main objective of this study was evaluation of an existing Health Information Management System at Teaching Hospital Peradeniya, Sri Lanka using the DeLone and McLean model for information system success.

Methods: A convergent mixed method design was used. Descriptive crosssectional method was followed by in depth interviews of selected participants. Self-administered questionnaire was used for data collection and interviews were recorded by an electronic voice recorder. All health care workers using health information management system in Teaching Hospital Peradeniya were included for the study. Two hundred five (205) participants were recruited for the study and 81% response rate was observed. Information gathered from qualitative component was coded and described. Statistical Package for Social Sciences (SPSS) version 23.0 was used to analyze the quantitative data. Project was ethically cleared by the Ethics Review committee of Postgraduate Institute of Medicine, Colombo.

Results: Almost all study participants believe that HIMS increases the productivity as well as quality of patient care. More than 80% of the participants have perceived the user friendliness and the acceptability of the HIMS system.

Response time, accessibility, reliability, completeness, accuracy, relevance and comprehension of content of information of HIMS were positively perceived. Participants have understood that HIMS has the potential of increasing quality of patient care services and it avoids duplication of data leading to reduction of the workload. Not updating timely information, giving priority to patients' care services at demanding times, deficiencies related to computer proficiency were identified as major barriers in system sustainability.

Conclusions and Recommendations: A significantly positive perception regarding HIMS was noted among system users, and potential of improvement in institutional productivity and quality of patient care due to HIMS was identified. System quality and the acceptability of the HIMS are at a satisfactory level. Problems related to the system maintenance, inadequacy of available information in the system and problems related with skills were identified as the main challenges. Periodically upgrading of the system should be done by evidence-based interventions. Adequate attention should be paid regarding the system maintenance, computer proficiency and appropriate skills development of the users with the system infrastructure.

Keywords: Health Information System, Evaluation, Tertiary care, Mixed Method Study.

0003.Athukorala, S.C.
Development and piloting of an information system for anti-malaria campaign based on public health software framework DHIS2.
MSc. Biomedical Informatics – 2017   D 4374

Introduction: Sri Lanka is a Malaria eliminated country since September 2016 declared by the WHO. The country has interrupted indigenous malaria transmission, but imported malaria cases persist. As a tropical country, Sri Lanka has both the receptivity and vulnerability to Malaria. The vigilance is needed with intense surveillance operations. The DHIS2 as a globally accepted free and open source public health information management platform was used for the project. Stakeholder and requirements analysis, restructuring the existing system, customizing DHIS2 and system evaluation was done.

Method:DH1S2 framework was customized to provide parasitological, entomological and patient-based surveillance with analytical and reporting

facilities according to the stakeholder requirement analysis. The initial phase was piloted with training and feedback gathering among the Regional Malaria Officers. A study of two components was conducted using a self-administered questionnaire among RMOs. Part one was the quantitative evaluation of the existing paper-based system which was done in accordance with the CDC updated guidelines for evaluating public health surveillance systems. Part two was the qualitative survey regarding user requirements of the system, system implementation requirements and system impact on current practices due to the web- based information system.

Results: The project developed and evaluated a web-based information system for Anti- Malaria campaign Sri Lanka. The evaluation of the paper-based system has shown that the attributes of usefulness, simplicity, flexibility, data quality, acceptability, timeliness and stability (Median=disagree or strongly disagree, IQR=0.5 to 1.75) need to be improved. The study has shown that information quality (21%) and security (20%) as important system requirements, proper training (46%) as important system implementation requirements and improved efficiency (33%) and improved information availability (30%) as considerable system impacts on the current work practices among the RMOs.

Conclusion: The project has shown a successful instance of adopting DHIS2 towards the Malaria surveillance programme in Sri Lanka. The web-based system was developed as a cost-effective sustainable solution by adopting the paper-based system with the change of needs to the current requirements of the local and the international stakeholders. The surveillance system needs to evolve according to the stakeholder requirements and improvements in system attributes.

0004.Dasanayake, N.M.
Electronic solution for health care quality & safety assessment of health Institutions of Sri Lanka.
MSc. Biomedical Informatics - 2018   **D 4640**

Background: Focus on the health care quality is on the rise. Sri Lankan health sector under guidance of Directorate of Health Care and Safety is moving towards improving quality. Quality data is needed to measure and assess health care quality. Data collection and information generation can be achieved through an information system. At the moment this is an inefficient **process.** Electronic information system can provide time and quality information, but the system development is associated with high cos Nevertheless. District Health Information Software version 2 is a free

and open sour platform that can be customized to build an information system. Purpose of this study was to develop electronic data collection platform for Directorate of Health Care a Safety to collect quality related data.

Methods: This study was conducted as an action research. Stakeholder requirements were identified, and data dictionary was developed. District Health Information Software platform customization was carried out according to the requirements. Project management principals were used during development of the software. Piloting was dc using 2017 data. Some improvements were done based on the user feedback.

Results: Initial assessment showed potential to improve data quality. Based requirements a functional Electronic Health Care Quality & Safety Assessment System was developed which can collect aggregate and analyze data and generate reports.' system can be scaled up to accommodate all the data needs of the Directorate of He; Care and Safety. Users were satisfied with the interface but requested further training

Conclusion: This study emphasizes the potential of District Health Information Software version 2 to be used as Electronic Health Care Quality & Safety Assessment System. This study also shows that developing a data dictionary is an important initial step din designing phase of an information system.

0005.De Silva, T.A.U.
Developing and piloting of a medico-legal autopsy surveillance system for Institute of Forensic Medicine and Toxicology.
MSc. Biomedical Informatics - 2018   D 4638

Background: Forensic autopsy or medico-legal autopsy have important medical legal implications, but generally little attention is given to autopsy data. Chronic noncommunicable diseases and injury are the commonest causes of deaths in low and middle-income countries. Preventive measures are impeded due to the unavailability of quality information on time. Substantial amount of money has to be spent on development electronic solutions which LMICs cannot afford in the long run. Due to the high cost in developing and maintaining of such software, using a free and open source software is beneficial. District Health Information System version 2 is a free and open so platform that provides the possibility of customizing according to user requirements developing health information systems.

Methodology: System requirement analysis was achieved through interviews stakeholders. DHIS2 platform was customized according to the stakeholder requirement and reference to WHO guidelines on steps to setup a fatal-injury surveillance system. Some data were lacking in the current paper-based system which were included in the Medico-legal Autopsy Surveillance System data collection form. Advance customization was used to meet the system requirements maximally. Program rules included collection form was created to make the interface user friendly. Testing of the system was carried out using sample data. Data analysis and report generation done through the system excluding incomplete data entry fields. System pilot run done by using autopsy data collected at Institute of Forensic Medicine and Toxicology during the period 01.03.2018 to 07.04.2018.

Results: A functional medico-legal autopsy surveillance system was developed including the stakeholder requirements which consists of individual data capturing, data aggregation, analysis and report generation. The system facilitates future modifications to improve the system functionality. The simple data entry form improved the quality of data by minimizing the inconsistency of data collection. A total of 160 autopsy records were entered into the system. Out of 160 deaths, 121 were males, 38 were females. 65 (45.5%) were due to accidents, 47 (32.9%) due to natural causes, 14 (9.8%) due to suicides, 10 (7%) under investigation, 6 (4.2%) homicides and 1 (0.7%) was due to legal intervention. Of 65 accidents Intracranial Injury was the commonest cause of death and out of 47 natural deaths Ischemic Heart Disease was the commonest cause of death accounting 17 deaths.

Conclusion: This DHIS2 based medico-legal autopsy surveillance system can be used as an electronic solution for fatal injury and disease surveillance as it provides a smooth integration between individual data and data aggregation. It was able to full fill the deficiencies identified in the paper-based system. Due to the cost effectiveness of using a free and open source software and low cost in maintenance of the system this system is suitable for resource constrained country like Sri Lanka. The developed system generated reports would help relevant public health officers in establishing preventive strategies new policies in order to bring the fatality down.

0006.Deduwela, R.
Designing and piloting of a mobile application for patient records keeping in the ward setting at National Cancer Institute of Sri Lanka.
MSc. Biomedical Informatics - 2018   D 4646

Background: The adoption of health information technology has become a recent trend in many healthcare institutions worldwide, and also in Sri Lanka. The Hospital Information Management System in the National Cancer Institute (Apeksha Hospital) of Sri Lanka, needs a data capturing tool to be used in the ward setting, to make the patient record keeping task more efficient and effective.

Objectives: This study aims to assess the suitability of a mobile electronic data capturing tool for the purpose of patient records keeping in the ward setting.

Methodology: This study was conducted with the aim of designing a mobile application for the patient records keeping and usability evaluation. User requirements were gathered through one-on-one interviews with the medical officers who work in the ward setting of the institution and past health records were also examined. A prototype of the mobile application was evaluated for usability and user acceptance at the end of the study, with a self-administered questionnaire given to the medical officers, which included the System Usability Scale and some additional queries.

Results: The weaknesses of the existing paper-based system were identified as misplacement and loss of patient records, illegibility, incomplete documentation, lack of uniformity, improper organization, difficulty in summarization and delays in sending investigation requests and receiving investigation reports. Familiarity and experience with the existing system were regarded as its strengths, which enabled the users to document faster and conveniently. The medical officers expected the proposed system to be easy to access, readily available, easy to document, to have error proofing functions, to have restricted access and use modem UI features. The developed prototype included all the data capturing and viewing interfaces, UI features and navigation between different interfaces of the application. It received a SUS score of 68.33 and overall user- friendliness was among the highest scored queries.

Conclusion: Use of a mobile application as a data capturing tool, for the purpose of patient record keeping is an acceptable solution which need more improvements, stakeholder involvement and change of attitudes.

0007.Dimal, D.A.

Electronic health management information system to capture school based child health data.

MSc. Biomedical Informatics – 2018   **D 4647**

Introduction and Objectives: School Health Programme of Sri Lanka is implemented by Medical Officers of Health (MOH) through by the Public Health Inspectors. Current paper-based school health information system consisted of eleven different forms with a total of twenty-five copies to be filled at different levels. Existing system has issues in data accuracy, timeliness, completeness and increased work load for field level health care workers.

Objective of this study was to Design, Implementation and Evaluation of an Electronic Health Management Information System to Capture School Health Data for Family Health Bureau, Ministry of Health, Sri Lanka in view of transforming paper-based school health information data flow in compatible with electronic school health data management.

Methods: Several Focus group discussions were carried out with all the stakeholders involved in school health programme. Existing data flow was examined and data entry forms were modified accordingly. After design electronic data sheets pilot projects were implement in Anuradhapura and Kegalle districts. All the health care workers involved in school health activities in above districts were trained. One month after establishing electronic data flow evaluation was done with Individual questionnaire with the System Usability Scale (John Brooke SUS).

Results: Three forms were modified (H 1014, H1015A, and HI247) in order to prevent data duplications and to improve user friendliness. Form size of all three forms were reduced while maintain all data elements of the existing system. Number of forms need to be filled reduced to eight forms of total fourteen copies. None of existing data elements were removed from data collecting system. There were 91 participants from both districts and majority of them were males (n=66, 72.5%). Mean age of the participants were 41.3 years of age where majority (n=38, 41.8%) of participants were in 31- 40 years age category. Majority of trainees attended to user training programme were PHIs where all the participants had minimum of GCE advanced level educational qualification. Majority of users attended to the training programme, 54(59.3%) were found to be accepted the system at SUS evaluation. System usability scale (SUS) average score of all users

attended to the programme was 70.5 (SD=13.6). Score of 70 and above is considering as system acceptability. But 49 (53.8%) of them agreed with the statement that they need to learn more before get going with system like this. Within 3 months after implementation, system reporting rate summery shows excellent data completeness in both districts

Conclusion: Revised school health management data flow has reduced manual workload by reducing number of forms to be filled and reducing the size of each form while maintaining the captivity of all data elements in the paper-based information system and Anuradhapura and Kegalle district eRHMIS users have accepted the School Health electronic health information management system, but they need more learning opportunities to get going with electronic information management systems.

0008.Epasinghe, D.U.
Facilitating information use via user specific dashboards : The case of electronic patient information management system at the national programme for tuberculosis control and chest diseases.
MSc. Biomedical Informatics – 2017   **D 4368**

Introduction: Tuberculosis is a major public health concern globally, due to its contagious nature and the impact on economically productive age group of the society. Information and communication technology present opportunities for innovative approaches to support TB control programmes globally. The National Program for Tuberculosis Control and Chest Diseases (NPTCCD) in Sri Lanka adopted Electronic Patient Information Management System in 2014 to strengthen the TB control programme and its information flow in the country. Although the system gathers adequate amount of patient data, there is a delay in using this information for action. In order to facilitate information for action, user specific dashboards were developed and implemented.

Method: The Research project was conducted in three phases.

Phase one included a qualitative study to identify user requirements. In depth interviews were done using 12 identified key users of the system. Thematic analysis was carried out to analyses the data, which resulted in 288 codes categorized into 23 categorize and 6 major themes.

Phase two resulted in three customized dashboards created using latest version of DH1S2.Design and development of dashboards were done within Electronic patient

information management system at NPTCCD server. Dashboards were designed to cater the user requirements identified in phase one.

Phase three, evaluation of customized dashboards for user satisfaction was done using identified users in similar manner to phase one using i..n depth interviews. Thematic analysis resulted n 59 new codes, which were summarized in to 7 organizing themes and 3 major themes.

Findings: Users were more concerned about the visual representation of quality indicators than concentrating on the design of the dashboard.

Conclusion: User perceptions are necessary in designing dashboards and that it should be done in an iterative manner as users tend to change in their position regarding the requirements and the visualization of dashboards following seeing the actual design.

0009. Eriyawa, W.M.A.B.
Applying ICT to staff supervision at MOH level.
MSc. Biomedical Informatics – 2018   **D 4648**

Background: Supervision of public health workers is important to enhance the performance of the public health system. Although healthcare workers at ground level are supervised by the supervisory staff at Medical Officer of Health (MOH) level, there should be a proper mechanism to supervise supervisors namely MOH, Public Health Nursing Sister(PHNS), Supervisory Public Health Midwife(SPHM) and Supervisory Public Health Inspector(SPHI). Different mechanism is required to increase data quality of above-mentioned supervisory mechanism of the supervisors by means of accuracy, timeliness and completeness.

Objectives: Assessment of user acceptability of the electronic health information management system (HIMS) for the collection of supervisory data at MOH level is the objective of the study after implementation of the electronic HIMS

Methods: District Health information software 2 (DHIS2) was used to transform paper based forms RHMIS-A, RHMIS-B, H-1248 and H-1249, available for the supervision of supervisory staff at MOH level in to an electronic Health Information Management system (HIMS). User acceptability of the new electronic HIMS was assessed using a structured questionnaire following 1 month after implementation and user training with 73 participants of Colombo and Kaluthara RDHS areas.

Results: Among 73 participants took part in the research 61.6% and 58.9% were having sufficient knowledge on software use and internet use. 55% were sharing computers with others at office while 42.5% are having an official email. Average score of System Usability Scale was 71.3% . 86.3% said filling electronic form is easier than paper-based forms while 83.6% said electronic forms are less time consuming. Average score of the assessment of user training program was 73.61%.

Conclusion: Availability of infrastructure, Information communication Technology knowledge, proper training program and a user-friendly electronic system will increase user acceptability of the electronic HIMS available for the supervision of supervisors at MOH level.

0010. Fernando, K.M.N.C.
Design, implementation and evaluation of electronic mental health management information system for directorate of mental health, Ministry of Health, Sri Lanka.
MSc. Biomedical Informatics – 2018   D 4637

Introduction and Objectives:

In mental health facilities in Sri Lanka, in-ward patient data are captured by indoor morbidity and mortality records, while outpatient data are captured from aggregated paper-based returns generated at clinic level. Paper-based returns inherits limitations of timeliness, accuracy and quality.

Objectives of this study were to revise the national mental health returns, design, implementation and training of electronic Mental Health Management Information System (eMHMIS) and evaluation of the system usability.

Methods:

Existing national mental health returns were revised with adaptation of minimal data set principle. System requirements identified and eMHMIS was developed using District Health Information System Version 2 (DHIS2). The system was implemented island wide at the Regional Director of Health Services offices. Outpatient data capture and analysis were provided through the system at Regional, Provincial and National levels.

An evaluation of system usability was done using an online self-administered questionnaire (International System Usability Scale) which is a validated tool in Sri Lanka. A score >70 indicated good system usability. The online questionnaire was

developed using google forms and sent to the 44 users. We analyzed data using Statistical Package for Social Sciences (SPSS) Version 22.

Results:

Out of 44 eMHMIS users, 31 participated in the system evaluation. Of them, 61.3% were female and 38.7% were male. A vast majority of the users were university graduates (90.7%). Of them, 51.6% were Medical Officers and 22.5% were Developmental Officers. The median usability score of the participants was 70.0(IQR 57.5-77.5).

Conclusion:

According to the International System Usability Scale, the participants have evaluated eMHMIS as 'Good' in its usability.

0011. Fernando, S.K.P.A.
   Development of a mobile application prototype for the National Transplant Information System
   MSc. Biomedical Informatics – 2018   **D 4644**

   Introduction

   Transplantation has become a widespread practice globally. Transplant coordinators in Sri Lanka are medical officers who coordinate transplant activities from both live and deceased donors. Therefore, they need to assess the donor condition several times and also communicate with several specialties. Since mobile phone applications are used widely Sri Lanka for health practice a mobile application prototype was designed for android devices to facilitate the deceased donor organ transplantation procedure.

   Methodology

   All the donor coordinators within the country were interviewed they were all initially given a requirement analysis questionnaire. Following the analysis of requirements, the first version of the mobile application prototype was developed. A mobile application prototype version one was designed for android devices to facilitate the deceased donor organ transplantation coordination. This prototype consists of guides and simple algorithms to facilitate the deceased donor organ transplantation process. The prototype was designed using the Justin mind prototyping tool. The usability of the prototype was assessed by the participant

following its visualization. The second version of the prototype was developed following the evaluation.

Results

96% of the institutional transplant coordinators were aware of their duties and 91% were aware of the procedures to be followed. A similar number (96%) have correctly emphasized on the importance of comprehensive documentation of the transplant surgeries and the outcome. They were in favour of maintaining good communication with a national transplant coordination centre. In the current context of Sri Lanka, the newly established National Transplant Coordination Centre and regional donor coordinator centres as well as national transplant centres are not connected by a centralized network, but the coordinators attitude towards maintain communication with the National Transplant Centre assures that once centralized network is established the continuity will be maintained. During the post evaluation the coordinators agreed that the mobile application would help increase the efficiency of the coordination process (80%). The likelihood of the coordinators using the mobile application was 96%, and all the coordinators preferred deceased donor coordination using the mobile application. It was also indicated by the coordinators that the application was easy to use and that it will help change the way the deceased donor transplantation be conducted.

Conclusion

A mobile application for the coordination of the deceased donor organ transplantation activities have shown to be beneficial, it could also help solve the difficulties that arise due to the lack timeliness of information. Also, the institute transplant coordinators are ready to accept a mobile application.

0012. Ganearachchi, I.N.
Evaluation of electronic indoor mortality and morbidity report (eIMMR) system in Sri Lanka.
MSc. Biomedical Informatics – 2017   **D 4370**

The electronic Indoor Morbidity and Mortality Report system in Sri Lanka is national system that replaced manual recording and reporting of indoor morbidity and mortality data. A formal evaluation was done to assess the status of the system based on the Clinical adoption framework.

A user centric evaluation was performed using a mixed method. Data was collected using a survey to assess user satisfaction, system, information, service

and implementation quality. The data was quantitatively analyzed and based on the results a semi structured interview was done to explain the findings and explore user views. The results were thematically analyzed.

The system scored high in all dimensions of success. User satisfaction assessed with spearman's rank correlation test, showed positive correlations with system quality (r_s= 0.516), information quality (r_s=0.505), service quality (r_s=0.409) and implementation quality (r_s=0.505). Levels of user satisfaction significantly lower in administrators than data entry users mainly due to lack of awareness and poor system use. Users at larger hospitals also had lesser user satisfaction than those in small hospitals due to increased work demands and deficiency of human resources. Main barriers to optimal system use was resource limitations, inadequate ICD training and inadequacy of trained medical records officers. New user requirements from the system were identified.

Health information system success needs adequate infrastructure, resources, user training and formative evaluations for new user requirements for success. These factors need to be periodically assessed and corrected. In addition, Implementation quality should be recognized as an important dimension of information system success.

0013.Ganewatta, M.N.
Development and piloting of an injury surveillance system based on the free and open source public health software framework DHIS2
MSc. Biomedical Informatics – 2016   **D 4344**

Background: Injuries are a major public health issue in low and middle-income countries where injury prevention efforts are hindered by the lack of quality information. Although injury surveillance could provide information required for action, these countries cannot afford to develop and use their own injury surveil lance systems due to high costs. At present free and open source solutions are lacking. However, District Health Information Software version 2 (DHIS2) is a widely implemented free and open source public health software framework providing a wide range of possibilities for building integrated health information systems for a range of public health issues.

Methods: The software framework was customized into a functional injury surveillance system according to the requirements of the stakeholders based on the World Health Organization guidelines. Some of the features that were lacking in

the native software were improvised using custom coding. The system was piloted using the injury data collected at the National Hospital of Sri Lanka during 2014.

Results: A functional injury surveillance system was developed with the ability to collect aggregate, analyse and generate custom reports. It further offered features such as data validation, handling missing information and allowed scheduled backing up of data. The system was flexible enough to accommodate further modifications without the need for major re-work. However, the complex user interfaces of the software framework increased the learning curve for new users and extended the time for data entry to some extent.

A total of 24,893 patient records were entered in to the system. Analysis of data revealed that 25.4% of cases were due to road traffic injuries, 14% due to violence 1.2% due to self-inflicted injuries while 59.4% due to other unintentional injuries such as falls (36.3%), trauma due to blunt/sharp objects (17.9%) and bums (1.4%).

Conclusion: This study emphasizes the potential of District Health Information Software version 2 to be used as an injury surveillance solution which would be sustainable in the resource constrained countries due to its low cost of development and maintenance. The source code of our ISS is freely available to be used by any country or organization.

0014. Godage, P.
Electronic environmental occupational health and food safety information management system (eEOHFSIMS).
MSc. Biomedical Informatics – 2018   D 4656

Background

A significant personality in providing required services at the grass root levels in the public health sector is the Public Health Inspector. One of his key responsibilities is updating data in the "Monthly Report", which is an important document to have a clear understanding about the Environmental, Occupational Health and Food Safety aspects, of a particular Medical Officer of Health area. This outdated Monthly Report format has resulted in generating incomplete and untimely reports at national level, with inferior and inaccurate data. With the emergence of public health information management systems, the usage of a web based free and open source platform known as "District Health Information

Software version 2 (DHIS2)" has been considered for this study, to transform paper based data into electronic data, for effective and timely results.

Method

It was decided to use DHIS2, which is known as a generic public health information system to identify the prevalent problems in the present system. The system usability was tested and related feedback was obtained from the participants, based on an appropriately developed questionnaire.

Results

Generic DHIS2 platform was adequately flexible to customize and revise the Monthly Report. The average System Usability Scale study of this proposed system recorded 72.25 with a higher Standard Deviation of 13.37 which confirmed that, it is a usable system. However, a knowledge gap of 92% was identified among the users of the proposed electronic Environmental. Occupational Health and Food Safety Information Management System (eEOHFSIMS).

Conclusion

The electronic system has proved its capability in providing accurate, complete and timely data which will greatly assist the primary' healthcare serv ice of the country', in implementing the government's national health policy initiatives and thereafter for continuous monitoring and evaluation as well.

0015.Janaka, G.K.M.E.
Study of the best approach to incorporate operational stakeholders in the multi-sector nutrition intervention tracking system.
MSc. Biomedical Informatics – 2017   D 4364

Background

The most important fact which will help the physical and intellectual well-being of an individual is considered to be the nutrition received during the first one thousand days of a person's life. Although Sri Lanka's nutrition indicators have improved over the past few years, a more concentrated effort is needed to overcome malnutrition. Multisectoral collaboration has been identified as the best way forward to combat malnutrition. A multi-sectoral action plan for nutrition and a web based national nutrition intervention tracking system has been introduced by the Presidential Secretariat with the assistance of health and non-health sector stakeholders. Data on nutrition collected at village level will be updated in the

webbased system for analysis and intervention purposes. It is important to identify the best approach to incorporate data into the system in order to derive beneficial results from the implemented system.

Method

The project was being set up at the National Nutrition Secretariat, at Divisional Secretariats of Colombo, Monaragala and Nuwara Eliya, and at the Nutrition Coordination division and Family Health Bureau (FHB). Following a detailed analysis of the web-based system and based on meetings and discussions held at the National Nutrition Secretariat, a qualitative survey was conducted among nonhealth sector stakeholders who work for the multi-sectoral action plan for nutrition.

Results

106 participants were interviewed. It was found that most of the health and nonhealth stakeholders were satisfied with the Multi-sectorial approach to achieve the national nutrition goals. The web based computerized system has been appreciated by all the stake holders but still there seems to be administrative bottlenecks that do exist based on the job description and assigned work. The modification to the interface of the system, internet connectivity, lack of infrastructural resources is still in need, to be resolved by the top management.

Conclusion

Identification of the best approach to obtain the maximum and efficient outcome from the non-health sector stakeholders was done through this project with the objective of assisting the multi-sectoral nutrition action plan in a more direct and meaningful manner.

0016.Jayarathne, M.B.R.M.C.I.
Design, pilot and evaluate an electronic data capturing tool to facilitate the calculation of pediatric early warning score and documentation process at a busy preliminary care unit.
MSc. Biomedical Informatics – 2018   **D 4657**

Background: Paediatric Early Warning Score (PEWS) systems are in paediatric clinical practice, for early recognition of clinical deterioration and effective management of the possible morbidity by assessing the respiratory, circulatory and neurological parameters. Paper based PEWS systems in the Sri Lankan setting

have failed due to multiple underlying causes. Under these circumstances this study was carried out in a Sri Lanka's leading children's state hospital to design, pilot and evaluate an electronic data capture tool to facilitate calculation of PEWS and documentation process at a busy preliminary care setting.

Method: This study adopted an action research strategy to design and develop a web based PEWS system. Interviews and focus group discussions with identified stakeholders and personal observations made by the author/investigator facilitated the identification of user requirements for the proposed electronic system. System usability scale coupled with interviews were used for system usability evaluation. Recommendations were made to mitigate and anticipate the identified threats for the successful implementation of the system.

Results: Challenges for initiation of PEWS at the study setting were identified regards to patterns of Afferent Limb Failure. In addition, required system features to address those challenges were also identified. Acceptability of the electronic tool have been depicted by the score of 77.8 in the System Usability Scale. Improved efficiency, data capturing and automated PEWS calculation with recommendations have been highlighted as the key demarcated for the positive feedback.

Conclusion: PEWS can be embraced as a part of a large multifaceted safety framework. Frequent user training and updates to the system can strengthen the sustainability and success of this eHealth solution. Coupling the PEWS systems with an appropriately designed electronic data capturing tool can address the Afferent Limb Failure successfully. Furthermore, it can facilitate advance patient care which suits the working environment of a busy Preliminary Care Unit.

0017.Jayasinghe, W.B.M.
Evaluation of existing electronic health record system in accident and orthopedic service (AOS) in NHSL.
MSc. Biomedical Informatics - 2017   **D 4366**

HHIMS software framework has introduced to the Accidental and Orthopaedic department (NHSL) by ICTA in 2016. It has done some surveillance aspect changes before implementing. Currently, it is functions in the hospital and annual trauma bulletin 2016, developed based on information of this system. After the

implementation, there was no any evaluation had been conducted and some requirement change is requested by the users.

Methodology:

Evaluation of existing Electronic health record system at Accident and Orthopaedic service (AOS) in NHSL and identify successive factors and factors that negatively affect to the success of the system by using Delone and McLane's model based Questionnaire and semi structured interviews. Recommended new requirement is needed to do implementation and modification by the researcher.

A qualitative and quantitative research (Mixed) has conducted by using research tool of Delone and McLane model based. Questionnaire and semi structured interviews. It is a participatory action research which is done in Accident and orthopaedic service (AOS) NHSL.

Results:

System evaluation had done in 6 aspects (System quality, Information quality, System use, User satisfaction, Individual and organizational impact). System quality is the main part of the evaluation process, but the system is not user-friendly and complex to the user therefore overall satisfaction was in low level. Most of the participant think system is accurate and do basic function adequately. Information is adequate and clear enough was the basic idea of participants but not agreed to information format output. Whether participant has different pros and cons regarding the system, Researcher has observed that the system is functioning without much trouble. Proper training for system use is expected by the research participants. Overall productivity of system has shown low figure while job performance is showing high value, therefore, organizational benefits can be rated like as more than the paper based and less than the expected.

Discussion:

System problem has classified as software, Hardware, Live ware related problems. Listed all the factors obtained from the users. The Comprehensive evaluation had been done for overcoming the barrier develops from the system.

System level changes with simple modification to coding level modification will be beneficial for developing quality trauma care software hardware is up to date and improve network that speed is necessary to cope with system It is crucial to building the positive attitudes regarding the system. Proper training will be able to

participant make more enthusiastic about the system. Overcoming all the barrier improve the better trauma care quality.

0018.Jayathissa, W.G.P.T.
Developing a prototype master patient index (MPI) for Sri Lanka.
MSc. Biomedical Informatics - 2017   D 4365

Introduction: A Master Patient Index (MPI) is a centralized index of all patients in a health care system. This index is composed of a unique identifier for each patient link to his/her demographic data and clinical encounters. A MPI is essential to ensure data interoperability in different health care institution. The Ministry of Health Sri Lanka planning to develop MPI for the country. This project focused on developing the prototype MPI for Sri Lanka with the view to implementing and scaling up at national level.

Methods: This project consisted of 3 phases. Phase 1: requirement analysis using focus group discussions (FGD) with information system users. Phase 2: identification of the suitable Application Programming interface (API) model. Phase 3: development of the prototype MPI.

Results: FGD were conducted in 6 hospitals. There were 78 participants (Male - 36, and female - 42). They highlighted the key requirements for the MPI. Which were the unique identification method and different searching criteria and merging records to avoid duplication. Using this information, the requirements specification for MPI was developed. A combination of mono lithic and micro services architecture was selected to develop the MPI. The API using the Personal Health Number (PHN) as the unique patient identifier and HL7 standard was developed and implemented.

Conclusions: Development and implementation of a MPI has facilitated the long due need for interoperability among health information systems in Sri Lankan.

0019.Jayaweera, J.G.B.C.S.

Development of a software platform to increase presenter audience interaction: a randomized control trial.
MSc. Biomedical Informatics – 2018   **D 4653**

Introduction

The hallmark of common university lecture is the lecturer delivers the lecture while the students are listening and perhaps taking notes. Although the communication process hi five major components; sender, message, medium, receiver and feedback, in a topic lecture the least attention is given to feedback component.

With the development of newer technology many students and teachers are equipped with modem technology tools.

Objectives

Improve presenter audience interaction by developing a software and evaluate the impact of the software in term of the knowledge gain and the satisfaction.

Methodology

The conceptual model was developed with extended literature review and the software was developed by analyzing available technologies. The effectiveness of the software was tested by a randomized control trial and the assessment of the user perception with Likert type questionnaire. The participants were the whole batch of the postgraduate trainees of MSc in Biomedical Informatics. Total number of four sessions were conducted and, in every session, random allocation was unique to the session. The pre-test, consisted of multiple-choice questions, was conducted on all participants. Then the participant randomly allocated and access to the software was only given to intervention group. Th lecture was delivered simultaneously to both groups. At the end, the post-test, equally to the pre-test was carried out. Analysis was done for combination of all sessions together and individual sessions.

Results

There was an improvement of marks of the intervention group comparing with the control group in combination of sessions [intervention group ($M= 4.6$,

$SD=3.3$), control group] $(M-3.6, SD=3.2)$, r(79)=l .66, p>0.05] and all individual sessions except the second session, however that improvement was not a statistically significant. However, the system made the students feel free to ask questions from the lecturer and it was ranked a: an interactive communication method between the lecturer and the students.

Conclusion

Three was an improvement of knowledge of the intervention group but it was no significant at 0.05 level. But high level of acceptability of the software by users was recorded.

0020. Katuwawala, N.D.
Empowering quality cancer research using an integrated national cancer information platform.
MSc. Biomedical Informatics - 2018   D 4643

Background: Consequences of cancer research depend on wealthy cancer information. Many Sri Lankan research publications highlight the importance of web-based cancer information for research purposes which can provide information rich in completeness, validity, timeliness and comparability. Under the circumstances, identifying the information requirements of the cancer researchers in Sri Lanka and automating cancer patient information de-identification can terminate the fragmentation of the cancer information sources in the country.

Method: This study adopted an Action Research Strategy to design and develop a prototype for a web-based cancer information portal for research purposes. Relevant data from the major cancer repositories of the country have been extracted to provide quality improved clinical data for local cancer researchers. Automation of the cancer information de-identification has been facilitated without compromising the informational needs of the researchers. User feedback were obtained using two surveys during the user training, and analysed using descriptive statistics. Records of the observations made during the pilot study were analysed under key thematic areas.

Result: Initial survey indicated, 87.8% of the local cancer researchers have recognized the use of Information Communication Technology for research purposes. The majority (92.5%) were interested in tumour details. Patient records were the most preferred source of information in 87.4% of the researchers. Integration of all the available local cancer sources for the promotion of local cancer research has been recommended by 73.9%. Overall satisfaction of the cancer information portal was indicated by 87.0% of positive responses, 1.7% of the negative responses and 11.3% of not declared information (n=53). Furthermore, portal was comprehensively analysed using usability, maintainability, reliability,

security, interoperability, quality and information utilization parameters by the second survey. Thematic analysis of the observation records resulted positive user perceptions about the data quality, data organization, functionalities of the web portal and arrangement of user training. There has been an increasing trend in cancer incidence, mortality, survival, and quality of care from year 1985 to 2018, according to the national statistics delivered by the portal.

Conclusion: This study highlights the strategies of cancer surveillance informatics which can be adopted to enhance cancer information utilization for research purposes in the Sri Lankan setting.

0021.Kulasiri, K.H.S.I
Identifying and overcoming barriers to utilization of the medical record system at the human Genetics Unit Faculty of Medicine Colombo.
BSc. Biomedical Informatics – 2016   D 4347

Background: An Open MRS based medical record system was introduced to the Human Genetics Unit in 2012. It was implemented at the Human Genetics Unit 2014. Even though all the necessary functions were incorporated in to the system, it was not used at many occasions.

Objectives: To identify reason/s for underutilization of the system in Open MRS at the Human Genetics Unit (HGU) Faculty of Medicine Colombo. And to identify avenues for further customization of the system to overcome the barriers which the users encountered and to introduce evaluation cycle to the system.

Methodology: A qualitative research with a study design of a participatory action research was done at the HGU. The sampling method was purposive where all the users of the system were observed, interviewed until saturation and trained.

Results: Most of the users needed the system to be more attractive and forms to be simpler. System was not user-friendly to most of the users. Family tree drawer should be customized more to fulfill the requirements. System has given errors while working which has made negative impression on the system by the users. Open MRS system has not fulfilled some of the user requirements like appointment generator. System environment factors like failure of network connectivity has acted as barrier to use the system at required time.

Discussion: Identified barriers were factors related to the Open MRS based system and its function, systems' environment which is directly bound to Open MRS and

users and their attitudes towards the system. The researcher has edited and customize the system to overcome the barriers. Some of the issues needed support from the Open MRS forum.

Conclusion: User satisfaction should be obtained as maximum to keep the sustainability of a working medical record system. Attractive and simple user interface will satisfy the users of the system and user interface should be considered as a major part of developing a medical record system.

0022.Kumara, W.A.R.P.
Evaluation of the health information system at the Human Genetics, Unit, Faculty of Medicine University of Colombo.
MSc. Biomedical Informatics – 2017   D 4371

Background
Providing healthcare services in environs where there is lack of required resources is challenging. A platform based on Open Source Medical Record002 System (OpenMRS) could help the healthcare services to create a robust, scalable, user driven electronic health information base. In order for such a system to be sustained and scaled, it needs to undergo continuous evaluation and monitoring cycles throughout its life. Unfortunately, the application of an evaluation processes to the health information system domain is somewhat lagging behind. Considering these observations and the importance to be deliberated for the progression of medical software that provides many benefits to the patients, healthcare providers and administrators it seemed appropriate to carry out a study on a related automated medical record system. Hence, this research focused on evaluating an existing OpenMRS based electronic medical record system at the Human Genetics Unit (HGU) of the Faculty of Medicine, University of Colombo using the information systems success model (Delone and McLean IS success model) which was proven to be exclusive amongst the most dominant theories in contemporary evaluation studies.

Method
The research setting in this case was the OpenMRS system and its users at the HGU. A mixed method research design was adopted as it allows concurrent triangulation of study findings. The data gathering was done using a questionnaire, face to face interviews, focus group discussions and observations during the period of June-July, 2017.

Results

The evaluation process using the D&M IS Success model did not result in the identification of any significant success or failed dimensions. The overall results of the study indicated that user productivity has improved only partially, and the users requested certain changes to be done enhance system performance as well as to increase individuals' capacity on software skills, knowledge and experience in using the system.

Conclusion

The study concludes that implementation of the OpenMRS system at the HGU has not yet given rise to a significant Information System (IS) Success or failure. However, there is potential for the OpenMRS system to better contribute in a better manner, to enhance to overall productivity of the HGU by addressing the recognized factors such as system quality, service quality and use/ user intension. A second cycle of evaluation is proposed to be carried out following the implementation of these changes.

0023.Liyanagama, M.
Acceptability of electronic reproductive health management information system (eRHMIS) among Medical Officers of health.
MSc. Biomedical Informatics – 2017   D 4372

Introduction: Several attempts have been made in the past to convert paper based MCH information system into the electronic information system. However, those electronic systems did not last long to cover and replace the whole paper based MCH information system in Sri Lanka due to various reasons. Assessment of acceptability of ePHIS among middle-level health managers (MOHs) has not been done so far. After several failed attempts, eRHMIS was implemented to replace paper based MCH information system. In the first phase, three paper based forms were converted into electronic format, out of which two of them have to be filled with data entry into web based forms one will be generated automatically by eRHMIS depending on the aggregated data from other two forms. The main

Objective of this qualitative study was to explore the acceptability of eRHMIS among middle-level health managers of the public health sector, with focusing on assessment of the acceptability of eRHMIS and proposing the factors for improving acceptability of PHIS among middle-level health managers.

Method: Nearly two months After the country wide implementation acceptability of eRHMIS was assessed among MOHs by interviewing seven MOHs within Colombo RDHS area with the guidance of an interview guide. Interviews were not limited to specific time constraints, or topics defined by the interview guide so that participants were motivated to express their views freely. Participants were given the opportunity to voice their opinion about Pros and Cons of existing PHIs and eRHMIS. Their suggestions on how to improve the acceptability of eRHMIS were also considered.

Results: Data analysis revealed six main themes regarding the acceptability of eRHMIS. Depending on them it was identified that the key factors affecting the acceptability of MCH information systems are capability to be absorbed into routine duties of MCH workers, availability and quality of infrastructure facilities at MCH service delivery level, productivity of the new system compared to the existing system, capability of reducing redundancy of captured data, capability of expansion of new system for future needs, attitude and willingness of MCH works to change and learn new developments.

Conclusions: Exploration of the acceptability of eRHMIS among middle-level health managers of the public health sector was accomplished with this qualitative study. Although various limitations in designing and implementation process of eRHMIS existed eRHMIS is acceptable for middle-level health managers in MCH care system.

0024.Liyanage, A.L.A.U.
Design and implementation of a centralized database to integrate nutrition information systems in Sri Lanka.
MSc. Biomedical Informatics – 2018   **D 4652**

Background: Two mutually independent institutions from different domains capturing and entering common data elements at elementary level for the same objective thus not only duplicating the data in two separate systems with multiple databases but also reducing full potential of sustainable benefits and comprehensive care for the Sri Lankan community. District Nutrition Monitoring
System which is implemented under the Ministry of Health, Sri Lanka and National Nutrition Information System which is under the administrative domain is under the authority of National Nutrition Secretariat of Sri Lanka. Both systems are

tracking same individuals with around 50% of duplicate data collection. This has led to a challenge on sharing data related to individual patients across heterogenous public health information systems and prevention of data duplication related to individual patients. Therefore, we explored the possibility of using an integrated solution which can communicate between the two systems to extract and share information.

Method: Following a detailed analysis of challenges of integration and possible approaches of integration of District Nutrition Monitoring System and National Nutrition Information System, it was decided that a central middleware application and a client- side java-based application be installed along-side each of the nutrition information systems. The client-side application has to keep track of sharable data elements to be pushed to central middleware application from the source system and to update the destination system. The middleware application has a configurable component to insert information related to sharable information of the two systems. Child's identification number will transform into a generic number in the middleware application.

Results: Midwives and the non-health sector stakeholders accepted the idea of the integrated solution to eliminate the duplication of data in nutrition status of malnourished individuals. Middleware was tested using purposefully built test cases which resulted in the successful integration of the two systems.

Conclusion: This solution eliminates the need for duplicate data gathering and has improved the data sharing. The custom-made middleware solution is already planned and has got the potential to be implemented for several other public health information systems with duplicate data collection. It needs to be fine-tuned to adapt to the requirement of central data repository to be implemented at national level.

0025.Nazer, N.

Enabling surveillance of influenza like illnesses by healthcare workers via mobile phones.

MSc. Biomedical Informatics – 2017   **D 4363**

Background

Influenza being a highly infectious disease necessitates the need for robust surveillance in order to curtail its spread. Sri Lanka tracks cases principally through its Influenza Surveillance System maintained by the Epidemiology unit, which apart from maintaining a surveillance system that gets alerted in the event of an outbreak, also monitors key indicators like the percentage of deaths resulting from influenza related complications such as pneumonia, rates of influenza-associated hospitalizations, pediatric deaths and the percentage of visits to outpatient clinics for influenza-like illness. However, all of this is currently maintained in a paper based notification system. This needless to say can hinder the timeliness of the data which is consequential in terms of the time lapsed in taking preventive measures. Moreover, the only cases detected are the patients who choose to seek medical care either from the government sector or the private sector. Thus patients who might be harboring the virus with mild illnesses are obviously missed if they do not seek medical care. Since the penetration of technology that has sky rocketed in the recent times, the usage of smart phones with internet connections has spread widely among the Sri Lankan population. This can be exploited to enhance participatory epidemiology where the general public is given the autonomy and the liberty to alert the surveillance system in the event of an outbreak of an infectious disease such as Influenza.

The objective of this study was to introduce a mobile based surveillance system to track influenza like illnesses. FLUMOB was first designed and implemented by a Singaporean team in the settings of a health care institution in Singapore. This is a pilot study conducted on Doctors in Sri Lanka to determine the usage of smart phones with internet facilities, the usage patterns of Mobile applications, the receptivity to the use of Mobiles in alerting the disease surveillance process and the challengers to it. This study was also geared to delineate the desirable and undesirable features of the FLUMOB application itself and its limitations when used in the Sri Lankan health care set up.

Method

The study was conducted in both the private and the public health sectors. NHSL being the largest government hospital in Sri Lanka was chosen to be one of the study settings. General Practitioners were approached to cover the private sector. Doctors who volunteered to the study were asked to download the mobile application and were later interviewed by the principal investigator using a semi structured questionnaire. A descriptive analysis was done on the data collected.

Results

Age distribution among participants were such that the majority (70%) belonged to the age group of 25-35 yrs.100% of the participants had persons belonging to the age groups 22-64 yrs living in their households.40% had at least 1 child attending day care/ preschool in their households. 43% used private cars as the mode of transport.20% used public transport. Only 20% received the flu vaccine in the last year. Out of the 80% participants who were not vaccinated majority belonged to the group that didn't get vaccinated because they thought they didn't belong to a high-risk group. 27% of the participants has Asthma and 37% were diagnosed with Diabetes. 53% of the participants were nonsmokers while 7% smoked more than 10 cigarettes daily.80% used smart phones while only 60% had used mobile applications. For the majority (40%; the preferred mode of weekly health status update was the use of smart phones with mobile applications. 53% of users were moderately satisfied with the overall ease of use and functionality of the system while 23% were highly satisfied. The most appealing feature of FLUMOB was found to be its functionality. While nearly 90% of participants complained of the time it took to complete the survey when an analysis for Issues identified in using FLUMOB was done. The main barrier in using FLUMOB was found to be the length of questions asked. While more than 90% complained of the time it took to log into the system. Nevertheless 20 out of 30 participants found the app easy to use while 19 of them found the training prior to the use adequate. 47% of the participants said that they are likely to recommend FLUMOB to others.

Conclusion

The use of Mobile application for the surveillance of influenza is both helpful and convenient. It will help counter the problems that arise from the lack of timeliness of data. In conclusion the overall receptivity and subsequent acceptance to the use

of a mobile application in the surveillance of Influenza like illnesses among health care workers were found to be high.

0026.Pathiraja, P.M.S.I.
Evaluation of the electronic information management system at National STD /AIDS control programme in Sri Lanka.
MSc. Biomedical Informatics – 2018   **D 4649**

Background: An Electronic Information Management System (EIMS) has been developed to replace the existing paper-based system at National STD/AIDS Control Programme (NSACP) in Sri Lanka. Evaluation of this electronic and medical record- based software project took place at its development and shakedown phases to assess its effectiveness, user satisfaction and impact on evidence informed decision making.

Methodology: A mixed method research design was assumed and done in two phases comprising five components namely participant observation, document analysis, self- administered questionnaires, focus group discussions and a semistructured interview.

In the development phase, ten meetings and multiple documents which were exchanged between the developers and the stakeholders of the EIMS were reviewed. The rest was followed in the shakedown phase. Experiences of thirty respondents were explored through a structured self-administered questionnaire. Two focus group discussions to assess effectiveness and user satisfaction, and a semi-structured interview to assess impact of EIMS on evidence-informed decision making were conducted at NSACP in Sri Lanka.

Results: Thirty questionnaires answered by the participants were analysed. The documents, records of participant observation, focus group discussions and semi-structured interview were thematically analysed. Both results were triangulated, and final conclusions were made.

Conclusion: A number of facts which could be used to guide successful development and implementation of new health information systems (IS) were identified. The contributions made by the end users towards the successful implementation of the IS during the development stage were appreciated.

0027.Pathirana, H.P.C.
Development of an electronic tracking system to monitor the interventions for nutritionally affected children.
MSc. Biomedical Informatics – 2018   D 4655

Introduction

Multisector action plan for nutrition is a programme established to identify households with nutritionally affected individuals and implement interventions for the identified risk factors in those households. Multisector action plan includes both health and non-health related interventions and there was a requirement to track those interventions and monitor their effectiveness. The National Nutrition Information System is the web-based system that collects and manage data for this programme. Data on nutrition problems and risk factors were collected by this system but it lacked a component to track and assess effectiveness of interventions.

Methodology

This study was conducted using action research method. A software module was designed according to the requirements of the stakeholders. National Nutrition Information System which was developed on District Health Information Software version2 (DHIS2) was customized to develop the Intervention Tracking module.
This module was piloted using test data and feedback was taken from different end users regarding the usability of the module.

Results

A functional Intervention Tracking module was developed which is able to collect, analyses and aggregate data regarding interventions. The system is able to monitor whether interventions are done and assess their effectiveness based on the improvement in nutrition status of the affected individual. Most users found this module is easy to learn and use because the format of the interface is similar to that of Nutrition Risk Identification module. Minor modifications were done to the software module based on the feedback.

Conclusion

The Intervention Tracking module is useful to track and assess effectiveness of interventions, which is an essential component of the multisector action plan, for the programme to be successful. District Health Information Software has been able to meet most of the user requirements and it has capacity to do further improvements to this module.

0028.Perera, V.U.F.
Development of mobile application prototype for prevention and management of non-communicable diseases for Sri Lankan context.
MSc. Biomedical Informatics – 2017   **D 4367**

Introduction: Sri Lanka has a well-established public health system where prevention and management of noncommunicable diseases is a topmost priority. This is done by using a paper based system. There is an increased demand for mobile phone applications for noncommunicable diseases due to modem lifestyle. Design, Setting and Method: We could not develop a final design of the mobile application for non-communicable diseases without considering the user base. Therefore, interviews and group discussions were carried out in Colombo district. Four hundred and twenty-three non-medical individuals and twenty-one medical persons have been given the pre-evaluation semi-structured questionnaires and were interviewed one to one and focus group discussion was conducted with four groups of non-medical groups including eight participants in each group. The mixed method used for data analysis and the first version of the prototype was developed. Usability of the prototype was assessed using semi-structured one to one questionnaire in fifty and twenty-one participants from nonmedical and medical group respectively. This was conducted after visualization and using the first version of the prototype. And to further analyses the prototype, usefulness, effectiveness and instructional design and user interface of the first version was assessed and based on the above results, the second version of the prototype was developed.

Results: The study results discovered that 67% of non-medical users did not feel happy with delivery of traditional health education at Healthy Lifestyle Centers and medical clinics. 60% and 62% of non-medical users and medical users respectively solely preferred health education through the mobile application for noncommunicable diseases. The likelihood of using the mobile application was 84% and 86% in non-medical and medical group respectively. In interviews and focus group discussions, critical user needs and expectations were identified. The prototypes were based on user-centered design.

Conclusion: A mobile application for prevention, management and health education regarding non-communicable diseases could be of benefit to patients and

public, and they are willing to accept the mobile application for non-communicable diseases. Also, this can be given to young population to improve primary prevention of non-communicable diseases. To overcome the dynamic nature of requirements of the users, flexibility of the application design should be the concern.

0029.Premasiri, W.D.R.
Guideline to overcome user level vulnerabilities in state sector EMR implementations.
MSc. Biomedical Informatics – 2018   **D 4639**

Background: Being a developing country offering free public health service to all its residents, Sri Lanka has made remarkable strides in the health sector and is ahead of most of its peers, in the region. The state sector healthcare system has been using paper based medical records of patients and currently is in the process of using Electronic Medical Record Systems (EMRSs) to be on par with the digital health revolution happening across the world and also with the aim of enhancing efficiency in the healthcare service. With this evolution, certain concerns such as security, privacy and confidentiality of patient's information have become a challenge, due to vulnerabilities experienced in accessing these electronic systems and data bases, by various users.

Methods: Two (2) Sri Lankan government hospitals namely Castle Street Hospital for Women and Base Hospital Panadura which, are using the two (2) main EMRSs in Sri Lanka, i.e. the Health Information Management System (HIMS) and Hospital Health Information Management System (HHIMS) were selected for the study. The research was based on a mixed method using quantitative and qualitative analysis. An interviewer guided questionnaire was distributed and one to one discussion with the system users were held to determine their perception on EMRS and user level security vulnerabilities. Further, observations made by the author/ investigator were also considered.

Results: This study found that, currently both health institutions are heavily exposed to user level vulnerabilities which should be recognized as a *"critical and imperative concern"* by the relevant authorities especially, considering the recent "system breaches and cyber-attacks" that happened in other countries, which boast about stability and robust security of electronic systems.

Conclusion: Safeguarding the security, privacy and confidentiality aspects is a major concern in EMRSs and a common challenge for all health institutions across the world in a day and age when Information Technology (IT) advances are overpowering human intelligence. As Sri Lanka embraces these eHealth innovations, considering the present weaknesses identified, immediate attention should be focused on developing, appropriate guidelines to improve user level security of EMRSs in the state hospitals. If not, Sri Lanka's health sector will be exposed to greater vulnerability and loss of confidence by the public.

0030.Premathilake, U.N.
Development and piloting of an electronic health information system for thalassemia clinics.
MSc. Biomedical Informatics – 2018   D 4651

Background

Thalassemias are one of the most commonly inherited groups of disorders in Sri Lanka. The project focuses on providing an accessory for the management of Thalassaemia by developing a web based health information system. The current Information System at the Thalassaemia care unit is completely a manual and paper based one. This has resulted in many of the shortcomings that can be expected from such a system, including difficultly in searching for records, inaccuracy or data, redundancy, loss of records and unnecessary expenditure of labour recourses for this purpose among others. The general objective of the project was to develop and pilot implement a web based Health Information System. The goal was to customize a Free and Open Source software to be able to collect and visualize data and information.

 Method

"Hemals Thalassaemia Care unit" attached to Teaching Hospital Ragama was selected as the study setting. The existing paper-based system was studied in detail, the stakeholders were identified and analysed and the System Requirements Specification was developed. The system development was achieved through customization of Tracker module of DHIS2 software. System was then tested with sample data and detected errors were fixed. System piloting was done following a user training at the same site for a duration of one month.

Results

During the one month of piloting the system 100 patients were registered and enrolled and followed up. Participation of system users were limited due to time constraints. Data aggregation and report generation were done as expected. The system was unable to generate reports, charts and graphs for individual patients which could also be achieved with additional coding. Direct update of reports such as Scan reports to the system was also not possible.

Conclusion

It was evident that a Free and Open source software such as DHIS2 can be customized with additional coding to meet the requirements of such a system. Main challenges facing the system implementation were the time constraints faced by the users, lack of proper infrastructure and trained personal.

0031.Promod, H.N.H.

Customization and implementation of health information management system at outpatient department of Castle Street Hospital for Women.
MSc. Biomedical Informatics – 2017   D 4373

Introduction: Outpatient department of Castle Street Hospital of Sri Lanka handles a huge set of information during the process of patient care. This was performed with a paper based record system which was found to be inefficient.

Objective: This project was intended to design, develop and implement a computer-based information management system to replace the current paper based system.

Method: This is an interventional study with a component of descriptive crosssectional study design. Designing of the system was based on the system requirement specification which was created by analysing data obtained from Focus Group Discussions, Key Informant Interviews, observations and needs analysis. Information Management System was mainly divided into numbers of modules, namely Electronic Patient Registration module, OPD module, Queue Management module, Laboratory module, OPD dispensary module and Radiology module. The system was developed in client server architecture using

PHP as the server-side scripting language, JavaScript as the client side scripting language and MySQL as the database management system.

Piloting phase started following the installation of network and hardware infrastructure. User training started and planned to continue throughout piloting. Complete implementation was planned to achieve after several iteration cycles.

Results: Requirement analysis revealed a lot of drawbacks in the paper based system and new health information system developed to overcome those factors.

Conclusions: Designing system requirement analysis (SRS) is the key to the development of the H1MS. Interoperability of the systems became necessary in health care practice and database compatibility and data exchange standards paramount in designing.

Recommendations: Following completion of piloting, implement the HIMS with full functionality and evaluation of system for further updates. The ultimate result of a well-implemented HIMS would be a collection of valuable data generated by patient encounters. Therefore, this system could be used as a research tool once adequate clinical information is collected in the future.

0032. Ragunathan, R.
Assessing maturity of healthcare-related digital technology adoption in Sri Lanka.
MSc. Biomedical Informatics – 2018   **D 4654**

Introduction: Adoption of digital technology in healthcare is recognized for its promising potential and the field is progressing rapidly. However, a remarkable discrepancy in the levels of adoption is seen between countries. Therefore, benchmarking can help countries learn from each other. Monitoring can also aid decision making and incite targeted development within a country. This assessment used the Global Digital Health Index and Maturity Model (GDHI) to evaluate eHealth in Sri Lanka.

Methodology: For each GDHI indicator, key resource institutes in Sri Lankan context were identified through a search of literature and key informants. An interviewer administered questionnaire on the relevant indicators was given to selected interviewees representing key resources. This was followed by informant interviews to explore further on the current maturity status of the country based on each indicator. A focus group discussion among a group of informants was conducted to explore how GDHI aligns with Sri Lanka's digitization strategy. Answers from the questionnaires were used to identify country score of each

indicator and the interview transcripts were compiled to understand the country status further as well as identify the challenges in applying the index. Nine other countries had participated in global GDHI data collection during this stage. Sri Lanka was benchmarked against a global average of the participatory countries. Through the observations, the maturity status of the country and the challenges in applying GDHI were identified and recommendations formulated.

Results: Sri Lanka's Overall Digital Health maturity phase was identified as 3 out of 5. The country was in Phase 2 for were Strategy and Investment, Legislation, policy, and compliance and Standards and Interoperability. Leadership and governance, Infrastructure, and Services and applications were identified as Phase 3. Only Workforce category had a Phase 4 score for Sri Lanka. The country placed equal to benchmark score in Services and applications category and above the benchmark for Workforce category. All other 5 categories were below the benchmark score. A number of challenges were identified by applying GDHI indicators including difficulty obtaining data due to lack of monitoring and evaluation of eHealth activity.

Conclusions: Sri Lanka has made significant progress in digital health however to reach full maturity has a long way to go. Through some minor modifications in the index that can help its application, GDHI can be beneficial to periodically (i.e. - annually) monitor progress of the domain in the country over time.

0033.Rajakaruna, R.D.M.D.I.
Electronic surveillance system for Quarantine unit, Ministry of Health Nutrition and Indigenous Medicine.
MSc. Biomedical Informatics – 2018   **D 4660**

Introduction

Quarantine Unit, Ministry of Health, Nutrition and Indigenous Medicine, Sri Lanka is the focal point of preventing internationally spread of diseases. Main aim of the unit is to take necessary actions to implement International Health Regulations (IHR2005) However , to provide countless services in preventing spread of diseases worldwide, paper based information management and lack of electronic surveillance mechanism are identified as major weaknesses at present.

Objectives

Design, Develop, Pilot and Implement of an Electronic Health Record Management and Surveillance System to the Quarantine Unit, Ministry of Health, Nutrition and Indigenous Medicine, Sri Lanka.

Methodology

Initially, the requirements for an Electronic Health Record Management and Surveillance system were identified by studding the existing information flow. A Feasibility study was performed before the design and development of the electronic system. The District Health Information System Version 2 (DHIS2), which is free and open source software platform is used to develop Quarantine Health Record Management and Surveillance System (QHRMS). QHRMS meant to collect, analyses, visualize and present the data obtained from all points of entries of Sri Lanka.

Results

Island wide implementation of developed QHRMS was completed with conducting workshops and onsite hands-on training sessions for the users. The QHRMS accommodates all the health-related data generated from the points of entries and act as a data Wearhouse for data analysis, data visualization and report generation which are essential for implementing IHR 2005.

Conclusion

User feedbacks and practical benefits of the QHRMS confirms that QHRMS can be used as a better alternative to the existing paper based information management. Transformation from paper based systems to fully automated information management and surveillance system can be considered in QHRMS evaluation.

0034. Randimali, G.L.
  Customization of DHIS 2 for management of drowning information at disaster management centre.
  MSc. Biomedical Informatics – 2018   **D 4642**

Introduction

Drowning is identified as a leading cause of death and injury in Sri Lanka. It is estimated that 855 people die by drowning in each year. Drowning is considered as a major water related hazard and Sri Lanka Disaster Management Centre involves in decision making and management. Establishment of The Disaster Management Centre (DMC) is under the control of National Council for Disaster

Management. Functioning of the DMC is controlled by the Ministry of Disaster Management and Human Rights. It plays a major role when there are massive number of drowning deaths following disasters like Tsunami and floods. The main sources of collecting data are relevant police stations, royal lifesaving association and Registrar General Department. Due to the absence of drowning data surveillance system in Disaster Management Centre, there has been incidents of missing data. Limited information about deaths resulted in short comings in management of disaster preparedness planning and emergency operations during disasters.

Method

A solution has been proposed as an online drowning information system by customizing a globally recognized platform called District Health Information System 2 (DHIS 2). The software package is well designed to handle aggregated data of drowning death records by using event capture tools, extraction methods and data representation methods.

Results

A customized application was installed in DMC servers with hundred and thirty data samples reflecting number of drowning deaths across the country uploaded and tested on the system with feedback from users. Basic drowning details were further captured and analyzed by the system through a piloting project at a selected district of Sri Lanka. It was evident that the system can be used as a basic surveillance system for DMC. There are areas to improve on the information structure and the data flow, which however can be addressed as the application is rolled out across the country.

Conclusion

District Health Information system (DHIS 2) is one of the open source web based software which is free of charge. It consists of features such as GIS, charts and pivot tables that gives amazing visualization. Effective operation management, process monitoring and improvement of communication are added advantages of DHIS2. So this thesis is an attempt towards customization of DHIS 2 in Disaster Management Unit to meet the requirements of drowning information.

0035.Senanayake, C.H.
Piloting and evaluation of smart VA : A mobile app for verbal autopsy for public health midwives of Sri Lanka.
MSc. Biomedical Informatics - 2017   D 4369

Background: Health interventions to reduce mortality without data is similar as navigating in the dark. Therefore, due recognition toward mortality data should be established locally and globally. In Sri Lanka, more than 70% of deaths occur in nonhospital setup. Local CRVS system has rendered a great service in the registration of vital events. It has been reflected by improved mortality indicators related to birth. But it's not the same with deaths. Despite the improved coverage of deaths above 90% the quality of cause-specific mortality data has been reduced to the very low level. The reason is that a large proportion of mortality data generated from home deaths remains untouched. The solution is the verbal autopsy.Verbal autopsy already has a place in Sri Lanka performed by Local registrars. But due to lack of technical, infrastructural, administrative, the research focus that data becomes garbage code. As a solution, Ministry of Health with initiated electronic solution for nonhospital deaths.

Methodology: The prime objective of this research was to assess whether the electronic solution proposed by Ministry of Health was feasible as a tool for verbal autopsy. An interpretive research was carried out for ten months' duration using mixed research approach with methodological triangulations using interviews, participant observations on the field and home visits, self-administered questionnaire, and document analysis around the Phase 1 - Piloting of National Implementation of Smart VA in Sri Lanka. In alignment with the research component, CRVS assessment, feasibility study, stakeholder analysis, VA tool Localization, evaluation of end-user perception and acceptance while rendering a significant contribution in form of Technical IT support, Pilot-program management, Training, Organization support has been rendered.

Results: This study was conducted in 3 districts involving the pilot study areas A total number 96 PHMs were assessed using a self-administered questionnaire and 22 PHMs were interviewed with participant observation at the field and home visits.

Conclusion: This electronic solution can be used to facilitate verbal autopsy to diagnose non-hospital deaths in Sri Lanka, this solution is acceptable to PHMs with an average degree of familiarity with technology.

0036.Silva, S.N.
Using a simulation modelling approach to manage outpatient department waiting time at the National Hospital of Sri Lanka.
MSc. Biomedical Informatics – 2016   D 4349

Introduction: The Out Patient Department (OPD) at the National Hospital of Sri Lanka (NHSL) faces congestion due to overcrowding, leading to forming long queues and causing delays in patient care.

Objectives: To identify an ideal resource allocation solution to reduce outpatient waiting time in Medical consultation, Phlebotomy and Dispensing processes at the NHSL OPD.

Methodology: A process analysis was done using observations, interviews and a times study to evaluate the OPD process and the arrival and service times. A Discrete Event Simulation using the ARENA™ software was carried out to model the processes and to evaluate scenarios that can reduce the delays.

Results: The most congested process in the OPD was the consultation and the most congested time was the weekday morning shift. The average inter-arrival time was 21 seconds at this time. The mean consultation time was 224 seconds and was considered a constant. For this process when the medical officers are increased from 12 to 15, the waiting time would reduce by 4 minutes and 30 seconds (66.1% reduction) and the patients in the OPD queue reduced by 25 (81,2%). Similarly, when the doctors for the night shift was increased to 3, the waiting would reduce by 11.1 minutes (77.6%) and will shorten the queue by 80%. The Phlebotomy and the Dispensing processes did not contribute much to the delays.

Conclusion: The process can be optimized by increasing the morning shift doctors, causing minimal disturbance and inconvenience to the administration and the workers.

0037. Sugathadasa, M.P.K.
Software solution to improve writing skills among Postgraduate students in medicine: a randomized controlled trial.
MSc. Biomedical Informatics - 2018   **D 4641**

Background: Writing Skill can be argued as the most important skill in medicine in the light of academics and clinical medicine. However, poor writing has always been a problem in medicine

Objectives: To design, develop and evaluate writing skills development software for postgraduate students in medicine.

Methods: The study was a single-blinded, passive-controlled, parallel-group study with balanced, simple random sampling (1:1) done in Sri Lanka (single site). 48 postgraduate trainees of MSc Biomedical Informatics in Postgraduate Institute of Medicine (PGIM), Colombo were randomly allocated to the intervention group *(n = 24)* and passive control group *(n = 24)*. The intervention group received an online software-based writing skills training programmed delivered as six rounds of 4 exercises (each exercise 5 minutes duration) throughout a period of 6 weeks during May and June 2018. The usability of the training program was evaluated based on the System Usability' Scale. Two subjects from the control group dropped out of the study and the final analysis comprised 24 in the intervention group and 22 in the control group.

Results: The score was normally distributed as assessed by the Shapiro Wilks Test *(p > 0.05)* and normal Q-Q plots. There was a significant difference in the score in intervention *(M= 14.35, SD = 4.50)* and control (M= 10.06. *SD* = 7.15) conditions; *(t* (32) = 2.10,*p* = 0.044) among the participants who scored 0-30 in the Baseline Assessment. However, such significant different was not demonstrated in the whole study population, with intervention *(M* = 9.83. *SD* = 8.423) and control *(M*= 5.64, *SD* = 11.595) conditions; *(t* (44) = 1.413,/? = 0.165) or among the participants that scored more than 30 in the Baseline Assessment - the intervention (M= -1.14, *SD* = 4.413) and control *(M* = -9.40, *SD* = 11.632) conditions; (/ (4.83) = 1.512,/? = 0.193). The SUS score for the system was 55.6.

Conclusion: The subjects scored less than 30 in the Baseline Assessment demonstrated a significant improvement in score compared to the control condition,

whereas such significant difference was not demonstrated within the entire population or >30 scorers. The intervention program was marginally acceptable according to SUS Score.

0038.Wadugedara, W.M.T.R.
Mobile application for doctors to improve recording of cause of death: A Sri Lankan study.
MSc. Biomedical Informatics – 2018   **D 4659**

National civil registration systems record major vital events, such as birth and death. These vital event data are used by the Civil Registration and Vital Statistics (CRV! system to generate vital statistics of a country. These national level vital statistic data play a key role in planning, delivering and monitoring of health and social development programs. Reliable mortality data, which are drawn from quality Cause of Death (COI information, are essential for the government and their partners, including nor government organizations and academic institutions, to monitor the health of the population, to study disease distribution and emerging or neglected health problems, t address health inequities, to develop evidence- based health policy initiatives and as we as to implement cost-effective public health programs. In Sri Lanka though we have achieved almost 100% death registration, quality of Couse of death data remain questionable.

Objectives: To assess whether Cause of Death Guide mobile application, can be used to improve the quality of COD writing by medical doctors.

Methods: To improve the quality of cause of death written by medical doctors educational, interactive mobile application, "Cause of Death (CoD) Guide" was developed. Twenty-five hospitals above the base hospital level were selected based on z convenient sampling method and 125 doctors (five doctors from each hospital) were trained on Medical Certification of Cause of Death (MCCOD).

During the MCCOD training program, a pretest was done to assess the quality of cause of death. writing done by the participating doctors by asking them to write the cause of death for three standard case scenarios

After the pretest the mobile application was introduced to doctors and after using the mobile application, a post-test was done by the same methodology as the pretest. Cause of death certifications written by doctors during the pretest and posttest were assessed by using a standard cause of death quality assessment tool developed by

the University of Melbourne which asses the quality of cause of death based on seven types of most common errors which can be identified in   certification of cause of death. Assessment of usability of the CoD Guide mobile application and assessment of knowledge in CRVS among participating doctors were also done during the post-test.

0039. Wanigatunga, J.C.
Customization of the HHIMS at Accident and orthopedic service, National Hospital of Sri Lanka with the view of accelerating patient flow and increasing user acceptance.
MSc. Biomedical Informatics – 2018   **D 4636**

Background: Accident and Orthopedic Service (AOS) of Sri Lanka is the premiere trauma care centre in Sri Lanka which caters nearly 100,000 trauma victims yearly. Also, it is one of the early adopters of emergency department health information system(EDIS). This provided unique opportunity to study the intricate interplays between the clinical care process and the system as well as taking actions to strengthen them. The clinical information system was facing many challenges to cope up with increasing demands of the complex working environment and solutions had to be made to ensure the survival and sustainability.

Methods: The study considered the EDIS as a sociotechnical system by considering the not only the technology but also the interactions of the users as well as the organizational environment. The naturalistic approach was employed to observe the system for nearly one and half years which helped to develop a detailed understanding of the system. This was complemented by previous evaluation done on the same system as well as quantitative data gathered from the system generated reports. The project laid its foundation on action research methodology which allows the researcher to work with the system improving it by addressing problems while generating academic knowledge for a wider audience.

Results: There were 3 action research (AR) cycles which address the main six stakeholders of the system. In the AR cycle one, the clinical table database was tailormade according to the requirement of the AOS and enabled the system to handle all procedures, medications and Investigations. In AR cycle two, problems pertaining to DICOM (Digital Imaging and Communications in Medicine) system were identified and actions were taken to alleviate the situation. A standard X-ray

protocol list was developed and integrated into the system. Finally, in the AR cycle 3, the queue management system was implemented.

Conclusion: Principles of sociotechnical theory can be used successfully to improve the EDIS. Furthermore, the system has a great potential to improve the service delivery in trauma care setup. However adequate training, prompt maintenance, adaptive changes to cater needs of AOS must be carried out with the collaboration between all stakeholders to ensure the survival and sustainability of the system.

0040.Weediyawatta, P.K.G.P.
Customization of data analysis and visualization component of electronic reproductive health management information system (eRHMIS).
MSc. Biomedical Informatics – 2018   D 4645

Introduction: Family Health Bureau is the central organization for delivering Reproductive, Maternal, Newborn, Child, Adolescent and Youth Health (RMNCAYH) services of Sri Lanka. RMNCAYH programme uses District Health Information System version 2 based electronic Reproductive Health Management Information System (eRHMIS) to collect data on its sub-programmes. The programme managers of RMNCAYH programme use eRHMIS data for decision making. The concept of 'dashboard' was introduced to improve data analysis and visualization of eRHMIS. A dashboard is a tool which is used to display the most critical information at a glance. The Dashboards improve the ability of decision making by increasing cognition and capitalizing on human perceptual capabilities. The objectives of this study were; to improve data analysis and visualization features of eRHMIS and assessment of the usability of the proposed solution among the top and middle-level programme managers of RMNCAYH programme by July 2018.

Method: 22 national level dashboards and 22 Regional Director of Health Services Area level dashboards were developed by customizing eRHMIS dashboard module for user-specific real-time information visualization. A qualitative study was conducted to assess the usability of the eRHMIS dashboard module after two months of its implementation. The study population consisted of 25 top and middlelevel programme managers of RMNCAYH programme and data collected with indepth interviews.

Results: Five major themes identified regarding the usability of eRHMIS dashboards. Ability to improve information use and easiness of use were main contributory factors to have a high level of usability in eRHMIS dashboard module. **Conclusion:** The eRHMIS dashboard module was able to improve data analysis and visualization features of eRHMIS. According to the perception of top and middle-level programme managers of the RMNCAYH programme usability of the eRHMIS dashboard module was high. This should raise the awareness of other Public Health Programmes to incorporate dashboards into their information management systems to promote information for action.

0041.Wijayanayaka, P.K.C.
Development and implementation of an electronic information management system for national blood transfusion services.
MSc. Biomedical Informatics - 2018   **D 4658**

Background
Sri Lanka has a well-established National Blood Transfusion Service that provides quality assured blood service. However, the information flow is inefficient and less utilized for evidence-based decision-making. The statistics unit of National Blood Centre is unable to produce Annual Statistics Report timely due to the difficulty in analyzing and making reports manually utilizing the considerable amount of data collected throughout the year. In this situation, the electronic Health Information Management System was proposed as a solution for the inefficiency of the data flow for statistical purposes.

Method
A Monthly Statistics Reporting System was designed and developed using DHIS2, which is a Free and Open Source Software (FOSS) to fulfil the requirements of the National Blood Transfusion Service. To evaluate the new system, a qualitative study was conducted using semi-structured interviews amongst a selected study population of 17 participants within the NBC Cluster, which includes 11 blood banks in Colombo area. The gathered data was analyzed using a thematic analysis techniques and the emerging categories and themes were used in the subsequent discussions.

Results
Problems of calculation, usability, reliability, utilization of data and availability of reports were identified in the paper-based system. Results shows that the new

electronic system has high usefulness, ease of use, ease of learn, satisfaction and cost effectiveness with accepted enhanced features of the interface. According to the interviews, participants expressed that the likelihood of using this system in the future is high.

Conclusion

Almost all the participants in this research readily accepted new electronic information management system. Therefore, it will assure the sustainability of the new system. Because of the real time updated dashboard, it will help most of the blood bank functions by facilitating administrative decision-making efficiently.

0042.Wijayarathne, A.K.J.M.
User centered electronic child health record (e-CHR) prototype for urban Sri Lankan parents.
MSc. Biomedical Informatics – 2016   D 4236

Introduction: Sri Lanka has a robust public health system where child health is a priority. Child Health Development Record is a paper based booklet to record child health data from birth. With the changing lifestyle of urban/semi-urban parents, there is an increased demand for an electronic version of the booklet.

Design, Setting and Method: Without considering the user base we could not finalize the design of an e-version of the Child Health Development Record. To analyse the usage of the current Child Health Development Record, the need of an e-version and expected functionalities of it, a survey as well as qualitative interviews were carried out in the Colombo District. 290 parents have been given the survey questionnaire. Parents, Midwives and General Practitioners were interviewed one to one or using focus group method. Data was analyzed using mixed method and the first version of the prototype was developed. Exhibiting that to the users, another set of interviews were carried out to further analyze the delivered functionalities/user interface of the first version and based on the above results, a second version of the prototype was designed.

Results: The survey results revealed that 94% (273) of parents knew the book was beneficial yet the interaction with the book was not optimal. Around 50% (144) of parents experienced difficulties in performing the developmental checks which are intended to be completed by parents. Lack of time and not knowing how to perform the check or how to assess the result were among main reasons for difficulties. The

mobile phone penetration was quite high among this urban **group** of parents. More than 70% parents were in favour of an electronic version. In survey and the interviews important user needs and expectations were revealed. The survey results were confirmed by the interviews and important design concepts were formulated using scenario transformation method and the prototypes were based on user-centered design.

Conclusions: A mobile based electronic version of CHDR could be of assistance to parents immensely and they are positive on accepting one. However, the application design should be flexible to address the dynamic nature of the requirements of the parents.

0043.Wimalasundara, A.R.
Patient clinical record module for current electronic tuberculosis information management system: An action research.
MSc. Biomedical Informatics – 2018   **D 4635**

Introduction: Tuberculosis despite being a treatable condition, remains a major public health burden in Sri Lanka. National Tuberculosis Program oversee the curative and preventive services for tuberculosis patients. Care for the tuberculosis patients are provided by the District Chest Clinic. All patient information are recorded in a paper based patient file system at chest clinics. A comprehensive electronic repository of individual patient based data that would also help in clinical management of the patient have been needed for the national program.

Objective: This study is aimed to identify the requirements and perceptions of stakeholders involved in diagnosis and clinical management of tuberculosis patients to design a comprehensive patient clinical record module to capture individual case records and reporting.

Methodology and Data analysis: This research was designed as an Action Research. In- depth interviews with supportive documentary evidences were used for data gathering. It was conducted in two phases. In the first phase major stakeholders in the provision of care to tuberculosis patients were identified and was interviewed to identify the user requirements. In second phase a prototype of the proposed system was developed and was evaluated with the intended users of the system. Evaluation was also carried out in terms of in-depth interviews.

Data analysis was done using a modified version of thematic analysis.

Results: Nine major stakeholders from chest clinic and central level participated in the study. Data obtained from the first phase interviews revealed four major themes that described extensively about the work processes involving the stakeholders, Users and their role, challenges and constraints faced in managing patients, and user expectations in the proposed system. A prototype was developed according to user needs and the evaluation with the intended users in overall was a positive feedback with some concerns being expressed in terms of implementation and sustainable use. Many future improvements were suggested by the users.

Conclusions: User centered design approach is beneficial in many aspects in designing an electronic patient clinical record for individual patients that also addresses different information needs of all major stakeholders in following up of patients with chronic illnesses. It would improve the quality of patient care provided through health programs.

0044.Ziyad, A.I.A.
Development and piloting of web based stroke clinical registry (SLSCR) for the management of stroke patients in Sri Lanka.
MSc. Biomedical Informatics – 2016   D 4353

Stroke is the third leading cause of hospital deaths worldwide. It is the main cause of adult disability. Stroke is much prevalent in Sri Lanka. As Sri Lanka is a lowmiddle income country, stroke care is limited by several factors. Most importantly lack of reliable epidemiological data, indicators, prevalence pattern leads to reduced quality of care given in acute, chronic and rehabilitative phases of the affected patients. Therefore, the need to develop a Stroke Clinical Registry is crucial to improve the management, treatment, and rehabilitative care. Hence the objective of this study was to design, develop and piloting web-based Sri Lanka Stroke Clinical Registry (SLSCR) for the management of Stroke patients.

The project included several stake holders including National Stroke Association of Sri Lanka, Association of Sri Lankan Neurologists, representatives *from*

Ministry of health. healthcare providers. Several discussions were conducted to decide data elements, practicability of the system, security concerns and piloting of the system. Then an architectural design for Electronic Health Information Management system and its data components were created. The developed system

was piloted at National Hospital, Sri Lanka. During the pilot phase software underwent testing for any issues of system functionalities, Graphical User Interphase, data entry, analysis reports. Issues were documented and resolved. The SLSCR provides individual and health related information of patients, generates real time data from the patient records. It helps health management at various administrative levels and facilitates clinician to access accurate patient information. Following up the patients through the registry was easy even though they are not coming for the clinics. The financial benefits are low cost to develop the software and use, less maintenance cost.

Finding of the piloting of SLSCR revealed the system is capable of providing accurate, timely and reliable health information regarding stroke patients. However, there are limitations observed during testing. System is having some issues with report generation and the transfer of patients' details among institutions. The administrators delay in authorization delays the data transfer. Otherwise the system works smoothly with user friendly interphase.

Clinical Oncology

0045.Abeynaike, L.
Assessing the survival of Hodgkin's Lymphoma in a tertiary care hospital (NCIM).
MD Clinical Oncology - 2018　　　　　　　　　　　　**D 4838**

Introduction
Hodgkin lymphoma is a cancer which has a very high long-term survival and is one on the earliest success stories of clinical oncology. Studies assessing survival of this illness in Sri Lanka is lacking and this study aims to explore the long-term survival of a cohort of Hodgkin lymphoma patients.

Objectives
To arrive at a 5-year survival rate for Hodgkin lymphoma patients who presented to NCIM in 2009 and 2010.

Method
A sample size of 99 patients was found to be adequate to identify a difference in survival, if any. The 2009 and 2010 hospital patient registers were used to find the hospital record numbers of 99 Hodgkin lymphoma patients with verifiable data on

survival >5y or death. Survival was verified using hospital records and by contacting the patients if needed. Survival was analysed for the whole sample and for age and stage sub-groups. This 5 year survival figure thus obtained was compared against that of other countries.

Results

The 5 year survival for my sample of patients is 46.46% (36.81%-56.46%). This is inferior to 5 year survival for United Kingdom 85% (84.9%-85%). When compared with that of 2 Indian studies still the 5 year survival of my sample of patients is lower with a statistically significant margin.

Conclusion

5 year survival of Hodgkin Lymphoma of my sample of patients is lower than that of similar patients in UK and India with a statistically significant margin.

0046.Ariyasena, K.D.A .
Comparison of efficacy between neoadjuvant chemotherapy followed by radiotherapy Vs radiotherapy alone in patients with locally advanced squamous cell carcinoma of oesophagus: A retrospective non randomized observational study.
MD Clinical oncology – 2016   **D 3933**

Introduction

Carcinoma of the Oesophagus is one of the deadliest and aggressive malignancies with a very low overall survival. On top of that, incidence is increasing worldwide. Although with new developments and technologies, survival of patients with locally advanced disease not changed to a significant level. Several clinical trials have conducted worldwide in order to decide the best mode of treatment, but specific local data is still Not available.

Objectives

To compare the efficacy between sequential treatment with neoadjuvant chemotherapy

followed by radiotherapy Vs radiotherapy alone, in terms of clinical response, local recurrence and 1 year disease free survival as well as to assess demographic factors associated with oesophageal carcinoma.

Methodology

Total of sixty consecutive patients (thirty for each group) with locally advanced squamous cell carcinoma of the Oesophagus treated with neoadjuvant

chemotherapy followed by radiotherapy or radiotherapy alone between 1st of April 2013 to 31st March 2015 at a single unit of National Cancer Institute, Maharagama were reviewed.

Neoadjuvant chemotherapy was consisted of intravenous cisplatin and intravenous 5FU for two cycles. Arm 01 patients had received neoadjuvant chemotherapy followed by radiotherapy and arm 02 patients had received radiotherapy only. Response to treatment was assessed according to RECIST criteria of tumour regression using radiological (CT scans and CT simulation data) and endoscopic findings. Patients were followed up for 1 year after completion of treatment at 3 monthly intervals. Recurrences were confirmed endoscopically, and histological confirmation was obtained. Results of the two groups were compared order to assess clinical response, local recurrences and disease-free survival at 1 year.

Results

 Out of total sixty patients, thirty patients had received neoadjuvant chemotherapy followed by radiotherapy and were followed up for 1 year (Arm 01). Total of thirty patients had received radiotherapy only and followed up for 1 year (Arm 02). Out of all age less than 60year patients (Total 21), majority of patients (71.4%, n= 15) had received neoadjuvant chemotherapy followed by radiotherapy and only 28.6% (n=6) had received radiotherapy only. Out of total 39 patients who were more than 60 years of age,61.5% (n=24) had received Radiotherapy only and 35.5% (n—15) had received neoadjuvant chemotherapy followed by radiotherapy. P value for this age distribution was 0.015 (P<0.05)

Signifies that there is a statistically significant association between age distribution and received treatment modality. Other demographic characteristics and assessed risk factors ie. Sex, smoking, alcohol consumption, positive family history failed to reveal any statistically significant association.

In Arm 01, out of 30 patients who received neoadjuvant chemotherapy followed by Radiotherapy, 60% of patients (n=18) have shown a partial radiological and endoscopic response. None of them has shown complete response and only 01 patients has shown no response. 3.33% (n=l) has shown progressive disease and 33.3% (n=10) have defaulted treatment at various stages of treatment.

In Arm 02, 36.7% (n=l 1) patients have shown partial radiological/ endoscopic response and 13.3% (n=4) have shown no response. None of them have achieved complete response.

Progressive disease was observed in 2 patients. 13 patients have defaulted treatment. Although, according to above results, Neoadjuvant chemotherapy followed by Radiotherapy group demonstrated a 23.3% higher partial response rate compared to Radiotherapy only group, the P value was 0.071 (P > 0.05) and the difference was statistically not significant.

During follow up, In Arm 01, there was only 1 local recurrence identified and in Arm 02, there were 03 local recurrences. In Arm 01, 46.6% (n=14) patients had achieved local control at 1 year and it was 33.3% (n=10) in arm 02. But, the P value was 0.292(P> 0.05) and the difference is not statistically significant. Moreover, the disease free survival at 1 year was higher in neoadjuvant chemotherapy followed by Radiotherapy group compared to radiotherapy only group (93% Vs 77%), but again the P value was 0.205 (P>0.05) and the difference is statistically not significant.

Conclusion

Neoadjuvant chemotherapy with cisplatin and 5FU followed by radiotherapy for locally advanced squamous cell carcinoma of the Oesophagus is a more efficacious treatment option in terms of clinical response, local recurrence and 1-year disease free survival as higher proportion of patients had achieved a better outcome in this group compared to Radiotherapy only, although the difference is not statistically significant.

More prospective studies with larger sample size and a longer follow up period would be necessary to establish a definitive conclusion without limitations.

0047.Chenthuran, M
Non-randomized retrospective analysis of survival outcome, demographic presentation and management of the high grade central nervous system gliomas in adult patients.
MD Clinical Oncology   - 2012   D 3962

Background - Adult central nervous system primary tumors (Gliomas) are heterogenous and wide spectrum of disease from benign to malignant. Though Brain gliomas account only 1.6% of all cancers in UK. My retrospective analysis addressed demographic presentation, prognostic factors, treatment modalities and survival of patients with adult CNS gliomas treated in routine clinical practice in Sri Lankan population.

Patient and methods.

We studied a cohort of adult patients with primary central nervous system Gliomas treated at National cancer institute Sri Lanka. The national Cancer Institute Sri Lanka database is hospital based cohort of the patients diagnosed with malignancy at secondary and tertiary care hospitals throughout Sri Lanka both in government and private sector and were referred for oncological management and follow up. The National Cancer institute of Sri Lanka data base was systematically analyzed to find the cancer incidences and outcome among the Sri Lankans.

Results.

The median age of our patients was 58 years. Almost all the recurrence was reported at the primary site. Age, performance status, Grade, presence or absence of the neurological features at diagnosis were identified as poor prognostic factors in our study. The 2 years OS was 88 % in Grade II tumors, 45% in Grade III tumors and 15% in grade IV tumors. While 5years OS was 74% in grade II tumors, 21% in grade III tumors and 2% in grade IV tumors. In our study both 2 years and 5 years OS is lower than the global values. ($p = <0.05$).

0048.Goonatillake, W.D.I.S.
Retrospective observational study in newly diagnosed female breast cancer patients in the National Cancer Institute of Sri Lanka in year 2006.
MD Clinical Oncology – 2016   D 3934

Introduction*:* Breast cancer is the commonest cancer by site of origin in Sri Lanka. However other than a handful of publications based on histopathological and immunoassay data, no publication to date exist regarding the profiling of breast cancer in Sri Lanka. The study attempts to come up with such a profile based on a cohort of patients which justifiably represents breast cancer patients in Sri Lanka.

Objectives: The primary objective is to determine the disease free survival, overall survival and the relapse rate of a cohort of female patients with breast cancer who presented to the Oncology clinics conducted at National Cancer Institute of Maharagama during the year 2006. To determine the age distribution, to describe the stage of presentation, hormone and growth factor expression of the tumors, relationship of survival to age, tumor stage and receptor status and relapse pattern of the disease in the cohort of cancer patients were secondary objectives.

Materials & methods: The target population was all the new patients presented to the National Cancer Institute between 1st of January to 31st of December 2006 with a diagnosis of breast cancer. Among them 340 patients were randomly selected. They were followed up for the next five years retrospectively. Data regarding behavioral, clinicopathological characteristics was collected and each of these data was then linked to the overall and disease free survivals.

Results: Demographical profile -The cumulative percentage of patients below 55 years of age was 57.9% with the age group with highest frequency being 45 to 49 years of age.

Clinicopathological profile-88.9% (n=272) of histology was invasive ductal carcinoma. Invasive lobular carcinoma represented only 6.9% (n=21) of the cohort. Of the 71.5 % (n=243) of patients whose receptor status was mentioned, 61.3% (n=147) were ER positive, 52.7% (n=126) were PR positive and 24.5 %(n=57) were Her-2- new positive.

Behavioral profile-The overall survival at or beyond five years in the cohort was 89.5%. Involvement of regional nodes (Chi^2= 7.627; df= 1; p=0.006) and involvement of more than 4 regional nodes (Chi^2=5.684; df= 1; p= 0.017) significantly diminished the overall survival, whilst Estrogen receptor expression (Chi^2= 7.886; df= 1; p=0.005) significantly contributed to the overall survival. When it comes to disease free survival the same nodal involvement (Chi^2= 15.561; df= 1; p=0.000) and involvement of more than 4 regional nodes (Chi^2= 3.987; df=l; p=0.046) significantly diminished the disease free survival whilst only the Estrogen receptor expression (Chi^2= 15.181; df= 1; p=0.000) significantly contributed to the disease free survival.

Conclusion and recommendations: Sri Lankan breast cancer profile is different to the West by more patients being diagnosed at a younger age and presentation of very low proportion of in-situ carcinomas. Therefore, breast cancer screening should start at least at the age of 35. In addition, disease free survival and overall survival are significantly diminished by the lymph node positivity and increase number of positive nodes whereas estrogen receptor positivity significantly contribute to both disease free and overall survival.

Keywords: Sri Lankan breast cancer profile; disease free survival; overall survival; pathological profile; behavioral profile

0049.Gunarathne, C.R.B.
Retrospective analysis of clinical features, treatment related complications and outcome of postmenopausal females with oestrogen receptor positive breast cancer Institute, Maharagama.
MD Clinical Oncology – 2018   **D 4518**

Introduction -Breast cancer is the commonest cancer in the world and this holds true for Sri Lanka as well. Post menopausal hormone receptor positive patients makes up a significant portion of breast cancer patients. These patients have some unique characteristics and challenges that has not been described in the Sri Lankan context before.

Objectives - To describe the demographic, clinical and pathological features, side effects of hormonal treatment and long term outcome of post menopausal hormone receptor positive patients treated at the National Cancer Institute, Sri Lanka.

Method -All patients fitting the above criteria registered with the National Cancer Institute, Sri Lanka (NCISL) from 1st January 2008 to 30th April 2008 were included. Patients who had incomplete records were excluded. An event was considered as any death, relapse or loss to further follow up. All details were obtained from the patient clinic records using a data extraction form. All data were analysed using SPSS version 16 software.

Results -Out of the 155 patients registered at the NCISL during this period 20 patients were excluded due to incomplete records, wrong diagnosis and duplication. Mean age at diagnosis was 63 years. Most patients belonged to Stage

II. Commonest treatment modalities were Modified Radical Mastectomy, Anthracycline and cyclophosphamide chemotherapy and conventional radiotherapy Tamoxifen was the most used anti hormonal agent. Thromboembolic episodes and endometrial hyperplasia were commonly associated with tamoxifen while osteoporosis was the commonest side effect of Aromatase Inhibitors. 5 year Event Free Survival (EFS)for the entire cohort was the 63.4% and use of aromatase inhibitor as the initial ant hormonal agent contributed to a significantly better 5 year EFS (P<0.03)

Conclusions -Demographic and clinic pathological data are similar to data from neighboring countries. Significantly low side effects have been reported compared to accepted standards. 5 year EFS is inferior to published data from developed

countries. Use of Aromatase Inhibitors conferred a better EFS compared to tamoxifen.

00050.Gunasekara, D.S.
Retrospective analysis of clinical features and outcome of patients presenting with primary bone sarcomas to a pediatric oncology unit, National Cancer Institute, Sri Lanka.
MD Pediatric Oncology - 2017   **D 4154**

Introduction -Primary bone sarcomas are the fifth commonest cancer in childhood. They are a group of cancers which can be treated in low resource countries using the same internationally accepted treatment protocols. In Sri Lanka currently there are no studies describing the clinical characteristics or treatment outcome of these patients.

Objectives - To describe the clinical features and long term outcome of patients presenting with primary bone sarcomas to a Pediatric Oncology Unit in Sri Lanka.

Method -All patients registered with the pediatric unit of the National Cancer Institute, Sri Lanka from 1st January 2006 to 31st December 2011 were included. Patients who has not completed even one cycle of chemotherapy or whose records not available were excluded. All details were obtained from the patient clinic records using a data extraction form. All data were analysed using SPSS version 16 software.

Results -Out of the 93 patients registered at the NCIS during this period 9 patients were excluded. 58% of primary bone sarcomas were Ewing's sarcoma (ES) and 40% were Osteosarcoma (OS). Commonest site of primary was the leg and commonest metastatic site was the lungs. Metastasis at presentation was seen in 15% of OS and 10% of ES patients. Form of local treatment was surgery in 100% of OS while its 65% in ES. Only 2 patients with extremity OS and 5 with ES had limb sparing surgery. Mean duration of neoadjuvant chemotherapy is OS was 15 weeks in OS and 21 weeks in ES. Mean time between pre and post local treatment chemotherapy was 8.78 weeks in OS and 8.58 in ES Adjuvant chemotherapy duration in OS was 26.58 weeks and in ES27.69. 5 year Event Free Survival(EFS) for OS was 29.5% and 23.8% for ES. Age, sex and site of primary did not have any significant impact on recurrence. Delays in neoadjuvant chemotherapy and local therapy significantly impacted the EFS.

Conclusions -Sex, primary site was similar in this cohort as the published data but mean age and metastatic disease at presentation was less than similar economic countries. In both OS and ES the 5 year EFS is far less than developed countries but similar to low resource setting. Delays in neoadjuvant chemotherapy and local treatment significantly impacted the EFS.

0051. Iqbal, A.
Non randomized retrospective analysis of survival outcome of childhood primary liver tumours (Hepatoblastoma/Hepatocellular carcinomamanaged in a single (paediatric) unit, National cancer Institute of Sri Lanka.
MD Clinical Oncology – 2010   D 3780

Objective: The main purpose of this study is to investigate the long-term outcome of children with primary hepatic malignancies who were treated in the pediatric oncology unit of the National Cancer Institute Maharagama, Sri Lanka (NCIM).
Method: Between the periods of January 2005 - December 2010, 35 children with hepatoblastoma/ hepatocellular carcinoma were referred for treatment, out of which 5 patients left against medical advice for alternative medicine and they were excluded from analysis. A retrospective analysis of data from 30 patients diagnosed with Hepatoblastoma (HB)/ Hepatocellular carcinoma (HCC), treated at NCIM were recruited as subjects for this study. All information was extracted from patients' clinical records and interview of the parents/guardian. Data on socioeconomic status, demography, pre-treatment investigations, PRETEXT staging, neo-adjuvant chemotherapy, chemotherapy related complications, time to surgery after completion of chemotherapy, surgical procedure, post surgical adjuvant therapy and post-treatment follow-up including survival were collected using a questionnaire. Analysis was done using statistical software. After thorough assessment, majority of patients were given neo-adjuvant chemotherapy. Patients were referred to the paediatric surgical units at the Lady Ridgeway Hospital for resection. Following surgery adjuvant chemotherapy was started according to protocol. Results
Among 30 patients, 26 received neo-adjuvant chemotherapy according to our unit protocol (Similar to SIOPEL protocol). Four patients underwent primary surgery followed by adjuvant chemotherapy. Among the neo-adjuvant group, 16/26 patients (62%) underwent surgery. 10/26 patients (38%) did not undergo surgery

due to disease progression or refusal of surgery and they were considered as treatment failures. The median time to surgery after completion of chemotherapy was 36 days and more than 50% of patients had a significant delay in excess of four weeks. Among patients who underwent surgery 13/20 subjects (65%) had a complete resection. Overall, 17/20 of patients (85%) in the surgical group are living by the end of study period. However, among the non- surgical group, only 2/10 (20%) patients were alive at the end of study period. Both of them had residual metastatic disease. Out of the surgical group 15/20 (75%) were free of disease at end of study follow up. The two-year overall survival is 63% for the study population with median of 28 months. The two-year disease-free survival is 50% for the whole population. The median age at diagnosis was 10 months (2 to 132 months). The mean follow up period was 28 months (1 to 80 months). 53% of patients developed febrile neutropaenia and there were no treatment related deaths recorded. On univariate analysis only the presence of inoperable or residual disease following neoadjuvant chemotherapy was found to have significant impact on survival ($p<0.05$).

Conclusion

Neo-adjuvant chemotherapy followed by surgical resection results in an overall survival of 63%. The significantly better survival in the surgical group is due to limited residual disease following neo-adjuvant chemotherapy, emphasizing the prognostic importance of response to chemotherapy. In general, our results are comparable to those of the SIOPEL study. Measures should be focused to minimize failures from surgery and such a program might increase the number of patients undergoing surgical resection and improves the quality of life.

0052.Jayathilake, P.W.D.C.C.
Complete remission rate achieved by newly diagnosed adult acute myeloid leukaemia patients after induction chemotherapy, treated at National Cancer Institute, Maharagama.
MD Clinical Oncology – 2018   **D 4832**

Acute myeloid leukaemia (AML) is the commonest form of acute leukemia among adults. Treatment of AML has been divided into remission induction chemotherapy and post-remission consolidation therapy. Achieving a complete remission is the most important step in controlling the disease.

The aim of this study was to describe the complete morphological remission rate (CR) achieved at the end of induction chemotherapy by newly diagnosed adult AML patients, treated at National Cancer Institute, Maharagama (NCIM). The study carried out prospectively and analysed the data of 75 consecutive newly diagnosed AML patients treated at NCIM.

Of 75 patients enrolled, 62.7% (n=47) were treated radically using upfront intensive chemotherapy, whereas 29.3% (n=22) and 8% (n=6) were treated with palliative chemotherapy regimens and best supportive care respectively. The combination of daunorubicin and cytarabine (DA) was used unvaryingly as the radical chemotherapy regimen. Out of 47 patients treated radically, 48.9% (n=23) achieved a CR at the end of remission induction chemotherapy. Thirteen (27.7%) patients died during induction period and the commonest cause of death was sepsis which accounted for more than 90% of induction deaths. Six (12.8%) patients had residual disease and 5 (10.6%) patients had primary refractory disease at the end of induction chemotherapy.

This study identified that the CR rate of newly diagnosed AML patients who received radical induction chemotherapy at NCIM (48.9%) was inferior to the world standards (70%). However, the proportion of patients who received standard induction chemotherapy but didn't achieve a CR at the end of induction was very much in the range of international standards (23.4%). Hence, the main reason for the inferior CR rate was the higher rate of mortality (27.7%) during induction period compared to the world figures (less than 5%).

Therefore, this study recommends, identifying possible causes leading to increased rate of infection related mortality during induction chemotherapy period and taking prompt remedial measures as the most important step to improve CR rate of newly diagnosed patients with AML treated at NCIM.

0053.Karunaratne. A.D.B.J.

Tumour contouring using computed tomography (CT) imaging to evaluate geographic miss seen in conventional radiotherapy for carcinoma of uterine cervix.

MD Clinical Oncology – 2016   **D 3935**

Introduction

Carcinoma of the uterine cervix is regarded as one of the most prevalent malignancies in women worldwide. In Sri Lanka, carcinoma of the uterine cervix is the 2nd most common cancer (9.7%) among females. Radiotherapy is the main modality of treatment in locally advanced disease. Although CT-based radiotherapy is emerging as the treatment of choice, some centers continue to use two-dimensional conventional field borders based on bony land marks due to lack of resources and high patient load. Uncertainty of adequate target volume coverage with conventional four field "box" is long being discussed.

Objectives

To evaluate the extent and determinants of geographic miss in radiotherapy for carcinoma of uterine cervix when treatment planning done using conventional 'box' technique, compared to CT-based radiotherapy planning. Also to determine the anatomical variations of aortic bifurcation with regard to the position of lumbar vertebral bodies. To perform dosimetric comparison between conventional and conformal radiotherapy in carcinoma of uterine cervix in a subgroup.

Methodology

A retrospective non randomized observational study of 54 biopsy proven patients with locally advanced carcinoma of uterine cervix, treated in a single unit at National Cancer Institute between 01st of March 2010 to 31^{sl} of January 2013.

In this study for each subject, 2 separate "box" plans were created in the same CT simulation images. Initially conventional four field box plan was drawn according to the anatomical landmarks on CT simulation images similar to GOG standard pelvic fields. In the conformal plan, the target volume delineation was done on planning CT scans, according to the guidelines given in literature. Primary disease and regional lymphatics were included in the Target volume. Using beam's eye view conformal and conventional box plans were compared with regard to the tumour coverage and evaluated the geographic miss. Study variables and anatomical variation of aortic bifurcation were assessed in CT images. Dosimetric

Comparison of two plans were done using randomly selected 8 patients with regard to target volume coverage and sparing of risk organs.

Results

In only 4 (7%) subjects CT based target volume was fully encompassed by the conventional box plan. Rest of the 50 (93%) patients has had geographic miss of the target volume which was seen at a single or multiple borders. Most commonly missed borders were, Anterior (76%) and posterior (44%) borders of Lateral field, Inferior (55%) borders of both fields.

There were statistically significant associations in Geographic miss at the Inferior border of both fields and the Tumor volume ($p = 0.01$); Geographic miss at the Inferior border of both fields and Tumor AP diameter (P value = 0.03). Also Tumour stage and Geographic miss at 2 borders (superior and posterior) (P values were 0.04, 0.04 respectively) depicted statistically significant association. Sixtynine percent (69%) of study subjects had aortic bifurcation above the L4-L5 intervertebral space and only 26% had it at the same level. Study demonstrated a statistically significant increase in the volume of target irradiated (V95 & V50) using the CT-based 3-D plans. There was no statistically significant increase in doses to OAR (bladder and rectum) with conormal radiotherapy.

Conclusion

There 2 was a significant inadequacy in target volume coverage with conventional "box" compared to CT-based planning. Tumour stage, Tumour volume and AP diameter were seer as significant predictors of the geographic miss. There was a great variation in level of aortic bifurcation and the position should be defined individually. There was a significant increase in the volume of target irradiated using the CT-based 3-D plans without increasing doses to normal tissues.

0054.Malaviarachchi, S.I.
Prospective study to find out the impact of acute radiation related toxicities in patients receiving radical radiotherapy to head and neck carcinomas on quality of life and to introduce effective practical measures to overcome toxicity related morbidity.
MD Clinical Oncology – 2015   **D 3839**

Objective: To find out whether there is any significant difference in acute radiation toxicities and their severity following proper patient education regarding acute radiation toxicity and required supportive measures. This **prospective scientific**

study is aiming to find out our own figures of acute radiation toxicity and possible methods of minimizing them to obtain better quality of life.

Methodology: Randomly selected Patients with Head and Neck cancer who receive radical dose of radiotherapy to head and neck 60 to 70 Gray with or without concurrent Cisplatin. Through a data obtaining questionnaire, encounter existing toxicity and their severity according to standard CTC scoring scale. Newly diagnosed patients (217) who admit to radiation therapy units were selected during defined set period of time and hundred patients were selected as study group and were given adequate information regarding acute radiation toxicity and required supportive measures. Rest of the patients (117) were used as control group who receive current treatment. At start their knowledge about radiation toxicity and required supportive methods were obtained. Acute radiation toxicity on day 90 were assessed in both groups and compared.

Results: There were significant reduction in oral mucositis, pain, oesophagitis, xerostomia and weight loss among study group who had adequate knowledge about toxicity and preventive measures. However, fatigue, trismus, osteoradionecrosis laryngitis and weight gain during recovery period did not show any significant difference.

Conclusion: By introducing proper patient education methods* minimize the significant radiation induce morbidity and can optimize quality of life.

0055.Paramakulasingam, S.P.
Retrospective assessment of osteosarcoma patients treated at National Cancer Institute Sri Lanka.
MD Clinical Oncology – 2013   **D 4519**

Background

Osteosarcoma is the most common bone cancer in adolescent. In Sri Lanka outcome of osteosarcoma in adult population still not analyzed. National Cancer Institute of Sri Lanka (NCISL) is the leading cancer treatment center in Sri Lanka, so by analyzing the outcome of osteosarcoma at NCISL reveal the outcome in Sri Lanka.

Patients and methods

Osteosarcoma patients, who's age 13 years and above, who registered at NCISL during the year 2008 to 2011 were retrospectively analyzed. Totally 97 patients were identified. However, 10 patients were referred to other peripheral centers and

7 patients clinic records were missed, therefore 80 patients were analyzed. The objectives were to identify clinical presentation, percentage of patients who abandoning treatment, percentage of limb sparing surgery, event free survival, progression free survival and overall survival.

Results

The mean age at presentation in this cohort was 27 years (SD27), range from 13 years to 61 years. Sixty-six percentage (53/80) were males and 34% (27/80) were females. Primary site at presentation for majority of the patients was limb (90%). Around seventeen percentages of them had metastasis at presentation, and major site of metastasis was lung (13.8%). Around 30% (24/80) of the patients defaulted their treatment within first 3 cycle of neo adjuvant chemotherapy,5 patients were defaulted after neo adjuvant chemo and a patient defaulted during adjuvant chemo. All most all patients had treatment delay more than two weeks during the cause of the treatment. Totally 43 patients had primary site management. In which 40(93%) patients had only surgery and 3(6.9%) of them had both surgery and radiotherapy. Twenty-three (53%) of the extremity osteosarcoma patients had limb sparing surgery and 19(44%) of them undergone amputation. Twenty-five (58.1%) of them had good pathological response rate to neu-adjuvant chemotherapy and 18(41.9%) of them had bad pathological response rate. Seventeen (21.3%) patients had progressive disease during treatment, 13(16.3%) of them had lung metastasis. Two and five-year event free survival was 45% and 11% respectively. Progression free survival for 2 and 5 years were 45% and 12.5% respectively. Overall survival of 2 and 5 years were 46% and 10%.

Conclusion

Socio demographic data and clinical presentations almost similar with international data. However abandoning treatment and treatment delays are the significant problem in our patients. Surprisingly more than half of the patients undergone limb sparing surgery. Although survival rates were significantly low in the study population, inadequate data in clinic records and non-following survivors are giving hope to have more survival rate.

0056.Perera, O.J.C.

Delay in starting whole breast radiotherapy and the effect it has on local recurrence in patients with conservative surgery for breast cancer: experience from National Cancer Institute of Sri Lanka.
MD Clinical Oncology – 2019   **D 4834**

A rise in cancer incidence is experienced globally and many countries has experienced prolongation of waiting time for radiotherapy. In breast conservation therapy, whole breast radiotherapy is an essential component and in Sri Lanka only the National Cancer Institute, Maharagama is equipped with Linear accelerators capable of delivering conformal therapy for these patients. Therefore, we, obviously have a waiting list for radiotherapy but the extent of it was never assessed. Furthermore, the effect of this waiting time on breast cancer patients' outcomes has been never assessed for Sri Lankans and the findings from other countries are not definitive.

Objectives – The primary objective of this study was to describe the average waiting time for radiotherapy and the associated factors for recurrence among patients who had undergone breast conservation surgery for non-metastatic breast cancer at NC1M

Method - Retrospective cross-sectional analytical study was conducted in 2018 December using all follow up records of breast cancer patients with conservation surgery, who underwent whole breast radiotherapy at the NCIM Linear accelerator machine between 2012 January and 2013 December.

Results - 156 patients were eligible for the study, but outcome details were only available for 142. There were 14 patients with local recurrence, 14 with distal metastasis and 7 deaths as of December 2018 in this cohort of patients. 82 of the 156 has had both chemotherapy and radiotherapy while 62 has had radiotherapy alone. The mean time gap between surgery and radiotherapy for the whole group was 190.08 days (SD 84.33days). This value was 134.08 days (SD 63.38) for radiotherapy only patients and 232.87 days (SD 72.92) for the other group. No significant association between the mean delay and local recurrence was found by Mann – Whitney U test for the whole sample (p= 0.610) or for any of the sub groups. The multivariate analysis also failed to find a significant increase in the local recurrence risk from having a time gap of more than 20 weeks between surgery and radiotherapy in the whole sample (p=0.259) or in the radiotherapy only

sub group (p=0.355). But, having non-luminal molecular sub type was found to be a risk factor for local recurrence in both the whole sample (p = 0.037) and the chemotherapy given sub group (p= 0.020).

Risk of metastasis was found to be positively associated with node positivity and intra radiotherapy delay of 7 days or more in the whole sample as well as the chemotherapy given sub group. When all adverse events were considered, a positive association was noted between node positivity and non-luminal molecular sub type in the whole sample and in the chemotherapy give subgroup.

Interestingly, having a time gap of more than 2.0 weeks was found to be protective of metastasis (p=0.040) and all adverse events (p= 0.022) when multivariate analysis was applied to the whole sample.

Conclusion - Although our mean radiotherapy waiting time is much longer than the reported values from other countries, it appears to have no significant effect on the local recurrence risk in breast cancer patients with conservative surgery. Nonluminal molecular sub type and lymph node involvement were found to be more consistent risk factors for all disease outcomes. Further studies, like a larger cohort analysis should shed more light to this area.

0057.Priyadarshani, H.H.C.
Survival benefit, toxic profile, cost effectiveness in patients treated with 5 fluoropyrimidine and capecitabine for colorectal cancer in adjuvant setting.
MD Clinical Oncology – 2010   D 3932

Colorectal accounts for fourth common cancer among male and fifth common cancer in female in Sri Lanka. Colorectal cancer (CRC) incidences more in males than females and accounts for third most common tumour in men and second most common cancer in female in the world. It is also a common cancer related death in the world. Treatment of CRC is primary surgery followed by adjuvant chemotherapy. Standard established chemotherapy is 6 months 5FU and Leucovarin. Main disadvantage of this regime is prolong hospital admission, requirement of colony stimulation factor and intravenous infusion. Alternatively, Oral Fluropyrimidine, Capecitabine is established treatment in both adjuvant and palliative setting. My purpose of this study is to find out Cost effectiveness among two groups. My main objectives were to assess overall survival, cancer free survival, toxic profile and average cost for CSF between two groups. Other

objectives were to find out age distribution and sex distribution among my sample. I reviewed patients attended to single unit of CIM with diagnosis of CRC from January 2011 to December 2012. Clinic files were reviewed and data collected into electronic data sheet. Retrospective cohort method used as study design. Data analysis was done using Chi-square method. All newly diagnosed patients with colorectal cancer who needed adjuvant therapy were reviewed. Patients with early colorectal cancer and metastatic disease were excluded. My sample size was 100 patients. From this sample 50 patients treated with 5FU (Group A) and 50 patients treated with Capecitabine (Group B). Sex distribution of my sample was 56% female and 44% male. Among females 58% has had 5FU and 54% has had Capecitabine. Among male patients, 42% had 5FU and 46% has had Capecitabine. Age distribution in my sample was 12% less than 45 years and 35% more than 65 years. 24% and 29% were 46 to 55 years and 56 to 65 years respectively. When considering the toxic profile, main side effect of Diarrhea, Neuropathy, Neutropenia and Mucositis were described. Neutropenia happens 87% in group A and 13% in group B, Diarrhoea happens 32% in group A and 18% in group B, mucositis happens 52% in group A and 47% in group B.

Neuropathy commonly happens in group B accounting for 80% in contrast to 6% in group A. More than 1 side effect happen in 54% in group A and 45.5% in group B. 88% of group patients had CSF during treatment with mean cost for that 74,454.55 in contrast 12% group B patients had CSF during treatment with mean cost of 21,000.

My final conclusion was 5 FU and Capecitabine has same survival advantage with better cost effectiveness and safe profile in Capecitabine. Therefore, I concluded my study with conclusion of Capecitabine is better than 5FU in adjuvant setting for CRC

Methodology:

Inclusion criteria

Newly diagnosed patients with non-metastatic cancer treated with 5FU (group A) or Capecitabine (group B) in adjuvant setting.

Exclusive Criteria

Patients less than age 25 years and above 75 years.

Patients with inadequate data

Patients with metastatic disease.

0058.Priyalal, K.L.

Impact on functional outcomes in oral cavity cancers treated with different techniques of radiotherapy at National Cancer Hospital Maharagama, Sri Lanka.

MD Clinical Oncology – 2009   **D 4152**

Aim:

This study was conducted to assess functional outcomes such as pain, appearance, dryness of the mouth, salivation, speech and swallowing in patients with oral cavity cancers treated with different modalities of Radiotherapy such as Brachytherapy, IMRT, LINAC based 3DCRT and 2DCF Cobolt 60 teletherapy at National Cancer Hospital, Maharagama, Sri Lanka

Materials and Methods;

This was a retrospective study including 116 patients treated with different Radiation therapy techniques at different time frames due to availability of the different techniques from 2001 to 2014 at National Cancer Hospital, Maharagama. Case Report Form (CRF) was used for collection of data and functional outcomes were recorded by University of Washington Quality of Life Questionnaire (UWQOL V4) by direct or indirect interviews of the patients.

In my study population of total 116 patients, all were clinical stage Tl, T2 and NO and Nl, histologically proven squamous cell carcinomas (SCC's).

Brachytherapy cases of oral cavity cancers, who were attending follow-up clinics and able to contact over the phones were recruited and evaluated; Micoselectron from 2001 to 2005 and Co 60 HDR Brachytherapy from 2010 to 2014 were collated. Data was obtained from Brachytherapy registry, theatre registry and analyzing individual files from record room.

Co 60 2DCF teletherapy cases were collected from 2013 to 2014 from the registry. LINAC treatments - 3DCF and IMRT cases were retrieved from the Varian

Registry and ELEKTA Registry from 2011 to 2014 and patient's contact numbers were accessed from patient Manager Data base.

Majority were buccal mucosa- 50.8%, tongue- 32.8% and floor of the mouth- 9.5%. Others were hard palate- 2.6%, lip and alveolus 1.7% and angle of the mouth only 0.9%, who were treated with definitive radiotherapy, chemo irradiation or postoperative Radiotherapy.

Conclusion:

Absolute consideration of those findings in oral cavity squamous carcinomas (SCO'S) who were treated with different Radiotherapy techniques following descriptive statistical analysis with a p value < 0.001 indicating a highly significant difference, there were definite better functional outcomes in view of pain, appearance, swallowing, speech, taste and salivation with Brachytherapy, IMRT technique and then with LINAC based 3DCFRT and worse outcomes with 2DCF Cobolt 60 teletherapy machines. In other words, best radiotherapy techniques in view of better functional outcomes and quality of life for early oral cavity cancers are brachytherapy and IMRT.

Keywords: Oral Cavity Cancers, SCC, Different RT Techniques, functional outcomes.

0059.Somawardana, U.A.B.P.
Complete remission rates and survival of adult acute lymphoblastic leukaemia patients following remission induction in a Tertiary Care Cancer Referral Centre in Sri Lanka.
MD Haemato-Oncology -   2017   D 4836

Introduction*:* Adult Acute Lymphoblastic Leukaemia (ALL) patients in Sri Lanka are managed with chemotherapy only regimens and response to treatment is assessed only morphologically. The induction phase of chemotherapy is the key to managing ALL. There is no data in this resource-limited setting on complete remission (CR) rates, survival or induction mortality (IM).

Objectives*:* The primary objective of this study was to describe the CR rates on day 8 and at the end of induction, to establish the overall survival (OS), disease-free survival (DFS), induction, IM and common complications during the induction phase of treatment.

Methods: This was a prospective, observational, analytical, cohort study. All newly diagnosed, denovo, adult ALL patients above 15 years of age, admitted to the National Cancer Institute, Maharagama, the main tertiary care cancer referral centre in the country, from 01st of April 2016 to 31st of March 2017 were followed up for 2 years after the last patient had completed induction treatment.

Results*:* A total of 73 adults were diagnosed with ALL and 3 patients were not fit for chemotherapy. The median age was 29 years. Twenty-nine patients (39.72%)

were between 15-24 years. Male to female ratio was 1.8:1. Forty patients (54.8%) were of B-ALL phenotype of whom Philadelphia (Ph) chromosome was tested only on 11 patients. CR on day 8 was 74.24% and on day 29 was 92.15%. IM was 44.62% accounting for 51.22% of total mortality for 2 years of follow up. Neutropenic fever and sepsis were by far the commonest complications resulting in 62.07% deaths during induction with sepsis causing 100% mortality. The average delay in administering induction therapy was 9 days (SD=11.09) and

18.75% experienced a delay >2 weeks. Two year OS was 35.9% with a DFS of 34.38%. Age <35 years, male gender, WBC count <30 in B-ALL and <100 in TALL, T cell phenotype and CR on day 8 and day 29 bone marrow assessments showed a positive correlation with survival although not statistically significant.

Conclusions: Adolescents and young adults comprise a major proportion of adult ALL and a considerably larger proportion of T cell phenotype than that mentioned in literature was found. Ph chromosome was tested only in a minority of patients and the trend towards a poor prognosis among B-ALL patients can be due to Ph+ ALLs not being detected and appropriately treated with targeted therapy. Although CR rates at the end of induction reached high levels, OS was considerably low with a significantly high IM, possibly due to limited diagnostic and isolation facilities and critical and supportive care available at the institute. An island wide prospective database on ALL patients is recommended.

0060.Sripali, H.T.S.
Study on the recurrence, survival and outcome risk predictions of patients with epithelial ovarian cancer at National Cancer Institute Maharagama.
MD Clinical Oncology – 2015 **D 3842**

Introduction

Ovarian cancer is the 5th commonest cancer among females in Sri Lanka and it is the 3rd most frequent cancer death in women. Around 90% of ovarian cancers arise from the epithelium and two thirds of patients present in the advanced stage. Since the symptoms are often nonspecific and mistaken for more common gynecological and gastro-intestinal diseases no reliable screening test exist as necessary. Thus, more than 70% of patients are diagnosed in advanced clinical stages. Hence 5 year survival remained as over past 30 years despite the advances in surgical, chemotherapeutic and other management modalities.

To date primary cytoreductive surgery (PDS) followed by 6 cycles of paclitaxel-carboplatin chemotherapy are considered gold standard in the management. Interval debulking surgery (IDS) is also an option for treating patients with advanced ovarian carcinoma.

In contrast the fairly good response to surgery followed by platinum therapy there is high proportion of relapse and eventually succumb to disease. Therefore, only 10% to 30% of such patients have long term survival.

Objectives

To study the recurrence rates, survival rates within the first 24 months of followup and to study the impact of the prognostic factors; demographic factors including age, menstrual status, family history, symptom presentation as well as the tumour characteristics including histological type , grade, side of the tumour for OS and for DFS in EOC.

Retrospective cohort study was carried out using data extracted from clinic records of the patients treated with primary surgery (PDS or IDS) followed by paclitaxel - carboplatin, enrolled at 4 selected units of NCIM, during the period of 01st of January to 31st of December 2011.Number of patients with clinical records containing adequate data on factors intend to analyze were 96. Data base was created using Microsoft Excel data analysis.

Chi- square test for proportions was used to test the significance of the distribution of factors that could influence the outcome. Survival analysis was calculated by Kaplan Meier and log rank tests.

Results

When the study sample concerned, mean age at diagnosis of EOC was 55 years with the SD of ± 11.5. Majority of study participants were in the age group of 40 - 70 years and most of them were symptomatic at presentation (n==91, 94.8%) Majority of them were postmenopausal. (n= 58, 60.4%) as well as presented predominantly in stage 111 disease (n=54, 56.3 %). In absolute terms, most of the women presented in advanced stages. (n= 60, 62.6%). Out of all patients with documented family history (n==87), 20.5% (n==18) had positive family history of breast, ovarian cancer or both. Most of the patients with positive family history were below the age of 50 (n == 11) in contrast to the age group of above 50 and this difference is statistically significant. (p=0.004) Serous cystadenocarcinoma (50%) was the most common histological type and the commonest grade was G2

(n= 43 , 48 %) Out of all the patients with advanced disease 20 underwent upfront surgery (PDS, 34%) and 38 patients underwent interval debulking (IDS, 64%) Median duration of the survival of the study participants who underwent PDS, IDS were 14.85 and 12.43 months respectively and the difference is not statistically significant.

Majority of the study participants (n= 73, 76%) experienced relapse of the disease, of them majority (n= 40, 66%) recurred after first 6 months of follow-up. DFS at 1 year and at 2 year were 33% and 20% respectively and the recurrence free median survival as 11.57 months.

Overall survival of the study participants at 1 year and 2 year were 87% and 79% respectively and the median survival time was 24 months.

Patients below the age of 50 years had longer median duration (14.3 months) for recurrence in contrast to that of the above 50 age group. (6.57 months) and this difference was statistically significant. (p= 0.015) Beneficial prognostic impact of early age at presentation was only evident in DFS but not in OS. However there was no such association was observed in other prognostic factors for DFS or OS.

Conclusion

The study showed higher overall survival rates at 1 year and 2 year than the comparable data from other parts of the world. Recurrence rate of the disease was compatible with the observed trend in develop countries. The study showed that there was a significant association between age at presentation and the disease recurrence but there was no significant association found between the FIGO stage at presentation and the recurrence in contrast to international figures. Moreover, there was a significant impact of positive family history of the patients with early age group. This highlights the fact early screening and the awareness programs are utmost important and calls for attention.

00061.Vithanage, C.V.
Retrospective analysis on the demographics, clinicopathological features, treatment modalities and outcome of endometrial carcinoma treated at National Cancer Institute, Maharagama, during the year 2011.
MD Clinical Oncology – 2017   D 4153

Introduction: In Sri Lanka endometrial cancer is the second common gynaecological cancer. The incidence is rising worldwide due to the increase

incidence of obesity and infertility. It is an important malignancy in terms of morbidity rather than mortality, therefore important in terms of healthcare cost. Many risk factors are associated with this malignancy such as unopposed oestrogen exposure (exogenous or endogenous) obesity, diabetes, use of tamoxifen, certain syndromes like HNPCC. Some of the risk factors are modifiable hence important in addressing preventive measures.

The main modbality of treatment is surgery and minimally invasive surgery is used increasingly especially in low risk patients. Controversy exists regarding the role of Iymphadenectomy, however its benefit in high risk patients recommends it in this group.

Adjuvant treatment is based on risk categorisation according to the risk factors such as age, stage of disease and histological details such as grade of tumour, death of myometrial invasion, presence of lymphovascular space invasion.

Radiotherapy (EBRT and/or brachytherapy) and chemotherapy is used as adjuvant treatment and there is an increase trend to use chemotherapy according to the current guidelines.

Objectives: To describe the demographic data, stage, clinico-histopathological features, treatment modalities, the recurrence rate and survival within 3 and 5 years of follow up of endometrial carcinoma treated at National Cancer institute, Maharagama.

Method: The study was conducted as a retrospective descriptive study. Data was extracted from clinical records of endometrial cancer patients registered for treatment at National Cancer institute, Maharagama, from 2011 January to 2011 December. Study population consisted of 78 patients. Data was entered into a Microsoft excel data base. Data analysis was done using SPSS statistical software. The proportions of recurrence and survivals at specific intervals was calculated. Overall survival was calculated by Kaplan Meier method.

Results: Mean age of the sample was 60 years (SD8.3 years). Most patients (78.2%) presented with post-menopausal bleeding. Next commonest (26.9%) was vaginal discharge. More than 50% of patients had other co morbidities. 16.6% were nulliparus. All patients had undergone hysterectomy and bilateral salphingo-ophoretomy. 11(14.1%) patients had undergone lymphadenectomy. The commonest histology type was the endometrioid adenocarcinoma (89.7%). Grade 1 (41.8) was the commonest grade. 57.7% had 50% or more myometrial invasion.

10.6% had LVSI whilst 89.4% had no LVSI. Majority (75.6%)were comprised of stage 1 disease. Stage II comprised of 9% and stage III of 14.1% stage IV of 1.3%. 87% received radiotherapy as adjuvant treatment. Five patients (6.4%) were treated with chemotherapy. Eighteen patients (23%) experienced recurrence during the study period. The recurrence at 3 years was 20.5%. Survival at 3 and 5 years were 88.5% and is 85.9%. respectively.

Conclusions: The demographics, clinical presentation, stage at presentation, histology details of the study population are compatible with international figures. However, the recurrence rate is high, mainly distal recurrence. The risk categorization prior to adjuvant treatment and development of local guidelines will help to minimize the morbidity related to treatment and improve disease free survival in these patients.

0062.Wickramasinghe, U.D.K.
Treatment responses and survival after first and second line chemotherapy among patients with epithelial ovarian cancers reported to National Cancer Institute, Maharagama : A retrospective longitudinal study.
MD Clinical Oncology – 2018   D 4833

Introduction

Ovarian cancer remains a challenging gynecological malignancy in Sri Lanka and world-wide. Even after optimum treatment, 70 % of patients will relapse during first 3 years and management in relapsed setting is less well defined and mainly depends on the type of platinum sensitivity.

Methodology

The present study was a retrospective longitudinal study carried out selecting 330 patients registered under 3 different Consultants in National Cancer Institute, Maharagama from 01/01/2011 to 31/12/2014 diagnosed with epithelial ovarian cancers who were in good Performance Status (WHO PS 0 and 1), treated with platinum based first line chemotherapy and were followed up until completion of 3 years till 31/12/2017. Collection of data was carried out using data collection sheet, and summary measures were described using parametric tests and 95 % confidence interval, non- parametric tests and survival analysis using Kaplan-Meier productlimit method.

Objectives

The objective of the current study was to determine the survival, overall response rate and type of response to first line platinum-based chemotherapy and the overall relapse rate at the end of 3 years and the type of relapse as per platinum sensitivity, to describe the prescription of different chemotherapy regimens in relapse patients, and to compare the response and survival after different chemotherapy regimens used in relapsed setting

Results

Of 330 participants in the study, final outcome was known in 211 patients and 119 were loss to follow up. The majority of the patients who received platinum based first line chemotherapy (98.7 %; n = 294) and response was known in 281 subjects, of them (97.3%; n=273) responded to platinum based first line chemotherapy with 93% (n=261) and 4.3% (n= 12) as complete and partial, respectively. During first 3 years 41.9% (n=l 18) of patients had relapse of disease and among them 43.2% (n=51) were platinum sensitive, 22%(n=26) were partially sensitive, 21.2 %(n=25) were resistant and the rest (13.6%; n=16) had platinum refractor)' disease. About 37.4 %(n=44) of relapsed patients received carboplatin and paclitaxel, 36.4%(n=43) received other platinum (P) based chemotherapy, 18.7 %(n=22) received PLD (pegylated liposomal doxorubicin) and 7.5 %(n=9) received non P/ non-PLD based chemotherapy and there were no statistically significant difference in survival between different chemotherapy regimen used (p = 0.4).

Conclusion

Study demonstrated a survival probability of 0.54 (Cl 0.49 -0.60) at the end of 3 years and failed to demonstrate any significant survival difference between different types of platinum sensitivity and no statistically significant difference between different chemotherapy regimens used in relapsed setting.

0063.Wijekoon, R.M.N.
Efficiency of linear accelerator radiotherapy at National cancer Institute – patient waiting time and cost effectiveness.
MD Clinical Oncology – 2016   **D 3840**

Aim: This study is conducted to assess the delays associated with radiotherapy from the time of CT simulation to treatment commencement and to evaluate the wastage of resources at the National Cancer Institute Maharagama (NCIM).

Materials & methods: This was a retrospective study including 222 patients who had their CT simulation between 16th June to 31st July 2015 were included in the analysis. The dates of plan approval and treatment commencement were recorded and treatment defaulters were identified separately. The method used for immobilization was identified to assess the wastage of materials due to delays in the process and treatment defaulters.

Results: Out of the 222 patients, 65% (n=145) had treatment plans approved to commence radiotherapy. The remaining 35% (n=77) did not have an approved plan. Out of the 145 patients with approved plans, 88% (n=127) commenced radiotherapy. In total 41% (n=91) of simulated patients failed to receive radiotherapy. Out of the 91 patients, 51% had tailor made immobilisation casts prepared and were wasted. The delay for plan approval from the date of CT simulation was between 0 to 147 days with the mean and median of 36 and 27 days respectively (SD of 30 days). Delay from treatment plan approval to the date of commencement was between 0 to 110 days with the mean of 17 days (SD - 26days) and the median of 4 days. The total delay from the time of CT simulation to treatment commencement had a range from 0 to 147 days with a mean of 51 days (SD 37 days) and median of 40 days.

Conclusion: The NCIM failed to achieve acceptable standards in timely radiotherapy delivery as prolonged delays happened from the time of CT simulation to treatment commencement. More than one third of patients didn't have radiotherapy commenced despite being CT simulated and this lead to a major wastage of resources.

Keywords*:* **Delay in radiotherapy; CT simulation; Delay in approval; Delay in commencement; Wastage of resources**

Community Dentistry

0064.Aluthpatabendige, C.D.
Oral health status, oral health related knowledge and practices among dental surgery assistants (DSA) attached to the government dental clinics in Colombo district.
MSc. Community Dentistry - 2015   **D 4214**

0065.Amarasena. S.A.D.N.
Oral health status, oral health related knowledge and practices among epileptic patients aged 20-40 years, attending the outpatient epileptic clinic in the National Hospital of Sri Lanka.
MSc. Community Dentistry - 2015   **D 3931**

The aim of this study was to determine the oral health status, oral health related knowledge and practices among epileptic patients aged 20-40 years, attending the outpatient epileptic clinic in the National Hospital of Sri Lanka. A descriptive cross sectional study was carried out among 415 epileptic patients. Systematic sampling technique was used to select the study participants.

Socio demographic data, data pertaining to epilepsy, oral health knowledge related to epilepsy and oral health practices were obtained using a interviewer administered questionnaire. Oral health status was gathered using oral examination form. Under it dental caries, periodontal diseases trauma to upper anterior teeth due to epileptic seizures were examined. Status of remaining teeth was assessed with the help of DMFT index, WHO basic method for survey.

Gingival index (Gl) and oral hygiene index-simplified (OHI-S) were used to assess the periodontal diseases. Statistical analysis was done using SPSS version 20 and the association were assessed using chi- square test and ANOVA.

According to the findings of the study, the overall prevalence of dental caries among epileptic patients was 71.3%. The mean DMFT for the population was 3.76. Age (p=0.036), occupation status (p=0.008) and level of income (p=0.043) were significantly associated with prevalence of caries. Duration of epilepsy was significantly associated with prevalence of caries (p=0.003). Prevalence of gingivitis for the study population was 74.0% and the mean gingival index was 0.82. Age, sex, race, and level of income were significantly associated with prevalence of gingivitis whereas except sex other demographic factors were

significantly associated with severity of gingivitis. Both level of control of epilepsy and duration of epilepsy were significantly associated with prevalence of gingivitis (p=0.026 and p=0.000 respectively). Mean OHI-S of whole study population was 1.99(mean plaque index, 1.05+mean calculus index, 0.94). Prevalence of trauma to upper anterior teeth due to epileptic seizures was 11.3%. Duration of epilepsy Prevalence of trauma to upper anterior teeth due to epileptic seizures was 11.3%. and level of control of epilepsy were not significantly associated with prevalence of trauma. When consider Oral health knowledge related to epilepsy, 45.8% had good knowledge. Level of education and occupational status were significantly associated with knowledge. Majority of study population brushed their teeth twice daily or more (70.8%) and they used tooth brush (97.8%) and tooth paste 998.8%) for that. One hundred andwenty two participants out of 415, visited to dental surgeon during last 12 months and only 7.8% visited for the routine checkup whereas others went there due to a oral health problem. Only 32.8% patients provided their diagnostic card to the dental surgeon at that visit and nearly 10% of participants (9.8%) sought advice on epilepsy related oral health matters from their dental surgeon. The result of this study identified the need of a specialized oral health programme for the epileptic patients.

Key Words : Epilepsy, caries prevalence, DMFT, prevalence of gingivitis, severity of gingivitis, plaque index, Cl, OHI-S, prevalence of trauma, oral health knowledge and oral health practices.

0066.Amilani, A.M.U.
Effects of perceived dental neglect on oral health and oral health related quality of life and maternal concerns towards the barriers in care seeking of 15-19 year aged government school going adolescents in Gampaha district.
MD Community Dentistry- 2016   **D 3975**

Introduction

Self-care is a necessary human regulatory function which is solely under individual control and it is purposeful and self-initiated.

During the transition from the childhood to adolescence and again adolescence to adulthood, complex and important health care needs will arise, hence it is the critical time period during which the adolescents initiate risk behaviours. Dental

neglect among adolescents can be explained mainly as failure to fulfill the known knowledge of oral health care for proper maintenance of the oral cavity.

Hence it is vital and viable to measure dental neglect among adolescents to assess the effects of dental neglect on oral health and oral health related quality of life. Best to the knowledge, no study had been done to estimate the magnitude of the problem in the country. Findings of this study enable policy makers to streamline the oral health care services and other supportive services for adolescents with dental neglect by involving multidisciplinary teams representing dentistry, medicine, sociology and public health.

General objective

To assess the effects of perceived dental neglect on oral health and oral health related quality of life and maternal concerns towards barriers in care seeking of 15 -19 year aged government school going adolescents in Gampaha District.

Methods

The study was composed of three components. In first component two scales were developed and validated. First step was the development and validation of an instrument to assess Perceived Dental Neglect (PDN) and it was carried out among 304 study participants. Second step was to modify and validate Oral Impact on Daily Performance scale (OIDP modified) and it was carried out among 220 study participants. Factorability was assessed using the exploratory factor analysis of both scales. Second component composed of a school based descriptive cross sectional study which was conducted to assess the perceived dental neglect, oral health status and oral health related behaviours, oral health related quality of life (OHRQoL) among 1332 study participants. Moreover it composed of a qualitative study among a sub sample to describe the maternal concerns in barriers in oral health care seeking. Third component comprised of an analysis of association between oral health status and OHRQoL with PDN scores. Comparisons were tested using Kruskal Wallis test and correlation were assessed using spearman's correlation coefficient.

Results

Component 1

Principal Component Analysis (PCA) was applied in order to extract the factors for PDN and OIDP modified scales. Five factors were extracted for PDN scale and those factors explained 55.6% of variance and Cronbach's alpha was 0.67. Two

factors were extracted for OIDP modified and those factors explained 58.6% of variance and Cronbach's alpha was 0.89.

Component 2

Majority agreed that tooth decay can be controlled by controlling the amount and frequency of consumption of sugary snacks and early detection of dental disease helps in getting treatment before the condition worsened. The highest oral impact was on enjoying foods (42%) and chewing foods (30%).

Prevalence of dental trauma was 3% and it was nearly 20% for dento facial anomaly. Prevalence of dental caries was 35% and mean Decayed, Missing, Filled Teeth (DMFT) was 1.14.

Component 3 -A significant correlation was observed between number of decayed and filled teeth with OIDP scores ($p<0.05$). In addition to that significant difference were observed in dental trauma, malocclusion and life time caries experience ($p<0.05$) among the groups of OlDP=0 and OIDP>0.

Significant difference ($p<0.05$) was observed in number of decayed and missing teeth between low, medium and high PDN groups. A significant difference ($p<0.01$) was observed in the Calculus Index between low, medium and high PDN groups. Moreover, a significant positive correlation was observed between number of decayed teeth and PDN score.

Conclusions and Recommendations: Dental neglect has a significant effect on dental caries and oral hygiene. Having identified the high risk group for dental neglect by using the valid and reliable PDN scale, interventions could be implemented in order to achieve the primordial and primary prevention by behavioural change modification. In addition to that having identified the high oral impact group for daily performance by valid and reliable OIDP-modified scale, interventions could be implemented in order to achieve secondary and tertiary prevention by offering dental treatment modalities to the affected participants.

Keywords : Adolescents, Perceived Dental Neglect, Oral Impact on Daily Performance, Oral disease burden. Barrier in oral health care seeking.

0067.Balasooriya, B.L.S.S.

Prevalence, knowledge, attitude and practice of usage of commercial preparations of Areca nut among vocational trainees in Gampaha district.
MSc. Community Dentistry - 2016   **D 3998**

Background

Independent role of areca nut itself causing oral malignancies has been well documented. Most recent literature emphasizes that the habit of processed **areca** nut chewing is invading young adults *rapidly especially* in South Asian countries. Studies on the prevalence of areca nut chewing, characteristics of areca nut chewers and factors associated with the habit are scarce in Sri Lankan literature.

Objective

The aim of the study was to determine the prevalence, knowledge, attitude, practice and factors associated with the habit of areca nut chewing among vocational trainees in Gampaha district.

Method

A descriptive cross-sectional study was conducted among vocational trainees in Gampaha district who are attached to Vocational Training Authority (VTA) in Sri Lanka. Eight training centers were selected using two stage cluster sampling technique with probability proportionate to size. A self- administered questionnaire including sections on socio-demography, habit of using commercial areca nut products, knowledge and attitudes was used to collect data from 618 trainees.

Results

It was revealed that 33.1% among vocational trainees were current users of commercially prepared areca nut products while 46.5% were ever chewers. The median age of habit initiation of commercial areca nut users was 16 years. A mean number of 2.8 packets (SD=1.71) were used by a current user per week. *Mawa* was the most popular product. A median of LKR 100 was found to be spent per week by a current user on commercial areca nut products. Friends and siblings have introduced the areca nut preparations to male (48.7%) and female (45.8%) chewers respectively. A statistically significant differences were observed between currently chewing commercial areca nut products and current chewing of betel quid, current alcohol use as well as current smoking habit ($p<0.001$). Knowledge on use of areca nut and its harmful effects was poor among the study sample. The mean score of knowledge was 1.85 out of five (SD= 1.279).

Conclusions

Commercially prepared areca nut use is high in the study group necessitating further studies. Increasing awareness would help in reducing the knowledge gap and curtailing the harmful habit.

Keywords: Areca nut, Vocational trainees, Prevalence, Sri Lanka

0068.Baminy, N.
Association between early childhood caries and nutritional status among 3- to 5- year-old children in the estate sector in Nuwara Eliya district.
MSc. Community Medicine – 2018   D 4501

Introduction: Both dental caries and malnutrition are identified as epidemics worldwide Childhood Caries, which is preventable, has shown an alarming increase and is polarized; socially disadvantaged communities. A complex, bi-directional inter-linkage exists between nutrition and caries. Thus, problems related to oral health reflect on general health and well-being of an individual.

Objective: The aim of this study was, to determine the association between Early Childhood (ECC) and nutritional status among three-to-five-year-old children in the estate sector in f Eliya District.

Methods: A descriptive, cross-sectional study, among three-to-five-year-old children mother-child pairs), was conducted using multi-stage cluster sampling method combine probability proportionate to size technique. The sample was selected from six Medical of Health areas. Data were obtained using a pre-tested, interviewer-administrated questionnaire parents/caregivers to gather data related to the child's socio-demographics, oral health- behaviour, sweet consumption and breastfeeding pattern and a clinical oral examination, and weight of the children were measured to determine the nutritional status. The statistical association was calculated using Chi-square and Mann Whitney U test at 5% significance level

Results: The prevalence of ECC and severe ECC (S-ECC) was 74.1% and 47.8%, respectively, with a mean dmft of 3.44 (SD 3.26). The age of the child (36-47 months), male sex, educational attainment and employment status of mother/ female caregiver, primary caregiver at weight (> 2500g) were significantly associated with the prevalence of ECC in the children i Mother's/ female caregiver's educational level was associated with the severity of the E prevalence of malnourishment was 67.6%. The prevalence of underweight, wasting, stun

overweight/ obesity was 24.1%, 39.8% and 28% and 9.5% respectively. Age was associated wasting. Tamil children and children of mothers with more than fiveyears education   had a lower prevalence of overweight and obesity (p <.05). ECC was not significantly associated nutritional status.

Conclusion & Recommendation: The prevalence of ECC was high, but ECC was not associated the nutritional status in these children. It is recommended that preventive interventions, health promotion, should be carried out to reduce the burden of ECC in these children.

Keywords: Early childhood caries, Nutritional status, Estate sector

0069.Chandrasiri, W.C.A.
Tooth loss and dental service utilization pattern of patients diagnosed with chronic kidney disease in Nephrology Unit, National Hospital, Sri Lanka.
MSc. Community Dentistry – 2017   D 4605
Background

Chronic kidney disease is becoming a major public health impact globally as well as in Sri Lanka, more than thousand entering into the diseased group annually.

Objective

To assess the tooth loss, dental hygiene practices, dental service utilization and the denture wearing pattern of patients with Chronic Kidney Disease (CKD) visited to the nephrology clinic in the National Hospital, Sri Lanka (NHSL) during the study period.

Method

A descriptive cross-sectional study conducted during the period of August 21st to September 20th 2017 at the nephrology clinic NHSL. Sample consisted of 300 Chronic Kidney Disease (CKD) patients. The clinical CKD stages ranges from CKD stage III to stage V within the selected sample. Systematic sampling method was applied in clinic setting. An interviewer administered pre-tested questionnaire and clinical oral examination were used as study instruments. The sociodemographic characteristics, tooth loss, the association between tooth loss and selected sociodemographic characteristics, dental service utilization, the association between tooth loss and dental service utilization, denture wearing pattern and the relationship of tooth loss with different CKD stages were analyzed.

Results : More than 60% of the participants were males and more than 40 % of study participants had monthly household income less than 10,000 rupees. There

were 280(93.33%) participants with tooth loss and 20 were edentulous. There was statistical significant association between tooth loss and categorized age (p=0.010). More than 98% of participants with teeth used tooth brushes. There were 37 participants never visited a dental clinic. More than 45% of participants had a dental extraction during their last dental visit. There was statistical significant association between tooth loss and the time since last dental visit (p=0.005) and reason for last dental visit (p= 0.000). Only 41 participants had dentures out of 280 with tooth loss. There was no statistical significant association(p=0.205) between tooth loss and different stages of CKD.

Conclusion

The; tooth loss was high in all age groups (93.33%). The oral hygiene practices were satisfactory but dental service utilization was poor and symptomatic utilization pattern was seen with more than 45% of the participants had dental extractions and 12.67% treated for dental pain during the last dental visit. There were 37 participants never visited a dental clinic. Poor denture wearing pattern. Only 14.64% with tooth loss had dentures.

Keywords :Chronic kidney disease, tooth loss, dental hygiene, dental service utilization, dentures.

0070.Delpechitre, D.S.
Factors related to the awareness regarding oral cancer and oral potentially malignant disorders, among estate population in Kegalle district.
MSc. Community Dentistry – 2016   D 4321

Introduction

Oral cancer is the commonest cancer reported in Sri Lankan men. It is associated with the lifestyle of the individuals, where awareness plays an important role. Estate populations are found with higher incidences of oral cancer and Oral Potentially Malignant Disorders (OPMD) as well as higher prevalence of known risk factors.

Objective

To assess the factors related to the awareness on Oral Cancer and Oral Potentially Malignant Disorders (OPMD) among estate population in Kegalle District, Sri Lanka.

Methodology

A community based descriptive cross sectional study was carried out among 432 estate dwellers during August to September 2015. Multi stage cluster sampling

method was used. Data collection was done in a house to house survey, using a pre tested interviewer administered questionnaire.

Results

The total study sample consisted of 432 Indian Tamils: Males 42.8%, Females 57.2%. Age distribution of the study sample fairly resembles the district population parameters. Seventy one percent of the subjects were educated only up to grade 8. The majority of the study sample (88.9%) belonged to the skilled and unskilled workers and 88.9% were earning a monthly income in between Rs 10,000 to Rs 20,000.

Out of the total sample, awareness of oral cancer was 78.7%, but awareness of OPMD was only 14.3%. Females were with a better level of awareness (82.2%) of oral cancer than males (P=0.041). Awareness of OPMD was higher with young age groups (p=0.012), and showed an increasing trend with the level of education (p<0.001).

The majority of 73.8% were not aware of any of the clinical presentations of the oral cancer and OPMD. 'non-healing ulcer' (20.4%) was the highest known symptom. The most known risk factor for oral cancer was betel chewing (73.6%). The majority stated tobacco carcinogenic ingredient (83.7%) in the betel quid. Carcinogenicity of areca nut was no by 68.5%. Only 57.2% were aware that oral cancer is a potentially lethal disease and only 39.6% I that early detection of oral cancer enhances the survival. When considering the awareness level, the majority of the participants' awareness levels fall in to 'fair[1] i (69.9%) and 23% fall in to 'good' category. The most popular source of information was the Television (43.3%), followed by (23.5%). Majority (81.9%) did not perceive any barrier in acquiring knowledge Deficiency in e was the most perceived barrier (11.1%) for awareness. Betel chewing with tobacco was the most common risk behavior towards oral cancer the study participants demonstrating 49.5 % out of the study sample. Improve awareness was the reason for quitting, stated by the majority (64%) of the participants

Seventy percent of the participants, who were currently practicing any risk habit or h not been screened for oral cancer and OPMD (p<0.001).

A majority of 87.3% of never betel chewers was aware of the habit of betel chewing factor for oral cancer and OPMD (P<0.001). All ever chewers of commercially prep< nut were not aware of the areca nut chewing as a risk factor (P=0.014).

Conclusions

Observations of poor awareness level of oral cancer and particularly of OPMD, regarding risk factors, symptoms, the carcinogenicity of the ingredients in the betel quid, and i of early detection, indicate the need of a comprehensive programme to improve for this community in prevention of oral cancer and OPMD. In that process, mass posters should be the main channels of information flow, as they were the mi sources of information among the participants. Advocacy for up lifting the level of e these people should be considered in order to support them overcome the acquiring such knowledge. Further in-depth analysis is suggestive for investigating the fact that even with the awareness of the risk, considerable proportion of people practice such risk behavior.

Keywords: Oral cancer, Oral potentially malignant disorders, Estate sector, Awareness, Barriers, Sources of information

0071.Dhanapriyanka, H.H.M.
Effectiveness of an oral health promotion intervention to change selected risk behaviors related to oral potentially malignant disorders among youth residing in urban slum areas in Colombo district.
MD Community Dentistry – 2018   **D 4690**

Background: Risk behaviours related to Oral Potentially Malignant Disorders (OPMD), like i tobacco and alcohol has been shown to be on the rise among youth global cancers are more costly to treat, cost effective preventive strategies she introduced specially to developing countries. Tobacco and alcohol behaviors related with oral potentially malignant disorders, and effectiveness of pre strategies among youth groups residing in urban slum areas have not been studied Lanka.

Objective:

To assess the prevalence of oral potentially malignant disorders, level of risk behaviors, reasons for risk behaviours and to determine the effectiveness of an health promotion intervention to change the selected risk behaviours related t potentially malignant disorders among youth (15-24 years old) in the Colombo c urban slum areas.

Methods:

The present study utilized three components to achieve the objective. The component was a descriptive cross sectional study to find out the prevalence of O and selected risk behaviours related to OPMD. The second component was a

qualitative study to explore the views for initiation, quitting and continuation of selected behaviours related to OPMD. The third component was a quasiexperimental study find out the changes in the improvements in knowledge, changes in the attitudes selected behaviours related to OPMD among 15 to 24 year old age youth residing urban slums in the Colombo district after implementing an oral health promotion intervention which was developed based on the findings of the component two.

Sample size for the component one was 1435 and the study setting was Colombo and Thimbirigasyaya divisional secretariat areas in Colombo District. Sampling technique was cluster sampling technique with probability proportionate to size technique. Study participants were youth aged between 15 years to 24 years. Pre tested interviewer administered questionnaire was used for the data collection in component one. Statistical analysis was done with SPSS version 21 using descriptive statistics. Second component composed of two focus group discussions and thirteen in depth interviews. Pre tested focus group discussion guide and an in depth interview guide was used to conduct the discussions. Purposive sampling technique was used. Data was summarized immediately after the discussions and analysis was done manually using themes. Third component composed of three phases. Phase one was the pre intervention phase and the sample was a sub sample from the main cross sectional study. Therefore, already collected data in the component one was utilized for the analysis of the pre intervention phase. Both intervention group and the control group comprised of 120 participants who can comprehend a skill base oral health promotional intervention in Sinhala medium.

Intervention was developed after doing several analysis of the gathered information in focus group discussions and in depth interviews. Development and implementation of the intervention was done in several steps as Risk behaviour analysis, Target audience analysis, Identify the community groups to mobilize (Community mobilization), Message development, Media and channels analysis, Development of the intervention, Implementation of the intervention, Monitoring, Evaluation and Sustainability ensures. The intervention package "Youth for Better Tomorrow" composed of five components named advocacy, self- awareness campaign, Introduction of relevant Information, Education and Communication materials (IEC), community mobilization and social marketing.

Advocacy groups were religious leaders and community leaders and youth societies were the main community mobilizing group and other societies as samurdhi society, women's society and death society also played a role in community mobilization component. For the social marketing, videos available in National Cancer Control Programme were utilized. Regular monitoring was done using check lists, participatory observation visits, telephone conversations and monthly meetings. Post intervention assessment was done using the same interviewer administered questionnaire after six months.

Results:

Mean knowledge score about the OPMD related risk factors and clinical features were 3.37 (95% Cl 3.26-3.46), and nearly 72% participants had unsatisfactory knowledge. Mean attitude score was 3.53 (95% Cl 3.48-3.57) and 98% had unsatisfactory level for attitudes. OPMD cases were not found among the present study sample.

Overall prevalence of current tobacco behaviour was 50.4 %(95% Cl-48.1%53.3%). Prevalence of current smoking behaviour, betel chewing behaviour and tobacco and areca nut packet chewing behaviour was 20% (95% Cl 18.6%-22.2%), 21.5% (95% Cl 19.5%-23.8%) and 33% (95% Cl 30.5%-35.3%) respectively. Among them 48.8% (95% Cl 43%-54%), 47.9% (95% Cl 42.3%-53.4%), 40.3% (95% Cl 36%-44.8%) respectively use relevant products daily. Prevalence of current alcohol drinking behaviour was 21% (95% Cl 18.8%-23%) and 34.4% (95% Cl 29.2%-40%) current users were daily users.

The mean age of initiation of risk behaviours was 15.44 years (95% Cl 15.2915.28). Around 51 %(95% Cl 48.1%-54.2%) of participants expressed friends as the reason for initiation of risk behaviours followed by family influence. Around 86% (95% Cl 84%- 88.2%) of the participants practice these behaviours inside the home. Even though 11% (95% Cl 9.9%-13.9%) of participants had quit attempts only 2.5% (95% Cl 0.8%- 7.7%) had success in quitting. As well as 19.3% (95% Cl 17%-21.8%) had an intention to quit.

Major factors that are causing initiation, continuation and quitting of risk behaviours was identified as Perceived feelings, Peer pressure, Knowledge, Attitudes, Skills of both the youth and their parents ,School Education, Free time, Value to youth, Family network, Social networks, Own intention Cultural beliefs,

Role models, Knowledge on helping places to quit and availability and accessibility of the products. In the post intervention assessment, a statistically significant difference was found between mean knowledge scores and attitude scores of intervention group and control group. (Independent sample Mann Whitney U test, $P<0.05$).Statistical significant difference was obtained among quit rate (QR) of tobacco behaviour (QR=0.3, $P<0.005$), smoking behaviour (QR=0.12, $P<0.05$), betel chewing behaviour (QR=0.71, $P<0.005$), tobacco and arecanut packet chewing behaviour (QR=0.12, $P<0.005$) and alcohol behviour (QR=0.2, $P<0.005$) in the intervention group compared to control group. Intervention group showed a significantly low Fresh uptake rate for all behaviours compared to control group. ($p<0.05$)Awareness of self-mouth examination and practicing self-mouth examination was significantly increased in the intervention group ($p<0.05$). Quit attempts and intention to quit has also increased significantly in the intervention group. ($P<0.05$)

Conclusion and recommendation: Prevalence of tobacco and alcohol usage among youth aged between 15 years to 24 years who were residing in urban slum areas in the district of Colombo was high and multi component oral heath promotional intervention composed of advocacy, self- awareness, IEC introduction, community mobilization and social marketing with continuous regular monitoring was effective in improving the knowledge, changing the attitudes and changing the tobacco and alcohol behaviours. The youth residing in urban slums should be identified as a high risk group and urban slum areas should be identified as priority setting in health promotion setting development programmes. Well planned oral health promotion activities combined with bi annual screening programmes for identification of oral potentially malignant disorders should be conducted regularly with continuous monitoring.

Keywords: Youth, Urban slums, oral potentially malignant disorders, multi component oral health promotion intervention

0072.Gamage, P.A.

Awareness, attitudes and practices related to oral potentially malignant disorders and oral cancer among indigenous medical practitioners in government Ayurveda Healthcare Centres in the Western Province, Sri Lanka.

MSc. Community Dentistry – 2018   **D 4697**

Introduction

Oral cancer is a major public health problem in Sri Lanka giving rise to a great number of disabilities, deaths and serious socio-economic outcomes. Early detection and treatment can improve survival and outcomes greatly. All the healthcare professionals have an important role and responsibility in control of oralpotentially malignant disorders (OPMDs) and oral cancer. Indigenous system of medicine forms a part of national health system and considerable number of indigenous medical practitioners (IMPs) are employed. It is a timely requirement to assess their utilization in prevention and control of oral cancer in Sri Lanka.

Objectives

This study aims to assess awareness, attitudes and practices related to OPMDs and oral cancer among Indigenous medical practitioners in government Ayurveda healthcare centres in the Western Province of Sri Lanka.

Methods

A descriptive cross-sectional study was conducted among 338 IMPs who were working in government Ayurveda healthcare centres in the Western Province. A self-administered questionnaire containing 32 items was used to assess the awareness, attitudes and practices. Chi square test and Fisher's Exact test were used to detect associations with 0.05 significance level.

Results

Out of 338 IMPs, only 303 participated resulting 89.6% response rate. Out of all, 63.7 % of IMPs possessed satisfactory awareness while 64.4% of IMPs had positive attitudes regarding OPMDs and oral cancer. Majority of them (98.3%) refer patients with suspicious oral lesions. Nearly 80% of them refer patients to an oral and maxillofacial surgeon or a dental surgeon. Only 41.3% IMPs do the routine oral examination and 55.5% of them advice patients regarding risk factors of OPMDs and oral cancer. Association between awareness and attitudes was not statistically significant. Most of the practices were not statistically significant with awareness.

Conclusions and Recommendations

Majority of IMPs possessed satisfactory awareness, positive attitudes and good practices regarding OPMDs and oral cancer. As such they can be utilized effectively in prevention and early detection of OPMDs and oral cancer in Sri Lanka. The study recommends an introduction of comprehensive awareness and training programme for IMPs on OPMDs and oral cancer focusing more on prevention, early detection and appropriate referrals without any delay.

Keywords : Oral potentially malignant disorders, oral cancer

0073.Gayathri, H.D.V.
Oral health status, treatment needs and barriers to oral care among inward patients at Rheumatology and rehabilitation Hospital, Ragama, Sri Lanka.
MSc. Community Dentistry- 2015   D 4235

Introduction - Prevalence of oral conditions among physically disabled people is higher than in the normal population. Furthermore, disability can create barriers to maintenance of good oral hygiene and treatment seeking behaviors. Therefore, maintaining good oral health is a challenge to disabled patients and providing better oral care is a challenge to the profession**.**

Objectives - The aim of this study was to assess the oral health status, treatment needs and barriers to oral care among inward patients at Rheumatology and Rehabilitation Hospital, Ragama.

Methods - The study was a descriptive cross sectional study and the study population comprised of 384 physically disabled inward patients, who undergo rehabilitative care. An interviewer administered questionnaire was administered and an oral examination was performed using WHO basic methods. Data was processed and analyzed using Statistical Package for Social Science (SPSS) version 20.

Results - Mean DMFT of the total sample was 7.53 and prevalence of untreated active dental caries was 64.6%. When considering age categories, the highest mean DMFT (12.31) and highest prevalence of untreated active dental caries (46.5%) was seen in >55 year age category. Most of the total sample was partially dentate (63.3%). Prevalence of periodontal pockets was 33.9% and calculi was 28.6%. Perceived dental treatment need was 53.6% and normative need was 82.6%. Percentage of people who brushed twice per day was 62.5%. Only 48.5% of them

attended to a dental clinic after getting disabled. Of the total sample, people with 'only upper limbs disabled' had difficulty in tooth brushing (48.8%). The most frequent perceived barrier for oral care was difficulty in entering to the dental clinic among people with 'only lower limbs disabled' (90.9%) and 'both upper and lower limbs disabled' (90.6%).

Conclusion & Recommendations - inward patients at Rheumatology and Rehabilitation Hospital, Ragama had high prevalence of dental problems. Their normative need was higher than perceived need. They had poor oral health practices and poor or al care seeking behavior. Furthermore, they had various perceived barriers for oral care depending on their disability. Dental profession has to address these issues to improve oral health status of this special high risk group. Special Care Dentistry has a role to play to cater to the needs of this compromised group.

Keywords - physically disabled people, oral health status, barriers to oral care

0074.Gunasinghe, K.A,M,M,
Oral health status, oral health related behaviours and extra class attendance pattern among grade five school children in government schools in education division, Homagama.
MSc. Community Dentistry -2015   D 4215

Introduction: Oral health status and oral health related behaviours are important to be assessed in grade five school children because children are being taken to extra classes after school and additional study hours are arranged in schools as the education system has become very competitive. Due to these life style changes which accumulate over the primary school years, these may affect the health status of children.

Objective: To describe oral health status, oral health related behaviours and extra class attendance pattern among grade five school children in government schools in education division, Homagama.

Methods: A descriptive cross sectional study was conducted in a sample of 565 grade five school children in education division Homagama. Ten clusters were selected according to the probability proportionate to size (PPS) sampling method. Interviewer & self-administered questionnaires were used for data collection. Oral health status was assessed by clinical oral examination in terms of dentition and periodontal status. Data was analyzed and summarized using ranges, means, and

medians for quantitative data. Categorical data were summarized as percentages. Chi squared test was used to test associations between oral health status and oral health related habits with extra class attendance pattern.

Results: Around 62.8% (n=355) of the sample had dental caries. Bleeding on probing was present in 53.6% (n=303). Around 7.7% (n=44) had poor plaque control. Around 87% (n=492) brushed teeth > two times per day. Twenty seven percent consumed sweets daily and 66% had junk food when attending extra classes. Eighteen percent never visited a dental clinic. Around 99% attended extra classes. Days attended to extra classes were significantly associated with periodontal status (p=0.006) and significant associations were observed between tooth brushing after dinner and attendance to classes (p=0.048), frequency of sweets consumption and days attended to classes (p=0.002), duration of last dental visit and hours spent in classes (p=0.013).

Recommendations and conclusions: Higher percentage of this group of children had dental caries and bleeding on probing. Most of the children attended extra classes and had junk food and sweetened drinks when attending classes. Caries prevention and oral hygiene improvement programmes should be strengthened while increasing awareness on healthy dietary practice of children.

Keywords: Extra class, Oral health status, Oral related behaviours

0075.Kumari, K.L.M.
Prevalence, severity and selected associated factors of untreated dental caries among grade 1 school children in Wellawaya MOH area of the Monaragala district.
MSc. Community Dentistry- 2016   **D 4213**

Introduction/Background:

Untreated dental caries and its clinical consequences has become a public health problem particularly among socio-economically deprived communities in many countries leading to an inequality in oral health outcome.

Objectives: To assess the prevalence, severity, selected associated factors of untreated dental caries and oral healthcare seeking pattern among Grade 1 school children in Wellawaya MOH area of the Monaragala district.

Methodology: A cross sectional study was conducted and the sample was selected from all Grade 1 school children in Wellawaya MOH area, using cluster sampling

technique with probability proportionate to size. The sample comprised of 198 girls and 203 boys. Socio- demographic data, information on availability of oral health care services and oral health care seeking pattern were collected from parents by self- administered questionnaire. Dental caries were measured according to WHO criteria and clinical consequences of untreated dental caries were measured using pufa/PUFA index. Data analysis was done using SPSS version 20.

Results: The prevalence of untreated dental caries among 5-7-year-old school children was 39% with a mean dmft of 3.2 ± 3.27 and pufa prevalence was 34.2% with a mean pufa of 1.05 ± 1.45. Untreated caries pufa ratio was 41%. There were significant differences in prevalence of untreated dental caries among children by father's level of education (P= 0.027) and family income (P= 0.018). Furthermore, there were significant differences in severity of untreated dental caries among children by family income (P= 0.013) as well as father's occupation (P=0.001). The majority of children have utilized school dental services (48.4%) among 53.9% children who have ever received oral health care services.

Conclusion: Both the prevalence and the severity of untreated dental caries were high in this study population. There were significant differences in prevalence of untreated dental caries among children by father's level of education (P= 0.027) and family income (P= 0.018). Furthermore, there were significant differences in severity of untreated dental caries among children by family income (P= 0.013) as well as by father's occupation (P=0.001).

Recommendation: Introduction of preventive measures of dental caries for the young children as early as possible, and creating awareness among parents on the importance of primary dentition would be important in reducing the untreated dental caries burden and its clinical consequences.

Keywords: untreated dental caries, Severity, Grade 1 school children.

0076.Malmessa, M.M.U.L.
Mothers' perception of their preschoolers' oral health in Kegalle Municipal Council area.
MSc. Community Dentistry – 2017   D 3999

The aim of the present study was to determine the factors influencing mothers' perception of their preschoolers' oral health status in Kegalle Municipal Council area.

A descriptive cross-sectional study which included 522 pairs of preschool children aged three to six years and their mothers was conducted to achieve the objectives of the study. The sample was selected from 18 preschools in Kegalle Municipal Council area registered with the "Early Childhood Development Authority" in Kegalle Divisional Secretariat Office. Data were collected by means of a self administered questionnaire to mothers and a clinical oral examination of preschoolers to determine the prevalence and severity of dental caries. A previously validated Sinhala translation of the "Early childhood oral health impact scale" (ECHOIS) was used to determine the impact of the child's oral health status on the child and his/her family.

The Chi-square test was used to assess the associations between the dependent variable; mothers' perception of their preschoolers 'oral health status and various independent variables. The independent variables considered were sociodemographic factors of the child and mother, oral health related behaviors, utilization of dental services, sweet consumption patterns, prevalence and severity of dental caries of the child and the impact of the child's oral health status on the child and his/her family. Nearly, 64.5% and 10% of mothers perceived that the oral health status of their preschool children was good and poor respectively. Mothers' perception of their preschoolers' oral health status was significantly associated with mothers' employment status, use of dental services by the child, presence of dental caries and caries experience of the child and the impact of the child's oral health status on the child and his/her family.

The findings of the present study indicate that mothers' perception is mainly associated the presence and severity of dental caries and the impact of oral health status on the child and family.

Knowledge of factors influencing mothers' perception of their preschool children's oral health status can be beneficial in assessing treatment needs and planning oral health care programs for preschool children.

Keywords: Mothers' perception, Preschoolers', Oral health

0077.Rajendra, T.

Dental caries, tooth loss and associated factors among 15 years old school children in Karaichchi Education Division, Killinochchi.

MSc. Community Dentistry- 2018   **D 4709**

Introduction: Dental caries in permanent teeth among children is ranked first in global disease burden and it affects more than half of the school children globally. Dental caries stands as the main causative factor for tooth loss, especially among children.

Objective: The purpose of the study was to determine the prevalence and severity of dental caries, tooth loss and associated factors among 15 years old children in Karaichchi Education Division, Killinochchi.

Methods: A descriptive cross-sectional study was conducted with multistage cluster sampling technique. The sample size was 640, after adjusted to cluster effect and nonresponse. The inclusion criteria were, those who had completed their 15th birthday and not reached 16. The exclusion criteria were, those who were absent and didn't permanently reside in Karaichchi Education Division. The judgmentally validated self-administered questionnaires were used. An oral examination was carried out according to WHO basic methods. The ethical clearance was obtained from the Colombo Medical Faculty. The statistical analysis was done with Chi squared, Mann Whitney U and Kruskal Wallis tests with SPSS statistical package, version 23. The 5% significant level was considered for the analysis.

Results: The results showed a caries prevalence of 67.7%, with the mean DMFT of 1.96 (SD=2.12, 95% Cl 1.79 - 2.12). The prevalence of tooth loss was 19.2%, with the mean number of missing teeth of 0.24 (SD=0.56, 95% Cl 0.20 - 0.29). Some sociodemographic, oral hygiene and dietary pattern related factors were statistically associated with prevalence and severity of dental caries and tooth loss.

Conclusion and Recommendation: The present study showed a high prevalence and severity of caries and tooth loss among 15 years old children in Karaichchi Education Division, Killinochchi. Oral health care delivery systems should be further improved in Killinochchi district to cope up with the oral disease burden of the children. Ord health education and promotion programs should be conducted to improve the oral health status of these children. Furthermore, dental public health professionals should be recruited to provide preventive programs to these children

Keyword :caries, prevalence, severity, tooth loss, association

0078.Ranasinghe, N.
Evaluation of the national oral healthcare programme for pregnant mothers in the district of Gampaha : coverage, quality effectiveness and sustainability.
MD Community Dentistry - 2015   D 3696

Introduction: Oral healthcare for antenatal mothers has been endorsed as the means to maintain optimal oral hygiene through a woman's life span. It improves the pregnancy outcomes and oral health of the infants and young children. In view of this, an antenatal oral healthcare programme was introduced in Sri Lanka with the collaboration of existing Maternal and Child Health (MCH) programme in 2009. Since its inception, it was monitored by MCH and Oral Health professionals to provide evidence based oral healthcare to all antenatal mothers. However, a timely evaluation of the programme is needed to strengthen the current oral health promotion efforts during pregnancy.

Objectives: To evaluate coverage, quality, effectiveness and sustainability of the National Oral Healthcare Programme for Pregnant Mothers in the district of Gampaha.

Methodology: A descriptive cross sectional study was conducted and information was gathered by previous records, field observations, questionnaires, interviews and clinical findings from various stake holders. The lot quality assurance sampling (LQAS) was applied to select representative samples from MCH clinics and dental clinics in the district and a subsample of clinic participants was selected to conduct a comprehensive evaluation.

The programme coverage was measured in terms of availability, accessibility and utilization of the services. The service availability was reported as dental clinic population ratio and Dental Surgeon population ratio. The accessibility was measured in terms of physical accessibility to both government and private dental clinics and the utilization was measured in terms of screening, treatment completion.

The quality of the programme was measured using three approaches of structure, process and outcome. The structure and process were assessed by "nonparticipatory observation" in MCH and dental clinics. The lot size was '20'and threshold applied was 'six' for the lot quality assessment. Twelve items in MCH clinics and 24in dental clinics were observed.

Patient outcomes were measured by knowledge, attitude and practices regarding oral healthcare in pregnancy among antenatal clinic attendees as well as estimating their Satisfaction on oral health care they received. The provider aspects were measured by the level of knowledge and attitude of care on oral healthcare during pregnancy among three categories of service providers, Medical Officers of Health (MOOH), Dental Surgeons (DSs), and Public Health Midwives (PHMM) using self-administered questionnaires.

The effectiveness was determined by the degree of achieving five objectives of the programme in minimizing the worsening of existing oral diseases and related complications during pregnancy, reducing adverse pregnancy outcomes, educating mothers on preventive measures for dental caries in young children and decreasing the possibility of early childhood caries (ECC) in the newborns. This was measured by comparing the desired outcomes between exposed and unexposed groups of mothers.

Finally, a SWOT analysis was conducted using qualitative inquiries to obtain a larger view on perceptions of the service providers and administrators regarding the sustenance of care.

Results: The number of registered pregnant mothers per government dental clinic was 1249 while the number of mothers per government Dental Surgeon was 916 in the year 2013. The service availability was satisfactory only in four MOH areas out of 15 in the district. The physical accessibility data revealed 67.5% of mothers resided within five kilometers from a government dental clinic, whereas it was 80% for the private dental clinic. The oral screening and treatment completion coverage found were 45% and 15% respectively.

Four MCH clinics and six dental clinics out of 20 from each were not satisfactory in quality of care. According to lot quality assessment of MCH clinics, seven items out of 12 were rated as "substandard": Availability of practice guideline (14 failed); Availability of oral health manual (11 failed); Orientation of Medical Officers (11 failed); Orientation for PHMM (10 failed); Timely referral (12 failed) and documentation of it (12 failed); Availability of health education materials (15 failed).

During lot quality assessment of dental clinics, 14 items out of 24 were rated as substandard: Display clinic days of mothers (15 failed); Availability of practice

guideline (7 failed); Circular filed (15 failed); Developed liaisons between DS and MOH (10 failed); Minimum one clinic session per week (8 failed); Screen and treat minimum 10 mothers per week (9 failed);Availability of health education materials(13 failed); Availability of mothers' register (8 failed), maintaining it in the relevant format (11 failed) and updated (9 failed);Availability of oral health record sheets for mothers (18 failed) and documentation in it (18 failed); Timely sending of rectums (10 failed) and accuracy of them (11 failed).

Regarding outcome attributes of quality, the knowledge, attitude and practices on oral healthcare during pregnancy was significantly higher (P<0.01) among mothers those who were exposed to the programme (72.1%) than among un- exposed (30.9%). Among those who received care, 95% were satisfied with the care they received. Among the service providers, 84.3% of MOOH, 75.7% of DSs and 92% of PHMM had satisfactory knowledge & attitude of care on oral healthcare during pregnancy.

Of the five objectives evaluated for effectiveness, only the third objective: to reduce the possibility of adverse pregnancy outcomes, was not achieved. All others to reduce worsening of dental diseases and related complications (P<0.01), to improve awareness on preventive measures of ECC (P<0.00l) and to decrease ECC (P<0.01) were successfully achieved with significance. The main sustainability issues identified were lack of emergency care and overcrowding in government dental clinics, lack of motivation and myths prevailing among mothers, fear of litigation issues by DSs and medically compromised mothers.

Conclusion and recommendation: It seems that the oral healthcare programme is effective and benefited the mothers those who were exposed to it. However, there is an issue of low "coverage" of care in the district. The "quality" of the programme is "substandard" in certain aspects and there are emerging challenges for the sustainability of care.

Present findings highlight the adequate oral health work force, infrastructure facilities and regular monitoring and evaluation of the programme at various stages is essential for its success and to ensure its effectiveness.

Keywords: Evaluation, Pregnancy, Oral health

0079.Weerasuriya, S.R.

Mothers' knowledge, attitude and practices on usage of fluoride toothpaste and its association with severity of dental caries of their children attending pre-schools at Medical Officer of Health region, Panadura.
MSc. Community Dentistry – 2014   **D 3693**

Background : Dental caries in Sri Lanka appears to be a significant problem, especially among preschool children. The effect of caries prevention in the primary teeth of preschool children through the use of fluoridated dentifrices and prevention programs has not been widely addressed. The association between the effective use of fluoride toothpaste and prevention of dental caries is very well established. It is essential to look at the factors that affect its optimal use to get the maximum benefit of fluoride toothpaste.

Methods : A descriptive cross sectional study was carried out to assess mothers' knowledge, attitude and practices on usage of fluoride toothpaste and its association with severity of dental caries of their children attending pre-schools, by recruiting 635 mothers and their children in Medical Officer of Health region, Panadura. Systematic sampling technique was used to select the clusters and the children and their mothers in each preschool. A pre-tested interviewer administered questionnaire and an oral examination form were used to collect data.

Results: Results showed, 66% (n=418) of mothers had fair knowledge and 2.8% (n=18) had good knowledge while 31.2% (n=197) had poor knowledge and the mean of the total knowledge score was 3.2 (SD ± 1.7) out of 7. Seventy four point six (n=472) had favourable attitude towards fluoridate toothpaste.83.1% of mothers and 76.6% children were using fluoridated toothpaste. 83.6% of mothers and 83.6% of children brushed their teeth twice or more than twice daily and 98.7% of mothers and all the children used brush and toothpaste for cleaning teeth. A pea sized amount or more of toothpaste was used by 79.2% of children and 52.3% of children's teeth were cleaned by a parent or a grandparent.81.8% of children had started using toothpaste at the age of one year or before. Prevalence of early childhood caries was 65.2% and prevalence of dental caries was 56.1%. Caries free percentage was 43.9%.

There was a significant association between the severity of dental caries of the children and the initiation of toothpaste use (p<0.01), the amount of toothpaste used

for brushing (p=0.049) and instructions received by the mothers on caring for baby's teeth during pregnancy (p=0.001).

Conclusions: The results of the present study highlight the importance of giving instructions on caring for baby's teeth during pregnancy including the selection of toothpaste for the child, time of initiation of using toothpaste, amount of toothpaste that should be used for the particular age group.

Keywords: Fluoride toothpaste, Knowledge, Attitude, Brushing Practices, Dental Caries.

0080 Wickramasinghe, D.
Caries risk prediction model for 5-year-old school children in the Western province of Sri Lanka.
MD Community Dentistry – 2018   D 4689

Background: A decreasing trend in prevalence and severity, with polarization of dental caries is witnessed over the last three decades in many countries. Consequently, the current convention for management of caries is through risk assessment. According to Sri Lankan data around 10% of children are having permanent tooth caries within 2-3 years of permanent tooth eruption. This 10% of students can be categorized as having a higher risk for caries. School Dental Services in Sri Lanka catering for this age group, is currently grappling with an array of problems, yet on the verge of upgrading. A specific mechanism for identifying and managing 'high risk' students for caries is still not in place in School Dental Services in Sri Lanka, which could be considered a major service provision gap. Identifying 'high risk' students at the crucial age of 5 years (at grade 1), just before eruption of permanent teeth is needed to effectively implement preventive strategies.

Objective: To develop and validate a caries risk prediction model for 5-year-old school children in the Western Province, Sri Lanka.

Methods: The study consisted of 2 phases. Phase 1 was on getting preliminary data for model development. A cross-sectional study was done to determine the prevalence, severity and associated factors of caries in 5-year-old students. Probability proportionate to size sampling technique was used to select schools from the Western Province and 353 students participated in the study. Five year olds were categorized as 'high' and 'low' risk depending on severity of caries on

posterior deciduous teeth, for determining associations. Clinical examination and pretested questionnaires for students and parents were used as study instruments to collect clinical, socioeconomic and oral health habit related data. Chi-squared test was used to test statistical significance. Additionally, selecting School Dental Therapists with satisfactory dental records was done, as secondary data was used as one source of data in model development and validation.

Phase 2 consisted of two case-control studies for model development and validation. Based on satisfactory dental records, 120 cases and 360 controls for model development, and 100 cases and 100 controls for model validation were recruited after confirmation of case-control status by clinical examination. Cases and controls were defined as grade 4 students with and without permanent tooth caries respectively. All available consecutive cases were selected according to the class registers. Non-cases, whose names are appearing just after the names of cases were selected as controls. Data on clinical variables, socioeconomic factors and oral health related habits, which were present when the participants were in grade 1 was collected using secondary data from dental records and a pretested parental self-administered questionnaire. Risk predictors were identified and a risk score was computed by multiple logistic regression analysis. Criterion validity was assessed by application of the model to an external sample. For categorizing risk as high and low, a cut-off point was determined by plotting a ROC curve. Judgement validity was assessed by expert opinion.

Results: Phase 1- Prevalence of dental caries was 56.7% (95% Cl: 51.5% - 61.9%) and 3.4 % (95% Cl: 2.4% - 4.3%) for deciduous and permanent dentitions respectively. Severity was a mean dmft of 3.01 (95% Cl: 2.61-3.41), SiC index of 7.62 (95% Cl of 7.34-7.9), pufa of 32.77% (95% Cl of 32.32%-33.22%) and a mean pufa score of 1.26 (95% Cl of 1.13-1.39) for deciduous dentition. For the permanent dentition mean DMFT was 0.05 (95% Cl: 0.02-0.08) and SiC index was 0.14 (95% Cl of 0.1-0.18). Factors associated (P <0.05) with caries were 'snacking in between meals', 'father's educational status', 'number of missing teeth of father' and 'visible plaque index'.

Phase 2- Four risk predictors were identified on performance of backward logistic regression analysis. They were: 'having 5 or more posterior decayed teeth' (OR= 2.1, 95% Cl: 1.0 - 4.4), 'brushing frequency of once or less' (OR= 3.5, 95% Cl: 2.1

- 6.0), 'not using fluoridated toothpaste' (OR= 3.2, 95% Cl: 1.8 - 5.6) and 'consuming more than two snacks containing fermentable carbohydrates in between meals' (OR= 1.6, 95% Cl: 0.9 - 2.9). A 10 point score was developed by 0.5 rounding of adjusted odds ratios. Thus, the risk scores obtained were as follows: 'having 5 or more posterior decayed teeth'= 2, 'brushing frequency of once or less'= 3.5, 'not using fluoridated toothpaste'= 3, 'consuming more than two snacks containing fermentable carbohydrates in between meals'= 1.5. Following external validation, a sensitivity of 31% (95% Cl: 22.1% - 41.0 %) and a specificity of 87% (95% Cl: 78.8% - 92.9 %) was obtained for a cut-off value of 2.5.

Conclusions and recommendations: Despite been exclusively based on School Dental Services, the developed model could be used by oral health service providers for identifying high caries risk students. The model could be applied especially in areas with high disease burden and low service accessibility to improve the service coverage. The sensitivity of the developed model could have been further improved by incorporating caries indicators of polarization such as Significant Caries Index (SiCI) and pufa index. Further studies are warranted in this regard. Capacity building and improvements on protocols for management of high caries risk students are needed to address polarization of the disease.

Keywords: Dental caries, risk prediction, model development, model validation.

0081. **Wickremasinghe, W.M.P.N.R.**
Effectiveness of a health education intervention based on the health belief model to improve oral health behaviours in adolescent school children in the Kegalle district.
MD Community Dentistry - 2015   D 3701

Background : Oral diseases remain a global problem affecting many communities in the world. The prevalence of oral diseases remains high in Sri Lanka as well where high proportion of adolescents are affected by dental caries and periodontal diseases. As oral diseases are related to life styles and behaviours of an individual, they can be largely prevented by modifying their health behviours. With regards to oral health, adolescence is a challenging time and they would be benefited from oral health promotion interventions. Health Belief Model has shown to be effective in modification of an individual's health behaviors and for designing behavioural interventions.

Objective : To determine the effectiveness of a health education intervention, based on the Health Belief Model to improve oral health behaviours of 15-year-old school children in the Kegalle district.

Methods : This study consisted of three components. The first component included a cross sectional descriptive study which assessed oral health behaviors, beliefs, attitudes and oral health status of a sample of 770, 15-year- old school children selected using a multi stage cluster sampling technique. Development and validation of a tool based on the "Health Belief Model" to assess perceptions regarding oral health of 15-year-old school children consisted the second component. The third component consisted of an intervention study to determine the effectiveness of a Health Belief Model based education intervention. The intervention study included three groups of students; 208 in each group selected from six comparable schools. Two were the control groups. One control group received a didactic education intervention while the other acted as an inactive control group. Oral health related perceptions, oral health related behaviours and oral health status of the students in three groups were assessed before the intervention and six months following the intervention.

Results : Nearly 72% of students brushed their teeth twice a day. Toothbrush was used for tooth cleaning by 99%, while fluoridated toothpaste was used by 67%. Sixteen percent consumed sugary snacks three times a day or more while only 1% consumed fruits daily. Nearly 67% had reported a dental visit and of them 49.1% had attended a school dental clinic at the last visit, "cavities in teeth" (32.5%), "dental check-up" (31.2%) and "dental pain" (10.9%) were the common reasons cited for the last dental visit. Of the students, 46% perceived that their oral health status good. A majority of the students had favourable beliefs about oral health. Overall attitudes towards oral health was also good. The overall caries prevalence was 27.1%. According to the Community Periodontal Index, 60.7% had periodontal disease. The HBM instrument had sufficient validity and reliability to meet the objectives of the study and explained a total of 45.2% variance. There were no statistically significant differences in oral health related perceptions, oral health related behaviours and oral health status between groups prior to the intervention. Following the intervention all above variables improved significantly in the Health

Belief Model group while only the "perceived severity" perception, level of plaque, use of fluoride toothpaste and dental visits improved in the didactic education group.

Conclusions: An oral health education intervention based on the Health Belief Model significantly improved oral heath related perceptions, behaviours and oral health status of the 15-year-old students in the Kegalle district. It is therefore recommended that further research be carried out to confirm the effectiveness of the Health Belief Model on oral heath improvements of school children so that Health Belief Model could be used in oral health promotional activities for school children.

Keywords: Health Belief Model, adolescents, oral health behaviours

0082. Widyarthne, L.S.M.
Occupational health hazards in dentistry: knowledge and behaviours of dental surgeons in the southern province, Sri Lanka.
MSc. Community Medicine Dentistry- 2015   D 4502

Background: Hazard is an inherent property of an agent or a situation having the potential to cause adverse effects when an organism, system or population is exposed to that agent. In current work environment physical, chemical, biological, ergonomic, physiological and psychological factors present (WHO, 1995).

Objective: To assess the knowledge and behaviours on occupation related health hazards of dental surgeons in the Southern Province, Sri Lanka.

Methods: This was a descriptive cross sectional study. A study unit defined as a dental surgeon registered under Sri Lanka Medical Council, practicing Dentistry in the Southern Province at the time of data collection.

All available sample was taken. Sample size was 154 giving a response rate of 93.33%. From the total sample 25% were selected for the sub sample for observation according to the proportions of the dental surgeons in each districts combined with random sampling technique. Data was collected using a pre tested self-administered questionnaire and a pre tested check list. Overall knowledge was categorized in to two groups and overall behaviour was categorized in to two groups according to the scale developed. Data analysis was done using SPSS 20 software package.

Results: Median age of the sample was 41 years with female predominance. Overall knowledge on occupational hazards was good among the majority of dental surgeons (59.1%, n= 91). Majority (81.8%, n=126) had overall incorrect behaviours on occupational hazards. Overall knowledge was not significantly associated with sex, age, district practicing dentistry, service experience, post graduate qualifications and employment status(P>0.05). Behaviours on occupational hazards was significantly associated with sex (P=0.009) and employment status (P=0.02). Behaviour on occupational hazards was not significantly associated with, district of currently practicing service experience and post graduate qualifications (P>0.05).

The majority mentioned inadequate time as the main barrier for history taking, hand washing, get the vaccine and adjustments of the dental chair. Majority mentioned non availability as the main barrier for usage of gloves, masks.

Knowledge related to occupational hazards was significantly associated with the behaviours related to occupational hazards of the dental surgeon (P=0.02).

Conclusion : Knowledge of the dental surgeon on occupational hazards was relatively good. Majority had adopted incorrect behaviours. Knowledge on occupational hazards was significantly associated with behaviours on occupational hazards. Knowledge has not been adequately translated to expected behaviours despite knowledge and behaviours were significantly associated.

Recommendation : Despite level of knowledge and behaviours were significantly associated the importance of correct behaviour should be advocated among dental surgeons and they should be motivated for correct behaviour. Special strategies are required in respect of highly perceived suffers from work.

Keywords : Occupational hazards, Dental surgeon, Behaviour

Community Medicine

0083.Abewickrama, A.B.M.C.K.

Health seeking behaviors, behavioral risk factors and work environment factors contributing to chronic non communicable diseases among workers working in large and medium scale apparel industries in Dodangoda Divisional Secretariat Division.
MSc. Community Medicine – 2018   **D 4814**

Introduction- Non-communicable diseases (NCDs) are responsible for half of the global morbidity and 71% of total deaths. Majority of NCD deaths are due to main four NCDs, Cardiovascular diseases, Diabetes, Cancer and Chronic respiratory diseases. Four major NCD shares four common behavioral risk factors known as unhealthy diet, physical inactivity, tobacco and alcohol consumption. Premature NCD deaths is a major concern which kills 15 million of people between 30 and 69 years annually. NCDs disproportionately affects low- and middle-income countries.

Objective- To describe health seeking behaviors, behavioral risk factors and work environment factors contributing to chronic non communicable diseases among non *executive* workers working in large and medium-scale apparel industries in Dodangoda Divisional Secretariat Division

Methods-A descriptive cross-sectional study conducted among non-executive workers working in four apparel workplaces in Dodangoda Divisional Secretariat Division from August 2018 to September 2018. A total of 427 participants were selected by simple random sampling according to the probability proportionate of non-executive workers in each workplace. Behavioral risk factors and health seeking behaviors among apparel workers were identified using an interviewer administered questionnaire. Short version of the telephone administered international physical activity questionnaire was used to assess the physical activity. The questionnaire and a checklist were used to assess NCD related factors in the work environment. Association of sociodemographic factors with behavioral risk factors and health seeking behaviors were evaluated.

Results-The response rate was 99.5% (n=425). Majority of the respondents were females (91.5%) and the mean age was 31.97 years. Majority were ever married

(66.4%) and had educated up to O/L (89.9%). Skipping breakfast, eating bread or short eats for breakfast and taking outside meals were common among apparel workers. Skipping breakfast was significantly higher among never married (p<0.001), females (p=0.004) who were less than 30 years (p<0.001) of age. Eating bread or short eats more than 3 days a week was

Significantly higher among never married participants (P=0.014). Taking out side breakfast more than three days a week was significantly higher in ever married respondents (p0.00l). The mean fruit consumption was 0.58 servings per day and only 12% had consumed two or more servings of fruits per day. The mean fruit consumption was not associated with any sociodemographic factor. The mean vegetable consumption was 3.73 servings per day and 82.8% of the study group had consumed three or more servings of vegetables per day. Being less than 30 years age (0.001) and never married (0.009) were significantly associated with mean vegetable consumption. However, the mean fruit and/ vegetable consumption was 4.32 servings per day and only 30.4% of the respondents had taken five or more servings per day. A proportion of 62.8% had added salt to rice always or often when cooking rice. The proportion of smokers was 27.8% in males and smoking was significantly associated with being male (0<0.001). A proportion of 38.9% of males were current alcohol users and alcohol consumption was significantly associated with being male (p<0.001). Only, 18.4% of the study group had sufficient physical activity and being male was significantly associated with sufficient physical activity (p=0.001). More than half of the study group had checked their blood sugar (52.7%) and blood pressure (55.8%). The proportion of respondents those who had undergone breast examination was 38.8% and those who had undergone PAP test was 32.2% in females above 35 years of age. Being 30 years or more (p0.00l) and being ever married (p0.00l) had significantly associated with NCD screening and well women clinic attendance. Majority of the study group had preferred government service for blood sugar and blood pressure checking.

NCD screening services was organized at three workplaces during last 5-year period. Three places had conducted diet sessions and two places had organized physical activity sessions during last two-year period. Health education massages were not displayed in any place. Fruits and healthy diet were limited in all the workplace canteens. A proportion of 46% of the study group had worn face mask

during worktime and only half of the respondents had reported that their workplace managers had encouraged them to wear personal protective equipment during work.

Conclusions and recommendations- Apparel workers were having unhealthy dietary behaviors and mean fruit consumption was well below the WHO recommended level. Higher proportion of the participants were having low physical activity. Smoking and alcohol prevalence were high among males. Healthy foods were not available for breakfast in workplace canteens. Interventions related to physical activity like physical activity time period was not available at any workplace.

Health education programs on diet, physical activity, smoking and alcohol consumption are recommended. Healthy canteen policy and time period for physical activity at workplace level are important. Displaying health education massages related to main behavioral risk factors are recommended. Workplace managers should encourage employees to wear personal protective equipment during worktime. More researches on interventions on diet and physical activity should be encouraged at workplaces.

Keywords- Non-communicable diseases, behavioral risk factors, health seeking behavior, work environment, apparel industry.''

0084.Abeysinghe, W.S.P.
Knowledge, practices, associated factors and perceived barriers of public health midwives on implementing the preconception care package in the Colombo district.
MSc. Community Medicine – 2017   D 4500

The concept of preconception care is being increasingly recognized due to its paramount importance in reducing maternal and child morbidity and mortality. A new 'Package of interventions for Preconception Care (PCC)' has been introduced to the MCH Programme in 2012 by the Ministry of Health which is delivered through the existing public health system. As PHMM are the comer stone of this programme, the successful implementation of the programme depend on their knowledge and practices and addressing barriers faced by them while implementation. Therefore, a descriptive cross sectional study was designed to assess the knowledge, practices, associated factors and perceived barriers of public health midwives on implementing the preconception care package in the Colombo district.

The study was carried out from 1st August 2017 to 31st December 2017 including all PHMM in the Colombo district irrespective of their service duration (N=366). Pre tested self-administered questionnaire was used to assess the knowledge, practices and perceived barriers of PHMM on implementing the PCC package. Identification and fine tuning of the perceived barriers was done through a focus group discussion with PHMM outside the study setting. A checklist was used to assess the practices of the PHMM on implementation of the programme. Questionnaire survey was carried out among all the PHMM agreed with inclusion criteria (N=366) and practices were assessed in four randomly selected MOH areas Ethical clearance was obtained from the Ethics Review Committee of University of Colombo. Administrative clearance obtained from the relevant authorities. Data analysis was done using the Statistical SPSS Software version 21.

Response rate was 97.3% and only 40% of the PHM has received training on PCC. The overall knowledge of the PHMM on preconception care package was high with a mean total mark of 89.7 (SD±9.1) and a median of 92. However, knowledge on some specific components was significantly low. Only 66.8% knew that reducing complications before pregnancy and delivery will minimize maternal and infant mortality which is a main objective of the programme. Implementation of the screening tool at the community level, their role in completing the screening tool, knowledge on practical aspects of health education sessions were comparatively low. Knowledge on the procedures to be carried out at the PCC clinics was satisfactory.

Knowledge level on preconception care package was significantly associated with the age of the PHM (p=0.004), marital status (p=0.038), service experience (p=0.021), service experience as a field PHM (p=0.002) and time taken to travel for work (p=0.042).

The majority 349 (95.4%) of PHMM conducts preconception care clinics but only 79.8% was conducting health education sessions. The attendance of couple for PCC clinics and sessions are poor and there was no uniformity in the implementation of the programme. More than one third of the PHMM (36.7%) stated that only 1-5 numbers of couples attends to one clinic. The number of clinic sessions varies between one for three months to two per month. Only 3 (5.8%) PHMM had evaluated the screening tool to identify risk couples. Nutritional assessment was carried out in all the clinics (100%) but the basic laboratory investigations (Hb,

Blood grouping and Rh) were not carried out at any of the clinics neither couples were given the information booklet.

Commonest perceived barrier encounter by 85.5% PHMM was that marriage registrars not referring the couples to the PHM and 63.7% stated that couples don't know about the importance of attending clinics and 62.6% has identified that couples not knowing about the PCC clinics as a barrier.

The study concluded that although the overall knowledge was high on preconception care, there are some aspects where PHMM doesn't have adequate knowledge. The most of the practices were poor and not in par with their high knowledge levels. No uniformity in the practices and procedures carried out indicate the lack of proper guidance and deficiencies in training. All the perceived barriers reflect the poor coordination among sectors and deficiencies in public awareness campaign. Therefore, it is recommended to have a national level guideline regularized by a circular, conduct refresher training on PCC package implementation, improve and strengthen the supervision, include suitable indicators to RHMIS to monitor, conduct awareness campaigns using mass media to sensitize general population, streamline and strengthen the linkage with marriage registrars and conduct further research on the PCC package.

Key words: Preconception Care, Public Health Midwife, Knowledge, Practices, Perceived barriers

0085.Adikaram, W.D.C.N.
Knowledge on air pollution, prevalence of selected respiratory symptoms and peak expiratory flow rate measurements among traffic police officers in Police division, Colombo.
MSc. Community Medicine – 2015   D 3995

Introduction: Outdoor air pollution is now the largest environmental health risk in the world and by reducing air pollution could save millions of lives. Traffic emission is a major source of outdoor air pollution in urban areas and polluted air happens to be the major part of the air the traffic police officers breathe for long periods of time. As such A traffic police personnel are at a higher risk for the adverse health effect of air pollution, due to their occupational exposure, compared to the general population.

Objectives: To describe the knowledge on air pollution, determine the prevalence of selected respiratory symptoms and measure the peak expiratory flow rate among traffic police officers in the Police Division Colombo.

Methods: A descriptive cross-sectional study was conducted, among traffic policemen working in the field level, in the police division, Colombo. Final calculated sample size was 406 with 5% non-response and simple random sampling method was used to select the final sample. A pretested self-administered questionnaire, a peak flow meter, a UNISCALE electronic scale and a measuring board was used for collection of data.

Results: Out of 392 respondents 44.1% (n= 173) had very poor knowledge, 34.7 % (n=136) had poor knowledge and only 20.2% (n=79) and 1% (n=4) had good knowledge and very good knowledge on air pollution, respectively. Knowledge on air pollution was significantly associated with the educational level (p =0.01), presence of respiratory symptoms (p<0.001) and presence of prior mode of acquiring knowledge (p<0.001). Most prevalent respiratory symptom 55.4% (n=217), among participants was expectoration followed by cough 40.1% (n=157). The prevalence of runny nose was 38.8 % (n=152). The prevalence of throat clearing was 26.0% (n=102) while it was 17.9 % (n=70) for shortness of breath. Around half of the traffic police officers studied (48.7%, n=191) had reduced peak expiratory flow rates.

Conclusions and Recommendations: Overall knowledge on air pollution among traffic police officers was poor with a high prevalence of respiratory symptoms and reduced peak expiratory flow rates, which implies the necessity of immediate action to uplift occupational health of traffic police officers.

Keywords:Outdoor air pollution, Traffic police officers, Respiratory symptoms, Peak expiratory flow rate, Knowledge acquiring modes

0086.Alpitiararchchi, A.N.D.
Knowledge, attitudes, practices, services received and associated factors related to family planning methods among women aged 35 to 49 years in Gothatuwa medical officer of health area.
MSc. Community Medicine - 2018   **D 4811**

Background

Family planning is an essential aspect of maternal and child care. To achieve this there are different family planning methods, classified as modem, traditional and natural. Many females in reproductive age group in developing countries do not use any family planning method, even though they want to avoid pregnancies. Among them women over 35 years face more risk due to unwanted or mistimed pregnancies resulting from non-use of family planning methods. Therefore it is important to learn their knowledge, attitude, practices and services received related to family planning methods. Gothatuwa Medical Officer of Health area is situated in Colombo District and consists of all the ethnicities and religions in Sri Lanka. So the findings of this study could benefit to develop good family planning program to further reduce unintended pregnancies.

Objective

To assess the knowledge, attitudes, practices, services received and associated factors related to family planning methods among women aged 35 -49 years in Gothatuwa Medical Officer of Health area.

Methods

A community based descriptive cross sectional study was conducted in Gothatuwa MOH area among women aged 35 - 49 years. Sample size was 480 and used cluster sampling method according to probability proportionate to size. Data collection was done by qualified medical graduates from 2018.07.30 to 2018.09.30. Data analysis was done using SPSS. To describe data univariate analysis was used and chi square test was used to determine the association of the variables.

Results

Considering the knowledge 98.5% had heard on family planning (FP) methods and 70.2 % had knowledge that Sexually Transmitted Infections (STI) can be prevented by using condoms. In the sample 78.6% were having positive attitudes towards usage of family planning method. Among the females 63.1% were current users on any kind of a family planning method. The most commonly used method among

the study participants was female sterilization (17.6%). Among the females who did not use FP methods 52.1% had fear of side effects. In service delivery 73% of the participants had taken services from the Public Health Midwife. Being employed (X 2 11.54,/>=0.001)and parity (X2 = 11.75, df= 1, p=0.001) were the variables which significantly had relationship with the knowledge. There was a significant difference between education level and attitude (($\%^2 = 8.51$, df = 1, p =0.004). Knowledge and practices also had a statistical difference ($\%^2 = 7.214$, df = 1, P = 0.007) while counselling received and practices showed a statistical significance (x^= 20.237, df= \,p — 0.001).

Conclusion and Recommendations

Family planning program management can organize human resources and increase the commitment of the service providers. They can empower the general population to use FP methods by arranging small groups like mother support groups

Keywords; Family planning, Family planning methods, advanced maternal age, unmet need.

0087.Amarasena, W.D.J.K.
Knowledge, attitudes and practices on vaccine cold chain maintenance to ensure quality of vaccines in National immunization programme and associated factors among public health midwives at medical officer of health offices in central province.
MSc. Community Medicine - 2019   D 4826

Introduction

Immunization is the most cost effective intervention in prevention of vaccine preventable diseases. Well-trained staff on cold chain maintenance, is critical to ensure potency and safety of vaccines.

Objectives

To assess knowledge, attitudes and practices on vaccine cold chain maintenance to ensure quality of vaccines in national immunization programme and associated factors among public health midwives at medical officer of health offices in Central Province.

Methods

A descriptive cross sectional study was done among PHMM in the MOH offices in Central Province. Multi-stage cluster sampling was used to collect information from 586 participants by self-administered questionnaire. Knowledge, attitude, and

practices on vaccine cold chain maintenance was assessed using scoring system and likert a scale. Data was analyzed using SPSS version 21. Categorical variables were described using frequency tables and p values were used to present at significant level < 0.05 for associations of knowledge, attitude, and practices on vaccine cold chain maintenance.

Results

The response rate was 97.6%. Mean age of PHMM was 41 years (SD=±10). Majority were Sinhalese (92.8%), Buddhists (91.8%) and 63.5% had GCE A/L as the highest education qualification. Most of PHMM could read and understand only Sinhala language (86.5% n=507). Majority (96%) had satisfactory and good knowledge on vaccine cold chain maintenance. Favorable attitudes were observed in >74.6 % of participants on vaccine cold chain maintenance but 72.4 % had not involved in vaccine freeze exposure testing. Majority had correct vaccine handling practices at clinic but some PHMM did not adhere to correct vaccine heat exposure practices (not preventing sun light exposure by 2.6 %, and foam pad not used at clinic by 11.9%). VVM was correctly interpreted by > 95% of PHMM. Age (p = 0.003) and work experience (p = 0.012) showed significant association with knowledge. Other associate factors (trainings, means of knowledge and supervisions) had no significant association with the knowledge on vaccine cold chain maintenance. Attitude on adhering to guidelines had significant association between method of training (p =0.028) and methods of obtaining cold chain knowledge (p=0.048). Majority (80%) of PHMM expressed and perceived the requirement of cold chain self- assessment tool at MOH level.

Conclusions and recommendations

PHMM knowledge attitude and practices were satisfactory on vaccine cold chainmaintenance .Further strengthening through periodic training, supportive supervision and introducing self-assessment tool are required on vaccine cold chain maintenance to ensure quality and safety.

Keywords: Cold chain, PHM

0088.Amarasinghe, G.S.

Help seeking intention for symptoms of peripartum depression and associated factors among pregnant women attending antenatal clinics in Anuradhapura district. `

MSc. Community Medicine - 2018   **D 4706**

Background

Even though peripartum depression (PPD) is an important health concern among Sri Lankan women, pattern and predictors of help seeking for PPD is not well known.

Objective

To describe help seeking intention related to symptoms of peripartum depression and to determine associated factors among pregnant women visiting antenatal field clinics in Anuradhapura district.

Methods

A descriptive cross sectional study among pregnant women Anuradhapura district was carried out. Assuming prevalence of help seeking intention for PPD as 50%, design effect as 1.5 and non-response rate as 5%, minimum required sample size was calculated as 606. Multi stage cluster sampling with probability proportionate to size was used. A vignette of peripartum depression with two parts (A without suicidal thoughts and B with suicidal thoughts) was designed and the questionnaire was developed based on the vignette. Expert validation, cognitive validation and pretesting of the vignette and tool were conducted. Chi square tests (for binary/ordinal data), t test (for age), Man-Whitney test (for income) and logistic regression (backward conditional) were used to identify factors associated with help seeking intention.

Results

Of the 624 participants recruited, 383 (64.1%) had help seeking intention (with or without a period of waiting) for symptoms of PPD. Only 36.7% (n=206) had the intention to seek help immediately for suicidal thoughts. Preferred first choice for help seeking among 284 (56.3%) participants was their husband. Inability to identify abnormality of symptoms from normal was observed in 55.9 % (n=330), and inability to identify suicidal thoughts as a danger sign was observed in 36.3% (205) of participants. In the logistic regression (χ^2- 59.292, p=.005, n=389) effect of stigma on help seeking intention for PPD was evident as those who disagreed to

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feeling angry about the affected person's behavior (OR 1.8, p=024), disagreed that the affected person must be lazy (OR 1.8, p=.017) and agreed that the person is a danger to her baby (OR 1.9, p=.009) were more likely to seek help. Higher education qualifications (OR 2.2, p=.008), Perceiving husband is likely to direct her for treatments (OR 2.348, p=.001), feeling angry about affected person's husband (OR 2.2, p=.002) and feeling that the affected person is not receiving adequate family support(OR 1.9, p=.013) were also shown to be associated with help seeking intention for PPD.

Conclusions and recommendations

Help seeking intention for symptoms of peripartum depression and suicidal thoughts were suboptimal in this population. Stigma should be reduced and knowledge about PPD should be increased.

Keywords : Help Seeking Intention Peripartum Depression Anuradhapura Postpartum

0089.Amarasinghe, P.G.

Epidemiology, burden and cost of road traffic crashes reported to the Kurunegala Police division in Sri Lanka.
MD Community Medicine – 2015   D 3955

Introduction: Road Traffic Crashes (RTCs) kill an estimated 1.24 million and injure 20-50 million people globally in a year. Road Traffic Injuries (RTIs) have become a major but neglected public health problem in Sri Lanka that needs urgent attention.

Objectives: To describe characteristics of RTCs, its association with the severity of RTCs, the socio-demographic characteristics of the involved road users and its association with severity of injuries, the burden of injuries, the treatment costs for injured road users and the total cost of RTCs recorded at police stations in the Kurunegala Police Division (KPD).

Methods: A descriptive, cross-sectional study was conducted which comprised of three components, carried out concurrently, included 851 consecutively reported and recorded RTCs in the KPD. Component 1 described the vehicle, road and environmental characteristics of RTCs and characteristics of involved road users using a data record sheet and an interviewer administered structured questionnaire by trained data collectors at police stations. A data record sheet was used in

component 2 to describe the severity and burden of injuries of injured road users by trained pre intern medical officers at hospitals. Component 3 using two data record sheets described the treatment cost for injured road users and the total cost of RTCs.

Results: Reported 851 RTCs in KPD involved 1481 vehicles and 1887 road users (injured and non injured) of which 66 (7.8%) fatal with 71 deaths, 596 (70%) non-fatal injury producing and 189 (22.2%) were damage only RTCs. Average rate of RTCs in KPD was 3 per day. Majority of RTCs were recorded on Sundays (15.4%,n= 131) of week, between 12.01-18.00 hrs (37.3%, n=317) of the day, in urban areas (64.2%, n=546) and on major roads (84.1%, n=716). The fatal RTC percentage was higher on public holidays (14%), between 0.00 - 06.00 hrs in the day (12.2%), in rural areas (13.1%) and on major roads (8%). The commonest vehicles involved in all types of RTCs were motorcycle (495, 33.4 %) and dual purpose vehicle (233, 15.7%), for fatal RTCs, it was motorcycle (24.4%, n=121) and three wheeler (17.4%, n=32). The majority of involved road users were males (84.0%, n=1586), in 31-40 year age group (33.4%, n=529) and drivers (48.7%, n=920). The majority of drivers and motorcyclists (81.3 %, n=1150) had a valid driving license, 83% (n=447) motorcyclists and pillion riders used helmets. Helmet usage among motorcyclist (87.2%) was higher than pillion riders (33.3%). Nearly 29% (n=51) pedestrians met with RTCs while crossing the road on pedestrian crossing and 35% (n=279) involved drivers, motorcyclists and pedal cyclists have consumed alcohol. The severity of injuries described using Injury Severity Score (ISS) in 503 injured road users of which 60.6% (n=305) had ISS<10 (mild injuries), 31.2% (n=157) had ISS between 11 and 40 (moderate injuries) and 8.1% (n=41) had ISS>40 (severe injuries). Burden of injured road users described using Disability Adjusted Life Years (DALY) which was the sum of Years of Life Lost (YLL) and Years of life Lived with Disability (YLD). YLL of 41 deaths was 1413.50 years (mean=34.46, SD=1.32). YLL of males was 2.5 times higher than females. YLD of 462 non-fatally injured was 7.0628 years (mean=0.0153 years or 5.58 days, SDK).0018). YLD of males was 8.4 times higher than of females. DALY lost for 503 injured road users were 1420.55 years (mean=2.8242, SDK).0074). DALYs of males was 2.5 times higher than female   Out of 928 injured road users, 3.9% (n=36) died before hospital admission while 96.1% (n=892) received hospital treatment, 598 admitted to peripheral hospitals of which 95 (15.9%) treated and

discharged while 503 (84.1%) transferred to TH Kurunegala. Majority treated at TH Kurunegala (95.6%, n=762) were cured and discharged while 4.4% (n=35) died. Of all 928 injured, 92.3% (n=857) cured while 7.7% (n=71) died during the study period. The mean cost of medicine, ICU management and investigations to treat an injured road user was Rs 280.55 (SD=12.26), Rs 27,412.85 and Rs 1165.74 (SD=31.38) respectively. Total cost of medical treatment for 892 injured road users was Rs 10,523,759.13 with a mean cost of Rs 11,797.93 (SD=644.61). Mean cost of medical treatment for fatally injured road users (Rs 69,314.31, SD=5117.89) was 7.3 times higher than for non-fatally injured (Rs 9,448.96, SD=879.95). The total cost of 851 RTCs was 183,224,920.06 with a mean cost of Rs 215,305.43 (SD=2798.23) per RTC. The mean cost for a fatal, non fatal injury producing and damage only RTC were Rs 2,160,185.21 (SD=1462.11), Rs 46,305.13(SD=823.24) and Rs 11,783.54 (SD=573.68) respectively.

Conclusions and Recommendations: The number of RTCs recorded in the KPD was high of which fatal RTCs were higher (7.8%) than the national figure (6.0%). Motorcycle and dual purpose vehicle was the commonest involved vehicle and drivers and motorcyclists were in highest risk of RTCs. Majority of RTIs were minor injuries while 8% were severe injuries. The DALY lost per injured road user was 2.8242 years. The cost of medical treatment per injured road user was Rs 11797.00. The mean cost per RTC was Rs 215,516.02.

Recommend to implement primary prevention measures as community awareness programmes on RTCs and RTIs, 2ry prevention measures as improving X ray facilities, emergency care and ambulance services in peripheral hospitals. Also recommend the strict implementation of helmet law for all motorcycle riders by the police and establishment of a surveillance system on RTC and RTI to link police and hospital data.

Keywords: Road Traffic Crashes, Road Traffic Injuries, Involved Road User, Injured Road User, Abbreviated Injury Scale, Injury Severity Score, Disability Adjusted Life Years, Cost of Road Traffic Crash

0090.Ananthan S.

Knowledge, attitudes, practices and factors associated with exclusive breast feeding among working mothers attending child welfare clinics in selected Medical Officers of health areas in Jaffna district.
MSc. Community Medicine – 2015   D 4072

Benefits of breast feeding for a child are proven beyond doubt. WHO recommendation is to exclusively breast feed up to six months and co ntinue breastfeeding up to 2 years or beyond with adequate complementary feeding. Evidence show breastfeeding as per above recommendation has long and short term benefits for both child and mother. Working mothers face two types of challenges the first are those common to all women and the second are those which are particularly related to their work.

A field level cross sectional descriptive study was conducted in four selected MOH areas in the Jaffna district, to describe knowledge, attitudes, practices and factors associated with exclusive breastfeeding up to complete 6 months among working mothers attending Child Welfare clinics. A total of 270eligible mothers were selected by a non-probability convenient sampling method. An interviewer administered pre-tested questionnaire was used to collect the data. Associated factors were tested for statistical significance using Chi Square test. A p value less than 0.05 was considered as statistically significant.

The prevalence of exclusive breastfeeding at six months among working mothers in selected MOH areas in the Jaffna district was 58.1 % (95% CT 52.22%-63.98%). Majority of the working mothers were aware of the definition of exclusive breastfeeding (66.3%), the optimal duration of exclusive breastfeeding (81.1%), that breastfeeding should be continued with adequate complementary feeding for 2 years or beyond (77.8%) and breastfeeding can be continued during a diarrheal illness (50.4%).

Over all a large proportion of working mothers (73.7%) have a poor knowledge score on breastfeeding. Knowledge was poor on factors that support successful breastfeeding such as early initiation of breastfeeding, on demand feeding, frequency of breastfeeding (75.6%), factors that indicate that the baby is satisfied with the breastfeed such as baby falling asleep after a feed, baby satisfied after a feed (79.6%), ill effects of formula feeding (68.5%), factors stimulating

breastfeeding (83.3%), factors inhibiting breastfeeding (74.4%) and feeding expressed breast milk (89.3%).

The attitudes among the working mothers on breastfeeding were generally positive (83.3%, n=225) Attitude against formula milk was also good with 78.9% of the working mothers disagreeing that formulae is better than breast milk. Good attitudes were significantly associated with exclusive breastfeeding up to 6 months. (y2=9.2; p=0-002)

Facilities for breastfeeding continuation such as lactation rooms (94.1%) were not available at the work places. But the working mothers found their bosses (59.6%) and the work companions (62.2%) to be supportive and have a positive opinion of breastfeeding in most of the institutions. In work place, longer maternity leaves ($\%^2=$ 58.963; p <0.01), and supportive workplace staff ($y^2=$ 23.448; p<0.01) were significantly associated with exclusive breast feeding up to 6 months.

The mothers level of education ($x^2=32.487$; p = 0.0001), mother's occupation ($x^2=$ 36.391; p=0.000) and income ($x^{2==}$ 40.927; p < 0.01) were significantly associated with exclusive breast feeding up to 6 months. The antenatal clinic visits ($x^2=11.416$;p=0.010),ante natal health education and breast problems($x^2=$ 1 1.287; p = 0.01) were significantly associated with exclusive breast feeding up to 6 months.

The study recommends that field staff pay special attention to support mothers to prepare for continuation of breastfeeding once the mothers return to work. The positive attitudes of bosses and peers should be used to advocate work place improvements such as establishing Lactation Rooms, flexible work schedules that support breastfeeding.

Keywords; Working Mothers, Breastfeeding, Knowledge, Attitudes, Practice.

0091.Anuttara, H.R.C.S.
Prevalence and associated factors of selected cardio-respiratory health problems related to household air pollution among main female householders in rural settings in MOH Gampaha.
MD Community Medicine – 2018   **D 4695**

Background

Air pollution outdoors and at household level has been globally identified as a major contributing factor towards non-communicable diseases. Burning of biomass fuel is identified as a major contributor. This study assessed the prevalence and

associated factors of selected cardiorespiratory health problems related to household air pollution among main female householders in rural settings in Gampaha.

Methods

A cross sectional study among 15 rural public health midwife areas in Gampaha MOH, using probability proportionate to size cluster sampling with an interviewer administered questionnaire. SPSS software was used for analysis and p<0.05 was considered as significant.

Results

Response rate was 93.4%. One third of the participants were aged 26 to 35 years with 77% being housewives. Biomass fuel was used by 34% as primary fuel and by 37% as a secondary fuel with 22% using unimproved biomass stoves. Indoor household cooking (87%) with 47% having access to chimney. Symptom prevalence, allergic rhinitis (29%), persistent cough (10%), persistent phlegm (14%). Monthly income, occupation, asbestos roofing, type of cooking fuel, place of cooking and availability of a chimney was significantly associated with respiratory symptoms.

Conclusions and recommendations

Biomass usage and unimproved biomass stove use was significant among the study population. Selected respiratory symptoms were significantly associated with the type of fuel use and chimney availability. Carrying out health education on minimizing biomass fuel use, putting up regulations and policies in indoor plastic burning, biomass usage and to ensure adequate ventilation at building houses is needed. Further longitudinal analytical studies will help generate stronger evidence related to cardiovascular symptoms related to household air pollution

Keywords: Household air pollution, cardiorespiratory symptoms, biomass.

0092.Ariyadasa, H.G.G.L.P.
Quality of life and its associated factors among government Medical Officers in Uva province.
MSc. Community Medicine - 2017   D 4474

Background

Higher quality of life among grade medical officers has been identified as a key factor of increased productivity of health service delivery. This study was designed

and conducted to determine the quality of life and its associated factors among grade medical officers in Uva province.

Methods

A descriptive cross sectional study using self-administered questionnaires was carried out in the study population. The study sample of 403 of grade medical officers were selected following probability proportionate to the size sampling method in selected institutions and simple random sampling technique from each health institutions. The grade medical officers who have worked less than one year period were excluded from the study. Independent t test and one-way ANOVA was used appropriately to determine the statistical significance.

Results

The mean total quality of life score of study participants was 65.1 (SD±11.3) and all four domains had mean scores above 60. Being a male, having post graduate qualifications, good family income, being engaged in a private practice, having two or more children, higher monthly income, living in an own house, not having noncommunicable diseases, doing regular physical exercises and having an adequate sleep were statistically significantly associated with higher quality of life in the study population ($P < 0.05$).

Discussion, conclusions and recommendations

The level of total quality of life of government medical officers in Uva province was substantially high. Individual domain scores also showed higher acceptable levels.

As far as the associated factors of quality of life among medical officers are concerned, number of adjustable behavioral factors were identified and could be attended to further increase the quality of life among medical officers. These factors were having post graduate qualifications, good family income, being engaged in a private practice, having two or more children, higher monthly income, living in an own house, not having non- communicable diseases, doing regular physical exercises and having an adequate sleep.

Therefore, appropriate measures should be taken at national as well as at to further increase the quality of life among these very important healthcare providers.

Keywords: Quality of life, Medical officers, Physical activity, Leisure time

0093.Ariyarathne, A.M.N.
Sero-prevalence, risk factors and cost of viral hepatitis a in the district of Gampaha.
MSc. Community Medicine - 2017   **D 4328**

Introduction:

Viral hepatitis A (HAV) is one of the commonest food and water borne infectious disease prevailing globally as well as in Sri Lanka. In Sri Lanka, a community based sero- prevalence study has not been done after 1975. Many HAV outbreaks have occurred in district of the Gampaha causing a financial burden to prevent, to treat and as household costs in addition to the lost productivity.

Objective:

To determine sero-prevalence, risk factors and cost of viral hepatitis A (HAV) infection in the district of Gampaha.

Methods:

Component I was a descriptive cross sectional study done among 1,403 participants selected by multistage stratified (for age group and area of residence) cluster sampling. Interviewer-administered questionnaire was used and Anti-IgG testing were done to determine sero-positivity. Component II was an unmatched case control study done among 504 participants with a case: control ratio of 1:1. Cases included participants with an acute HAV (confirmed by IgM) admitted to four secondary and tertiary level government hospitals. Controls were randomly selected from participants with negative sero-prevalence in Component I. Factors selected in univariate analysis ($p<0.25$) underwent multiple logistic regression analysis to determine the independent risk. Component III of the study assessed the cost of HAV infection. Out of the cases in component II, 200 patients were randomly selected to calculate hospital resource utilization and household direct/indirect cost. For the Component II and III an interviewer-administered questionnaire was used and relevant secondary data were additionally extracted from medical records.

Results:

Out of total 66.4% (n=932) were females. Family income of the majority (n=644, 45.9%) was less than 20,000 and unemployment was reported as 75.6% (n=1060) followed by individuals who were employed (n=242, 17.2%). The overall

seroprevalence of anti HAV- IgG was 80.7 % (95%CI=78.64 - 82.76). It increased with age and reached 100 % after 71years. Thirty-four (3.0%) who had sero-positive results (n=1132) claimed that they had HAV in the past. Nine factors were significantly associated (p<0.05) with HAV infection in multivariate analysis. Out of them, residing in urban areas (OR=5.94; 95%CI=2.98-11.86), lower income (OR=2.83; 95%CI=1.30-6.13), poor knowledge regarding hepatitis (OR=3.98, 95%CI=1.97-8.05), unhygienic sanitary practices (OR=2.73; 95%CI=1.42-5.23), unhygienic practices related to drinking water (OR=2.67; 95%CI=1.37-5.21) were determined as independent risk factors. Inpatient day cost varied with cost item and the health care setting. The average patient management cost in Gampaha, Negembo, Meerigama and Watupitiwala hospitals were found as 10,242.4 LKR, 9,079.8 LKR, 11,462.8 LKR and 12,516.2 LKR respectively. Cost for wages found as the highest cost among the all cost items in all hospitals. Moreover, highest cost for wages recorded as 3,911 LKR in the pediatric unit DGH Meerigama. Percentages for utilization of maximum costs for water, electricity and telephone were revealed as 2.26%, 8.03% and 0.01% respectively.

Total of 2,308,640.3 LKR (15,390.94 USD) was utilized as hospital resource utilization cost for the management of 200 HAV patients among all four hospitals and overall average per patient management cost was of 11,543.2 LKR (76.95 USD). Total cost for hospital resource utilization, household and lost productivity was 8,046,129.40 LKR (53,640.86 USD) and the average cost was 40,230.60 LKR (268.20 USD).

Conclusion and Recommendations:

In overall, four fifth of the population was immune to HAV infection in the district of Gampaha. Five factors were found as independent risk factors for HAV infection. Total cost lost for the government and the patient was remarkable. Community awareness must be raised on food and water-borne diseases, proper hygienic practices and safe water drinking. Inequities of social determinates of health must be addressed. Cost utilized for prevention of HAV is also to be found for careful cost benefit analysis in order to initiate target group vaccination in Sri Lanka. Mass vaccination cannot be recommended though target group vaccination could be initiated after further cost analysis.

Keywords: sero-prevalence, risk factors of HAV, hospital resource utilization cost, household cost, and opportunity cost

0094.Askin, G.S.

Non-cancer palliative care knowledge, attitudes, practices and associated factors among medical officers of primary and secondary care institutions in Colombo district.

MSc. Community Medicine - 2018   D 4821

Introduction

Palliative care is an emerging medical specialty which require due attention of all healthcare professionals. Due to epidemiological and demographic transition, the number of non-cancer patients needing palliative care in rising trend and under the new health policy it is expected to manage each patient who needs palliative care at primary health care setting in future. To fulfill this need, medical officers with good knowledge, favourable attitudes and correct practices on non-cancer palliative care are required.

Objectives

To describe the knowledge, attitudes, practices and associated factors on palliative care for non-cancer patients among medical officers of primary and secondary health care institutions in Colombo district

Methodology

A descriptive cross-sectional study was conducted in primary and secondary health care institutions in Colombo district from 1st of July 2018 to 30th of September 2018. Estimated sample size was 452. A pre-tested self-administered questionnaire was used as the study instrument. Overall knowledge on non-cancer palliative care and overall knowledge on different components were presented in two categories as 'good' and 'poor'. Overall attitudes were presented in two categories as 'favorable' and unfavorable. Responses to individual practices were presented using frequency tables. Overall knowledge, overall attitudes and six selected practices were cross analyzed with selected factors to assess their association. Chi square test was used as the statistical test for associations. Fisher's exact test was used for the variables which had expected cell counts less than 5. A probability value of <0.05 was considered as significant for both tests.

Results

All medical officers (n=457) who were eligible to participate for the study was recruited and response rate was 85.6%. Majority of respondents were females

(58.3%), in age group 36 - 45 years (40.9%) with a mean age of 39 (SD=7.4) years, grade II medical officers (67.8%) and had <10 years of working experience (59.4%), 23.3% had a postgraduate degree, 21.2% have had an undergraduate training on non-cancer palliative care and only 6.9% had attended training programmes on non-cancer palliative care.

Majority (53.7%) had poor level of overall knowledge on non-cancer palliative care and on all the assessed components except for the concept of palliative care. Good level of knowledge was significantly associated with younger age (p>=0.04), service duration < 10 years (/;=().009), possessing a postgraduate qualification (p=0.02), working in a medical unit *(p—0.0*1), attending training programmes on non-cancer palliative care (/;=0.009), updating knowledge on non-cancer palliative care *(p=0.006)*, ever managed non-cancer palliative care patients (p<0.001). Majority (87.7%) had favourable attitudes and it was significantly associated only with previous history of working in a tertiary care institution *(p=*0.04). Majority (76%) had managed non-cancer patients who needed palliative care. Out of them majority had discussed disease progress and prognosis with the patients (87.2%) and patients' families (96.6%), had never involved community support centres (66.0%) and local GPs (68.7%) for the management. Discussing disease progress with non-cancer patients (p<0.001) and discussing care at home when discharging non-cancer patients *(p=Q.Q07)* were significantly associated with favourable attitudes. Involving community support services were significantly associated with attending training programmes on noncancer palliative care (y>=0.04).

Conclusions and recommendations

Overall knowledge on non-cancer palliative care was poor among majority of medical officers of primary and secondary health care institutions in Colombo district. Good level of knowledge was associated with postgraduate qualifications and attending training programmes. Majority of medical officers had favourable attitudes towards non-cancer palliative care and it was associated with previous working experience at a tertiary care institution. Favourable attitudes and adequate training had resulted in good practices in non-cancer palliative care.

More in-service training programmes on non-cancer palliative care should be

conducted and non-cancer palliative care should be incorporated into undergraduate curriculum.

Keywords: Non-cancer palliative care, Medical officers, Primary health care, Secondary health care

0095.Aththaragama, A.S.I.
Prevalence of hypertension and its associated factors among estate workers in Medical Officer of health area, Panvila in the district of Kandy.
MSc. Community Medicine - 2017   **D 4006**

Background

Hypertension is the leading modifiable risk factor of cardiovascular diseases. The prevalence of hypertension differs across the countries, geographical areas and social strata. The estate population in Sri Lanka is considered to be a physically active, non-obese population with unhealthy lifestyle. Hence, determining the prevalence of hypertension and its associated factors among them is important.

Objectives

The purpose of this study was to determine the prevalence of hypertension among estate workers in the Panvila Medical Officer of Health area in the Kandy district and to determine the factors associated with hypertension.

Methods

A cross sectional analytical study was conducted. Four hundred and eleven estate workers of 30-59 years age group from eight estates of Panvila MOH area in the district of Kandy were invited after random selection out of a sampling frame made with payroll numbers. Blood pressure measurement and anthropometric measurements were done in a screening clinic conducted in collaboration with the Office of Medical Officer of Health, Panvila. Information on risk factors were obtained using an interviewer administered questionnaire comprising validated tools. Crude and age adjusted prevalence were estimated. Risk factors were determined using bivariate and multivariate analysis.

Results

Of those invited, 84% responded and 36.2% were males. About 95% were Tamils. Mean systolic and diastolic blood pressures were 125.7 (SD±17.4) mmHg and 78.6 (SD± 9.9) mmHg respectively. The crude prevalence of hypertension among estate workers was 24.6% and age adjusted prevalence rates were 27.2% and 24.5% for

males and females respectively. Undetected hypertension identified at the survey was more than 80% while only 23% of diagnosed hypertensives were on treatment. The salt consumption level in this population is relatively high. In the bivariate analysis, age, ethnicity, dysglycaemia and high dietary salt intake were associated significantly with hypertension. Increasing age group was the only independent predictor of hypertension in the multivariate analysis.

Conclusion and Recommendation: This study revealed that 25% of the estate workers are hypertensive and undetected hypertension is an important problem. Increasing age is a significant risk factor for hypertension. Studies using different comparison groups from other populations will be important to address their lifestyle risks.

Keywords: hypertension, prevalence, estate workers, risk factors

0096.Bandaranayake, K.W.P.S.
Quality of work life, job turnover intention and associated factors among public health midwives in Gampaha district.
MSc. Community Medicine – 2017   D 4604

Background

PHMM provide domiciliary health care services with minimum facilities as the "front line" health worker. So, quality of work life (QWL) is important and the deterioration of QWL may influence to change the employment. In the background of inadequate studies on QWL of the employees in health system in Sri Lanka, this study was undertaken to determine quality of work life (QWL), job turnover intention and associated factors among PHMM.

Methods

A descriptive cross sectional study was carried out in Gampaha district among the PHM staff of Medical Officer of Health (MOH) offices. All PHMM who fulfilled the inclusion criteria were selected and a self-administered questionnaire (based on brooks QWL survey and anticipated turnover scale (ATS) by Hinshaw and Atwood) was given. Sample size was 424. Data analyzed and associations for different categories were assessed and presented in frequency distribution tables and chi square test was applied for associations and significance looked at probability of 0.05.

Results

In the study, majority (57.4%) were above 40 years of age with mean age of 43.2 (+ SD=9.19) years and 92.7 % (n=393) participants were married. Out of them, 49.8 % (n=211) had service more than 15 years as a field level PHM. The majority (n=358, 84.4%) had good QWL and nearly 70% of the participants (n=283) had intention to retain in the profession or no JTI. The good QWL was significantly associated with the advancing age of the PHMM (p=0.029) compared to youngsters, period of service >10 years as a field level PHM (p<0.001) and the total population of >6000 providing health care services in the field (p<0.001). The association between poor QWL and positive aspect of JTI were significant (p<0.001).

Conclusions

Majority (n=357,85%) of PHMM had good quality of work life and only 25.8 % out of them had JTI. This supports that majority are at mean age (43.2 years) and > 10 years of service (70.1%) having possible retention in the service as PHM after recruitment. Majority were unsatisfied on government allowances and facilities at the field office.

Keywords: Quality of work life (QWL), Job turnover intention (JTI), Public health midwives (PHMM)

0097.Chandana, G.J.
Factors associated with effectiveness of antenatal screening programme for gestational diabetes mellitus among mothers delivery at secondary care hospitals in Matara district.
MSc. Community Medicine – 2017   **D 4603**

Introduction: Gestational Diabetes Mellitus (GDM) is defined as 'any degree of glucose intolerance with onset or first recognition during pregnancy' and accounts for adverse maternal and perinatal outcomes. By early detection and prompt glycaemic control adverse outcomes can be minimized, thus universal screening for GDM is recommended. Universal screening for GDM is carried out twice during antenatal period at field antenatal clinics with non-fasting (Oral Glucose Challenge Test) OGCT since 2014.

Objective: To assess factors associated with effectiveness of antenatal screening programme for gestational diabetes mellitus (GDM) among mothers delivered at secondary care hospitals in Matara district

Methods: A descriptive, cross sectional study was conducted among 423 postpartum mothers delivered at three secondary care hospitals in Matara district, recruited using a proportionate sampling technique. Data on socio-demographic, family and pregnancy related characteristics, awareness on GDM, screening process and service provision were collected from participants using a pre-tested, interviewer administered questionnaire and from Medical Officer of Health (MOH) offices using a data record sheet. Data was analysed using SPSS software. Chi square test and Fisher's exact test were used to test the association between variables.

Results: Response rate of the study was 92.3%. GDM screening at field clinics showed high coverage for both first and second screening tests (91.4% and 94.5% respectively) and timeliness was relatively low (72.4% and 59.5% respectively). In both screening tests, proper documentation of test results (76.8% and 65.4% respectively) and referral following positive screening (47.7% and 21.2% respectively) Were substantially low Only 6.8% and 9.0% were diagnosed to have GDM among mothers with positive first and second screening results respectively. Awareness of availability of screening at field level was high (92.8%), however, awareness on timing of tests, intended response to a positive screening test and adverse outcomes of GDM were low. Availability of logistics for screening was insufficient at the time of both tests (22.7% and 11.5% respectively). Higher coverage was positively associated with higher maternal education level (p=0.021 and 0.025), prim parity (p=0.033), having no living children (p=0.03), planned pregnancy (p=0.00), lesser distance to nearest laboratory (p=0.02) having family support (p=0.025) and better awareness of test (p=0.00). Timeliness was positively associated with performing screening at field clinics (p=0.00 and 0.007), not being employed during pregnancy (p=0.005), planned pregnancy (p=0.023), awareness on test (p=0.001) and adverse outcomes (p=0.025) and availability of logistics at (p=0.007). Proper documentation of results positively associated with performing screening at field clinics (p= 0.00 and 0.00) and availability of logistics (p=0.009).

Conclusions and recommendations: Despite higher coverage, antenatal GDM screening programme needs improvement in other aspects of screening process

such as timeliness, proper documentation and appropriate referral. Poor maternal awareness on consequences of GDM and response to positive screening was also observed. The findings favour screening at field clinics and suggests that the service provision should be streamlined with uninterrupted logistic supply. Enhanced training of field health care workers and health education and promotion of antenatal mothers are recommended to further improve the effectiveness of the GDM screening programme.

Keywords: Gestational Diabetes Mellitus (GDM) screening, associated factors, antenatal mothers.

0098.Chandani, G.L.G.
Knowledge, attitudes, practices and correlates of practices related to children's common unintentional injuries prevention among government sector primary school teachers of Kalutara district.
MSc. Community Medicine – 2018   D 4701

Introduction

Childhood injuries are a growing global public health problem. Unintentional injuries significantly contribute to mortality and morbidity among children, however, most of these can be predicted or avoided. Primary school setting is an injury vulnerable place and teachers have a responsibility to ensure child safety practicing primary and secondary preventive methods of injuries. Research undertaken to assess teachers' knowledge, attitudes and practices are few and far between in Sri Lanka.

Objective

The aim of this study was to describe the knowledge, attitudes, practices and correlates of practices related to children's common unintentional injuries prevention among government sector primary school teachers of Kalutara district.

Method

This was a school based descriptive cross sectional study. Multistage cluster sampling method was adopted and final sample size of 680 was distributed among three educational zones of Kalutara district (Kalutara, Matugama and Horana) according to the probability proportionate to size. A pre tested self-administered questionnaire administered by trained data collectors was used as the study

instrument and it was prepared in all three languages of Sinhala, Tamil and English. Data were analyzed using SPSS (Statistical Package of Social Sciences) version 25.

Results - Response rate was 94.2% (n=641). Majority of participants were married (95.8%) females (92.7%) who have completed tertiary education after Advanced Level (56.7%) and most them were above 40 years old (36%). Majority had a good knowledge on primary prevention of falls (74.4%), choking (98.9%), animal bites (98.0%), cut injury (87.2%), bums (65.2%) and electrocution (96.1%) and also had good knowledge of secondary prevention for choking (61.6%), animal bite (95.3%), bums (88%) and electrocution (73.6%). But only 21.8% and 36% of participants had good knowledge of secondary prevention of falls and cut injury respectively. Knowledge on basic life support was poor among majority of 92.7% participants. But all the teachers (n=641) had favorable attitudes towards injury prevention.

According to the study, both risks and injury situations of falls were common compared to choking, animal bite, cut injury, bum and electrocution among primary school children.

Risk identification of falls were significantly associated with type of school, gender, service period as a teacher, service period at present station, stay in the class at interval, participation of first aid sessions and knowledge of primary prevention of falls and it was not associated with training in teaching. First aid administration was significantly associated only with gender. Service period as a teacher, training in teaching, stay in the class at interval, participation of first aid sessions and knowledge of secondary prevention of falls were not associated.

Conclusions and Recommendations

Based on the findings knowledge, attitudes and practices of primary prevention including risk identification and taking action are satisfactory compared to secondary prevention including first aid administration for common unintentional injuries. Arrangement of first aid training, inclusion of unintentional injury prevention into teacher training curricula and focus on environmental risk mitigation are recommended to improve unintentional injury prevention among primary school children.

Keywords: Childhood unintentional injuries, Primary school teachers, Injury

0099.Chandraratne, M.A.N.K.
Prevalence and factors associated with physical, sexual and emotional abusive experiences during childhood and help sought following abuse, among young adults aged 18-20 years schooling in the Gampaha district.
MD Community Medicine – 2016   **D 4673**

Introduction - Abuse during childhood is a human tragedy leading to lifelong adverse health, social, and economic consequences for survivors.

Objectives - To validate a tool to assess abusive experiences during childhood and to determine the prevalence and factors associated with physical, sexual and emotional abusive experiences during childhood and help sought following abuse, among young adults aged 18-20 years schooling in the Gampaha District

Methods - A descriptive study was conducted among 1500 young adults selected by a multistage cluster sampling method from Gampaha District. The prevalence of experiences of physical, sexual and emotional abuse and help seeking behaviour was ascertained using ICAST-R (ISPCAN Child Abuse Screening Tool Retrospective Version) which was culturally adapted and validated among 200 students from Kalutara District. An analytical cross-sectional study was conducted among the study units identified as 'abused' and 'never-abused' to determine the factors associated with being physically, sexually and emotionally abused during childhood. The prevalence of each type of abusive experience was determined by percentages with 95% confidence intervals. The factors associated with abusive experiences were determined by calculating odds ratios (OR) along with 95% confidence intervals and p values at 0.05 level.

Results - The adapted instruments were confirmed as valid with the results of exploratory factor analysis using PCA showing that the factor structure of original ICAST-R has been reproduced fairly well and the reliability was also confirmed with Cohen's kappa being >0.76.

Prevalence of physical abusive experiences during childhood was 45.4% (95%CI 42.9^17.9) with 0.1% (n=2) being severe. Prevalence of experiences of sexual abuse during childhood was 9.1% (95% CI7.6-10.5; females 11.5% , males 6.4%). Severe abusive experiences were experienced by 0.2%. (n=3).Prevalence of emotional abusive experiences during childhood was 27.9% (95%CI25.7-30.2) with 2.4% (n=3) being severe. Among the respondents who had at least a single

experience of any type of abuse, 30-44% had sought for help through their friends or mothers.

Among the individual level factors that were associated with abusive experiences, being a male increased the odds of experiences of physical (OR=3.39, 95%CI=2.55- 4.53) and emotional (OR=1.97, 95%CI=1.49-2.60) abuse while the odds of experiences of sexual abuse (OR=0.55, 95%ci =0.33-0.89) was reduced among males. Apart from being a non-Buddhist which increased the odds of experiences of emotional (OR=1.55, 95%CI= 1.21-3.64) and sexual (OR=2.11, 95% CI= 0.9-2.11)) abuse none of the other socio-demographic characteristics showed significant associations with experiences of abuse. Of the educational characteristics assessed only spending less than 7 hours per day on academic work increased the odds of experiences of physical (OR=1.59, 95%CI =1.19-2.14)) and emotional (OR=1.62, 95%CI = 1.21-2.18) abuse. Presence of a long term illness in the study subject increased the odds of experiences of all three types of abuse that were investigated (physical abuse: OR=2.00; 95%CI 1.36-2.94, sexual abuse: OR=1.95; 95%CI = 1.09- 3.49), emotional abuse: OR=2.02, 95%CI = 1.37-2.98). Having one or more mental health problems detected using SDQ consistently increased the odds of experiences of physical, sexual and emotional abuse during childhood. Practices of smoking and use of alcohol increased the odds of physical (smoking: OR=2.82; 95%CI = 1.51-5.26, use of alcohol: OR=2.75; 95%CI = 1.784.24) and emotional (smoking; OR=2.06; 95%CI (1.05-4.02), use of alcohol; OR=2.19; 95%CI = 1.39-3.45) abusive experiences but no association was observed with sexual abuse experiences. Father's frequent use of alcohol consistently increased the odds of all three types of abusive experiences (physical abuse: OR=1.60; 95%CI = 1.04-2.49, sexual abuse: OR=2.42; 95%CI = 1.34-4.39, emotional abuse: OR=1.92; 95%CI = 1.26-2.99).

Among the relationship and family level factors assessed, issues related to attachment with father and mother consistently 'increased the odds of experiences of physical, sexual and emotional abuse during childhood, while the relationship of the attachment with peers and abusive experiences were not very consistent. Indicators of violence within the family showed significant associations with experiences all three types of abuse factors related to family structure and living standards did not. None of the variables that were used to reflect the community/

societal level factors showed significant associations with any types of abuse assessed.

Conclusions and recommendations - Prevalence of physical, sexual and emotional abusive experiences during childhood were high among young adults aged 18-20 years schooling in the Gampaha District. Findings are recommended to be used to advocate for targeted interventions. Low proportions had sought help for abusive experiences.

Modifiable factors such as poor attachment with parents, alcohol use of fathers, violence within the family should be addressed in a programme of primary prevention. Children with long term physical illnesses, mental health problems etc should be identified as children at risk of abuse and targeted interventions should be delivered to prevent abuse. Available services for child victims of abuse and the pathways that are open to seek help from formal service providers should be promoted.

Keywords: Physical abuse, Sexual abuse, Emotional abuse, Factors, Child abuse, Help seeking behavior

0100.Chandrasekara, K.P.S.D.S.
Burden of caregivers of spinal injury patients and the effectiveness of a psycho-educational intervention to reduce caregiver burden.
MD Community Medicine – 2016   **D 4073**

Introduction

Spinal cord injury is a serious disabling condition that causes permanent disability. It leaves the individuals incapable of caring for themselves and needing support of a caregiver in their physical, psychological and social functioning for the rest of their lives. The new responsibilities care provision and difficulty in meeting ongoing demands may influence the changes in their life style. Faced with these unexpected responsibilities, the untrained caregivers may compromise their social links and responsibilities, economic status and be burdened.

Presently the issues of these caregivers are hardly addressed. Lack of caregiver assessment and supportive interventions in Sri Lankan context is a barrier to identify and manage their well documented needs.

Objectives

Hence the objectives of the present study were to adapt, translate and validate a suitable instrument to assess the burden of caregiving for spinal injury patients, to describe the caregiver burden of spinal injury patients residing in Galle and Monaragala districts in Sri Lanka, to determine the factors associated with caregiver burden, to develop an intervention in reducing caregiver burden and to evaluate its effectiveness in reducing the caregiver burden.

Methodology

The study was conducted in two phases. During the stage 1 of the first phase, with a thorough literature survey and with expert opinion Modified Caregiver Strain Index (MCSI) was identified to measure the caregiver burden of spinal injury patients. Subsequently it was translated into Sinhala language and validated. The validation study was conducted on a sample of 74 caregivers permanently residing in the district of Kandy. The convergent and discriminant validity was assessed with already validated Perceived Stress Scale (PSS) and the WHO Quality of Life Bref (WHO QOL Bref) respectively, given simultaneously to same individuals and calculating the correlation between scores of each tools. Reliability was assessed with test retest reliability; inter rater reliability and calculating the internal consistency. The eligible caregivers in the study were identified through the hospital admission registries at neuro surgical units and rehabilitation hospitals catering to the study areas selected, which was complemented with the list of patients registered at the Social Service Officer at each Divisional Secretariat area. Three pre intern medical officers were recruited as data collectors after a thorough training.

In the second stage of the first phase of the study, a descriptive cross sectional study was conducted to describe the caregiver burden and to describe the factors associated with caregiver burden. This was conducted in two districts Galle and Monaragala on 400 eligible caregivers of spinal cord injury patients identified same way as in the validation study. The translated and validated MCSI and an interviewer administered questionnaire was used to identify caregiver and care recipient related socio demographic factors, health / social service related factors associated with caregiver burden (SDHQ). The level of burden was categorized as mild, moderate and high based on mean ± SD of the total score of MCSI. Association between variables was assessed using the chi square test and the odds

ratios and a multivariate analysis was conducted to identify the factors associated with high levels of caregiver burden after controlling for confounders.

For the development of the intervention, in depth interviews were conducted among members of the rehabilitation team and selected caregivers, to explore the unmet needs and difficulties of caregivers in caring for the spinal injury patient. A thorough literature survey was conducted to collect information on evidenced based interventions. The intervention was designed as a training programme to empower and develop necessary skills on physical caregiving and psychological support and to raise awareness on available health and social services including how to access them.

A quasi experimental study was adopted to evaluate the effectiveness of the above developed intervention which was delivered to randomly selected 50 caregivers in Galle district as a group intervention with a control group selected from Monaragala district who were exposed only to routine care. The effectiveness of the intervention was assessed by comparison of the reduction of mean burden scores between the intervention and control groups.

Results

The results revealed that the MCSI is a valid and reliable instrument to measure the burden of caregiving for spinal injury patients. The correlation between the MCSI total score and the scores of PSS and WHO QOL Brief demonstrated correlations of +0.455 and -0.36 respectively, demonstrating a satisfactory convergent and discriminant validity. The internal consistency reliability (Cronbach's Alpha = 0.81), the test retest reliability (Wilcoxon pair wise test, $Z=1.42$, $p=0.156$) and the inter rater reliability (Kendall Tau values were significant at 0.001) were found to be satisfactory indicating MCSI as a reliable tool. The mean scores of caregiver burden in the study sample was 12.92 (SD 4.945). The proportion having mild burden of caregiving was 15.5% (n=62), moderately burdened was 65% (n=260) while 19.5% (n= 78) was reported to be having high burden of caregiving. The factors significant at the multivariate analysis were Someone helping the caregiver in caregiving activities (OR 2.04: 95% Cl 1.19 - 3.5), treatment cost per month more than Rs 10000 (OR 1.48: 95% Cl 1.10-1.97), whether patient engaged in income generating activity (OR 2.44: 95% Cl 1.02- 5.83) remained significantly associated with the high caregiver burden in spinal injuries when controlled for confounders.

The intervention was found to be effective in reducing the caregiver burden significantly. In comparison to the control group, the caregiver burden scores of the intervention group (measured with MCSI) before and after the intervention showed a highly significant reduction of the caregiver burden (p0.00l).

Conclusions and recommendations

The MCSI Sinhala version is a valid and reliable instrument to assess the caregiver burden in spinal injury patients. The validated MCSI should be promoted as a screening tool in identifying caregivers with high levels of burden and the associated factors should be considered in identifying caregivers who are at risk of high caregiver burden may need special attention during the follow up and in service provision to reduce caregiver burden. The intervention package is also recommended to be incorporated into the existing rehabilitation process as it is proven to be effective in reducing caregiver burden.

Keywords - Caregiver Burden Spinal cord injury, Modified Caregiver Strain Index, Intervention

0101.Chandrasiri, P.A.A.
Improving psychiatric management and community follow up of persons who are admitted with deliberate self harm to selected health institutions in Galle district.
MD Community Medicine – 2017   D 4675

Deliberate Self-Harm (DSH) has emerged as an important health problem and a social issue worldwide. It is estimated that nearly 30000 people commit DSH each year in Sri Lanka, adding an immense burden to the health care system of the country. Since DSH is the most significant predictor of suicides, patients with DSH are considered as the best target group for prevention of completed suicides. It also provides a window of opportunity to uncover otherwise hidden psychiatric morbidities in community. Deficiencies were noted in psychiatric management and follow up in community in previous studies.

This study was conducted to describe the status of psychiatric management, community follow up and factors associated of persons who are admitted with DSH to selected health institutions in Galle district, and then to develop, implement and evaluate an intervention to improve the situation. An episode of intentional

selfharm that did not lead to death and may or may not have been motivated by a desire to die was defined as DSH.

The entire study consisted of five components. A descriptive study was conducted to describe current status of management as the component one. Interviewer administered questionnaire (IAQ) was used to obtain socio-demographic data and other relevant variables from patients while a data sheet was used to extract information from medical records. A descriptive study was done to assess knowledge, attitudes and practices (KAP study) of medical staff and nursing staff using a self-administered questionnaire as the component two. It was also supplemented by a series of in depth interviews (IDI's) with doctors and nurses. Next component, which was intended to describe the follow up of patients in the community, consisted of administering an IAQ and IDFs with patients after three months of discharge. Comparison was done based on receiving satisfactory management or not to determine factors associated with satisfactory management as the component four.

Based on findings of first four components an intervention was developed. Intervention consisted of a training program for medical staff and delivering an advocacy tool for consultants. Intervention was evaluated by applying quasi experimental design.

For the first component, 392 episodes of DSH were recruited. Majority of patients admitted following DSH were females (61.2 %) and mean age was 26.86 years (SD 12.59). Commonest precipitating factor was conflict with spouse (28.1%) and most of the subjects were presented with drug overdose (51.5%).

Highest rate of admissions was noted during Sundays (2.27 per day) and, when disaggregated with time, the highest rate was noted between 4pm to 8pm of the day (0.14 per hour). Out of total study population a large majority (88.3%) was admitted to medical wards, while the rest were admitted to the surgical wards.

Only in 3.3 % of patients, suicidal risk was assessed, only in 16.3% of patients psychosocial problems were inquired according to notes in BHT's. Past attempts of self-harm was inquired only from 2.3% and presence of psychiatric symptoms was only in 3.8% of patients. Referral practices of patients with DSH to psychiatry unit was also poor, since only 36.5% of patients admitted following DSH were seen by psychiatric unit before they were discharged. Contacting family members by

medical staff, involving them in management and empowering them on proper follow up was inadequate.

Component two, the KAP study involved 118 medical staff and 221 nursing staff. Both categories had shown a satisfactory level of knowledge, attitudes and practices. However certain deficient areas were identified during IDI's. Among doctors male gender (OR 3.560, 95% Cl 1.46 - 8.67) and those who had a work experience of 5 years and below (OR 6.184, 95% Cl 1.96 - 19.49) showed significantly higher level of knowledge while those who were below 30 years of age (OR 4.497, 95 % Cl 1.91 - 10.51) showed satisfactory level of practices. Among nurses only female gender (OR 5.574, 95 % Cl 1.25 - 24.77) was significantly associated with satisfactory level of practices.

A sub sample of 60 patients were chosen for the third component. But only 47 patients could be contacted for IDFs. It had shown that, there is no proper system to follow up patients with DSH in community. Though scheduling clinic visits was shown to be the only mean of follow up, only 21.7% attended clinics as requested. Though many patients reported perceived resolution of their problems, only few attributed it to the care they received in hospital. Though many patients gave a positive feedback about psychiatric referral, most of them did not receive psychological support for their specific problems.

Lack of awareness on services to seek help was noted. In certain cases the event seriously disrupted their social life like continuing education and work. According to the comparative study, those who were not occupied were more likely to miss the opportunity of entering satisfactory care pathway (p = 0.023). On the other hand those who were currently married were more likely to exit the satisfactory care pathway (p = 0.035).

Intervention had resulted in improving knowledge, attitudes and practices of hospital staff in managing patients with DSH and contributed in significant improvement in performing assessments and referral practices. But no positive changes were observed in compliance with clinic attendance, which means proportion of patients who continued in the satisfactory management pathway was not increased. It warranted the need of conducting more studies to explore other

factors influencing the continuation of management practices. Establishing a proper system to follow up the patients with DSH in community should be done.

Keywords - Deliberate Self-Harm, Psychiatric management and Follow up

0102.Coonghe, P.A.D.
Prevalence of mild cognitive impairment and its selected correlates among elders in Jaffna district.
MD Community Medicine – 2015   D 3953

Introduction & Justification

Population ageing is one of the leading demographic issues in most developing countries. This unprecedented growth of the elderly population is conspicuous in Sri Lanka's age structure. Mild Cognitive Impairment (MCI) is a new clinical entity used in identifying an intermediate stage between healthy ageing with slight cognitive changes and dementia. The prevalence of MCI is not accurately known, but community based studies estimate it to be around three times that of dementia. Risk factors, older age and lower level of education associated with cognitive decline and dementia has also been reported to be associated with MCI. The association with other risk factors is still not well established. Data on prevalence and its correlates of MCI is important in planning preventive and curative services for this condition.

General objective is to determine the prevalence of MCI and its selected correlates among elders in Jaffna district.

Methodology

The study included four components. First component was designed to adapt, translate and validate tools for screening objective cognitive decline. Second component designed, a tool for identifying selected correlates of MCI in a community setting. Third component was a community based prevalence study to determine the prevalence of MCI and its selected correlates. The prevalence of MCI among elder population aged 65 and above in Jaffna district was estimated based on the modified criteria of MCI of Winblad et al., (2004). Multistage cluster sampling was used to select samples. Fourth component was to describe the subjective experience of elders with a diagnosis of MCI, using qualitative techniques. Data analysis was done as univariant, bivariate and multi variate

analysis using SPSS21. Ethical approval for the study was obtained from Ethics Review Committee Jaffna.

Results For the validation study Normal Cognitive, MCI and Mild demented patients were recruited from Teaching Hospital Jaffna. Criterion validity of **the** MoCA-Tamil and MMSE-Tamil were assessed. Diagnosis by the Consultant Neurologist was the gold standard for the disease diagnosis. Validation of MoCA-Tamil gave the following mean scores: Normal Control (NC) 26.43 (SD ±1.84), MCI 21.16, (SD ±2.55) and mild Alzheimer's disease (AD) 14.05, (SD ±3.81). High correlation between MoCA-Tamil and MMSE-Tamil was observed (0.853). MoCA-Tamil discriminated NC, MCI and MD patients better than MMSE -Tamil. MoCA-Tamil also had high level of test-retest reliability, internal consistency and interrater reliability. And MoCA-Tamil also had high inter item correlation and high discriminant properties within its subcomponents. The area under the ROC curve was 0.87 (95% Cl 0.83-0.91) of MoCA-Tamil for detection of normal cognition from MCI patient. The area under the ROC curve was 0.95 (95% Cl 0.910.98) of MoCA-Tamil for detection of normal cognition from MD patient. The area under the ROC curve was 0.85 (95% Cl 0.80-0.89) of MMSE-Tamil for detection of normal cognition from MCI patient. The area under the ROC curve was 0.88 (95% Cl 0.84-0.91) of MoCA-Tamil for detection of normal cognition from MD patient. The cut off score of >24 in MoCA- Tamil discriminate NC from MCI participants with a sensitivity of 84.7% (95%CI 81.3-88.1) and specificity of 76.4% (95% Cl 72.3-80.5). The cut off score of >17 in MoCA- Tamil discriminate NC from MD participants with a sensitivity of 90.6% (95%CI 87.4-93.8) and specificity of 92.5% (95% Cl 89.1-95.9).

In this study, prevalence of MCI was calculated as 20.9% (95% Cl 18.4-23.4). Age above 75 years (adjusted OR (aOR) 1.75, 95% Cl 1.23-2.48), Education less than 10 years (aOR 4.64 95% Cl 2.70-7.98) and unstable income (aOR 2.19, 95% Cl 1.36-3.52) were found"to be significant socio-demographic and economical factors of MCI. Sex, religion, civil status, co habitants and lifetime occupational status were not identified to have statistically significant relationship with MCI. Betel-nut Chewing (aOR 1.60, 95% Cl 1.10-2.33), night time sleep <7hours (aOR 1.58, 95%CI 1.13-2.20), vegetarian dietary pattern (aOR 1.94, 95%CI 1.36-2.77) and not involving in any kind of socializing activities (aOR 1.52, 95%CI 1.08-2.15) were significant habitual risk factors for MCI. Habit of smoking and consuming alcohol,

physical/Yoga activity were not significant correlates of MCI. Having diabetes mellitus (aOR 0.56, 95%CI 0.35-0.91), was a protective correlate of MCI. Other chronic disease conditions were not identified as significant correlates of MCI. The qualitative study revealed that labeling an elderly person as having MCI led to different types of changes in the life of the person such as, changes in cognitive and general abilities, concern about the attributions and adapting some coping mechanisms.

Conclusions and recommendations

The prevalence of MCI among elderly in Jaffna district is relatively high and several modifiable lifestyle correlates have an influence on it. Community based preventive activities need to be implemented to control the condition.

Keywords: MoCA-Tamil, Mild Cognitive Impairment, Elders in Jaffna, MCI correlates

0103. Darshana, I.L.A.N.
Patterns, determinants and associated health and social problems of past illicit drug use among incarcerated males in prison, Galle.
MSc. Community Medicine – 2018   **D 4812**

Background: Illicit drug use is a growing problem in Sri Lanka. There is a direct relationship between the illicit drug use and crimes. A significant amount of prison admissions is illicit drug related in many countries including Sri Lanka.

Objective: To describe patterns, determinants and associated health and social problems of past illicit drug use among incarcerated males in Prison, Galle.

Methodology: A cross-sectional study was conducted among a random sample of 441 incarcerated males in Prison, Galle. An interviewer assisted, self-administered questionnaire was used to assess the past illicit drug use behavior and related health and social problems. Drugs dependence and problematic drug use were determined using ICD 10 symptom check list and Drug Abuse Screening Test. Judgmental validity of the questionnaires was assessed by expert opinion. Data were analyzed using SPSS software. Ethical approval was obtained from the Ethical Review Committee, Post Graduate Institute of Medicine, University of Colombo.

Results: Nearly half of the prison admissions were due to drug related offences (n=216, 48.9%). Among them, majority (n=163, 75.5%) were due to keeping illicit drugs for consumption. Past illicit drug use was reported by 57.6% (n=254) of

participants and 56.7% of them (n=144) were addicted to illicit drugs. A high level of problematic drug use was reported in 35.4% drug users. Cannabis and heroin were the commonest illicit drugs used. Younger age, being unmarried, engaging in manual works and use of alcohol/tobacco were significantly associated with past illicit drag use. Younger inmates and those with a history of poly drug use were more likely to be addicted to illicit drugs. Younger age, poly drug use and drug dependence were associated with problematic drug use among prison inmates. Health and social problems due to past drug use were common among which were associated with poly drug use, drug dependence and problematic drug use.

Conclusion: Past illicit drug use and related health and social problems are common among inmates in Prison, Galle, creating a considerable burden for the prison system of the country. Urgent attention of policy makers is needed to address the prevention of the illicit drug use in the country.

Keywords: illicit drug use, drug dependence, incarcerated males, health problems, social problems

0104.Dassanayaka, J.H.
Facility based incidence, risk factors and out of pocket cost related to mothers surviving severe acute maternal morbidity at the Teaching Hospitals in Colombo District.
MD Community Medicine – 2016   D 4061

Background

The study of severe acute maternal morbidity has been identified as a better alternative for the study of maternal mortality. More frequent occurrence of maternal morbidity can be expected to provide more in-depth information in the health system gaps related to maternal care services in a country. The use of uniform set of criteria for the categorization of Severe Acute Maternal Morbidity make it easy for the international comparison of achievements and the setbacks of the maternal care services and ways of improvement. Applicability of World Health Organization criteria for the categorization of SAMM and risk factor identification through international studies had provided valuable conclusions globally. The personal cost for the patient during such a critical event seems important in the process of advocacy and public awareness programs in view of prevention. The

interest of the current study is to explore the study of severe acute maternal morbidity as a mode of improvement the status of maternal health of the country.

Objective

The main objective was to assess the facility based incidence, risk factors and out of pocket expenditure related to mothers surviving severe acute maternal morbidity (SAMM) in the teaching hospitals in Colombo district.

Methodology

The study consists of three main components with three different methodologies. The first component was a descriptive study undertaken to study the Facility based incidence of severe acute maternal morbidity at the two main maternity teaching hospitals of the Colombo district. A sample of 6000 mothers was screened and 49 SAMM cases were identified. The study settings were the Castel Street hospital for women and the De Soyza Maternity Hospital which are the two main maternity facilities (Teaching) in the Colombo district. The second component was a nonmatched Case control study of 158 cases and 625 controls. The cases and controls were selected using consecutive sampling of all cases till the sample size was reached with a case to control ratio of 1:4 from the mothers presenting at the same hospitals as the previous component and additionally maternity units of Colombo south teaching hospital. The third component was a costing study, which included a sample of 100 mothers including 50 each from mothers who developed complications and mothers who had no complications. Data collection was carried out using an interviewer administered questionnaires for each component. Factors with statistically significant association with the development of SAMM were identified Using logistic regression analysis. These identified factors were then entered to the multiple logistic regression modal to identify a statistically significant risk factor model. Data analysis was done using the SPSS 21 version.

Results, Conclusions & Recommendations

The results revealed a facility based incidence of SAMM to be 8.15.1000 live births (0.082%, 95% Cl: 0.12% - 1.51%) with a maternal mortality ratio "of 8.2/100000 live births. The commonest cause of SAMM was Eclampsia and severe Preeclampsia. The logistic regression model with a significant R^2 value of 0.77 identified the risk factors for SAMM as history sub fertility (OR: 12.4,95% Cl: 3.246.3), antenatal history of PIH (OR: 5, 95% Cl: 2-14.1), late pregnancy bleeding (OR: 71.7), Heart disease in pregnancy(OR: 23.7, 95% Cl: 7.3-73.9), EM LSCS

(OR: 3.1, 95% Cl: 1.2-7.8), First registration at clinic before 12 weeks POA (OR: 0.49, 95% 0:0.15-0.81), second and third parity (OR: 0.17, 95% Cl: 0.97-0.41) compared to parity extremes were reported to be protective factors for SAMM. The median out of pocket cost for a SAMM mother and her family was estimated to be LKR42,000.00 (USD 280) while for the normal mothers this amount was LKR 5,300.00 (USD 35.33) In conclusion Severe Acute Maternal Morbidity was commoner than the maternal death and it can be recommended as a better learning tool. Issues related to pre pregnancy period as well as antenatal morbidities and management of pregnancy need to be considered to prevent SAMM while some issues are non-preventable.

The public health approach in ensuring maternal health can be considered a good option, while the different kinds of costs involved can be used as a guide for making awareness among the public. The recommendations are made to include the audit of severe acute maternal morbidity at institution and district level and to encourage further research involving the patient management cost and the preventable risk factors through public health approach.

Keywords: Severe Acute Maternal Morbidity, Facility based incidence, Risk Factors, Personal cost.

0105.De Alwis, W.R.S.
Prevalence of factors associated with psychoactive substance use and practices among late adolescents schooling in Wattala Educational Division.
MSc. Community Medicine - 2017   D 4488

Aims

The study strives to ascertain the prevalence of factors associated with psychoactive substance use and practices among late adolescents schooling in Wattala educational division, Gampaha district.

Methodology

Cross sectional study was conducted among 600; 15-19 year old adolescents from 24 schools selected probability proportionate to the size using multi stage stratified random cluster sampling. A structured, pre tested, pre coded, self-administered questionnaire was used to assess the prevalence and pattern of ever using alcohol, smoking, smokeless tobacco, heroin and marijuana; factors within the family context, environmental factors and knowledge on health effect of using.

Results

Twenty five percent (n=152) of the adolescents had used any form of substance at least once in life time. Prevalence of ever use of alcohol, smoking, smokeless tobacco and illicit drugs were 17.7 %, 8.3%, 3.2% and 3.2%. Age, ethnicity, enjoying in schooling, engage in extracurricular activities, presence of peer influence, Psychoactive substance use (PAS) by a family member, drug prevention messages via leaflet, television, community event on short message services (SMS) show a significant association with ever use of psychoactive substances (p<0.05). Whereas living with a single parent, parents' level of education, employment status of parents, perception on relationship with family members and knowledge on health effects of PAS use did not show significant association with ever use of psychoactive substances (p>0.05).

Conclusions

Many environmental factors and factors within family context may have significantly influenced the substance use or not use by adolescents although curiosity was the frequently stated reason, which form a basement for in-depth risk focus studies and preventive programs.

Keywords: Adolescents substance use, psychoactive substances, associated factors for substance abuse.

0106.De Silva, G.W.K.C.
Factors associated with drug compliance among coronary heart disease patients attending outpatient Cardiology clinic - National Hospital of Sri Lanka.
MSc. Community Medicine - 2017   D 4494

Introduction: Coronary heart diseases are responsible for a major proportion of morbidity, mortality and high economic cost in Sri Lanka. Among treatment options, drug treatment is the commonest method to preserve optimal heart function and to prevent mortality. Hence, compliance to cardiovascular drugs is imminently important for heart disease patients.

Objectives: To describe factors associated with drug compliance among Coronary heart Disease Patients attending Outpatient Cardiology clinic - National Hospital of Sri Lanka.

Methods: A descriptive cross sectional study was conducted among coronary heart disease patients attending outpatient cardiology clinic of National Hospital of Sri Lanka during August / September2017. Calculated sample size was 403. Study participants were selected by systematic random Sampling technique. 393 (97.5%) responded to interviewer administered questionnaire. Drug compliance was measured by adapting MMAS-8 questionnaire. Association between drug compliance with patient related, disease and treatment related and healthcare system related factors were identified by applying chi square test. 0.05 was considered as significance level.

Results: Only 43.0% (n=168) of the participants had good compliance to their drug treatment. Patient related factors were not significantly associated with drug compliance*(p>.05)*. Disease related factors significantly associated with drug compliance were, duration of the disease (p<.001) and symptom severity of the patients (p=.013). Of the treatment related factors, drug compliance was significantly associated with, number of drug types prescribed per day *(p=.026)*, daily drug dosing frequency (p=.030), frequent change of drugs (p=.035) and presence of side effects (p=.006).Healthcare system related factors significantly associated with drug compliance were, time spent by doctor *(p=.033)*, providing explanations about the treatment *(p=.022)*, the time taken to complete the clinic visit (p=.041) and cost per clinic visit *(p=.005)*.

Conclusions and Recommendations:

The drug compliance was found to be low among Coronary Heart disease patients. Poor compliance was associated with several disease ,treatment and healthcare system related factors. Developing multidisciplinary intervention programs to address the factors identified is necessary to improve compliance.

Keywords: coronary heart disease, drug compliance, factors associated, MMAS-8

0107.De Silva, P.G.K.
Prevalence of emotional and behavioral problems among school going late adolescents in Mawanella MOH area and its associated factors.
MSc. Community Medicine – 2015   **D 4221**

Introduction

Adolescents are confronted with various challenges and stressors on a daily basis within their domestic, community and school environments. Through these they learn a wide range of important life skills and experiences to cope up with these stressors or challenges to make the transition from childhood to adulthood. Defects in these coping up strategies could lead to emotional and behavioral problems among adolescents which would be carried over into the adult life leading to morbidity, social or cultural problems and/or psychological problems as adults. It is evident that these problems are so prevalent that up to one in five adolescents in Sri Lanka is suffering from this health problem. Since most of these problems during adolescence are preventable and treatable, it has become a major healthcare concern locally as well as internationally.

Objectives

To assess the prevalence of emotional and behavioral health problems among school going late adolescents in Mawanella MOH area and its associated factors and its impact on academic school performance and their attendance.

Methods

This study was conducted as a cross sectional study in Mawanella MOH area among a total of 311 school going late adolescents in eight government schools using a two staged cluster sampling method proportionate to the size of the student population. A self-administered questionnaire collected the information on sociodemographic factors, family and school characteristics. A self reported Sinhala version of Strengths and Difficulties Questionnaire was used to detect the students with emotional and behavioral problems.

Results

In this study the response rate was 100%. The prevalence of emotional and behavioral problems in Mawanella area was 24.1%. Out of them the highest prevalence was the problems with peer relationships (33.6%) followed by hyperactivity (25.7%) which was considered an externalized symptom. There were statistically significant differences found between males and females.

Having emotional and behavioral problems was significantly associated with family characteristics such as insufficient family income status perceived by the student and unhappy perception about the domestic condition. Furthermore, not involving in extra-curricular activities at schools was significantly associated with the presence of emotional and behavioral problems.

Conclusion

A significant proportion of late adolescents suffer from emotional and behavioral problems which have their root causes and associated factors along with them. Most of these are preventable and treatable. Emotional and behavioral problems during late adolescence should be considered as a major preventive health concern, since it will most likely to have positive impacts on academic performances a minimization of psychosocial problems in adult life.

Keywords: Adolescents, emotional and behavioral problems, associated factors

0108.De Silva, P.H.I.M.
Knowledge on health effects and legislation on tobacco and alcohol and perception on using media productions for health promotion among producers and editors of government media stations.
MSc. Community Medicine – 2018   D 4820

Introduction -Sri Lanka has taken many steps proactively to curtail the use of alcohol and tobacco including the increase in taxes, media promotions and enacting the Alcohol and Tobacco Act. Mass media is considered as a leading method of conveying information to the society in either way of promoting and demoting of alcohol and tobacco use. However, the Alcohol and Tobacco Act paved the way for adopting many preventive strategies and the media publicity being controlled is one strategy adopted. Even though Sri Lankan media stations have no separate medical journalists, all the producers and editors use health information in their productions. Knowing the level of knowledge on health effects and legislation on tobacco and alcohol and perception on using media productions for health promotion among them is valuable for further actions on demoting alcohol and tobacco use in Sri Lanka.

Objective. -The objective of the study was to determine knowledge on health effects and legislations on tobacco and alcohol, associated factors for the level of

knowledge and perception on using media productions for health promotion related to alcohol and tobacco among producers and editors of government media stations.

Methodology -A cross sectional survey was conducted in government owned media stations in Sri Lanka including Sri Lanka Rupavahini Cooperation, Sri Lanka Broadcasting Cooperation, Independence Television Network and Associated Newspapers of Ceylon Limited. As per record there are 273 editors and producers of the government media stations. Hence the total population included. A self-administered questionnaire was used to collect data. Data analysis was carried out using the appropriate statistical methods in the Statistical Package for Social Sciences (SPSS) version 21.0.

Results -The response rate was 100.0%. Age of the participant was ranged from 21 years to 64 years. Majority of the sample consisted of males (n=173, 63.4%), Sinhalese (n=248, 90.8%) and Buddhists (n=252, 92.3%). Almost half of the population 48.7% (n=133) were degree holders. Majority of the study participants were from television sector (n=188, 68.9%). Out of respondents, 28.6% (n= 78) had been diagnosed with at least one non communicable disease. Almost two thirds 65.9% (n=180) of participants had a family member with a NCD. It was noted that 42.5% (n=116) were current consumers of alcohol at the time of study. Further 79.1% (n =216) of participants have never smoked. The overall mean of level of knowledge was 20.56 (95% Cl = 16.31 to 24.81) from score of 40.

In this study age of the participants (p=0.027) and Personal alcohol consumption (p=0.045) were significantly associated with the level of knowledge. However monthly income, ethnicity, workplace, personal and family NCD history and personal smoking of the participants were not significantly associated with level of knowledge.

Perception -Favorable perception was found on topics like usage of mass media as a health promotional material, health promotion as a responsibility of media professional and media stations, using non health programmes for health promotion and changing attitude of the public. However, stems on personal knowledge, target population of media productions and influence of sponsors for health promotion gave relatively unfavorable perception.

Conclusion and recommendation - Among the participants nearly 50% had poor total knowledge. There is a need to strengthen existing educational programmes,

introduce and implement new training programmes and health information system considering unique characteristics in this community.

Keywords: Alcohol, Tobacco and Media

0109.De Silva, P.S.
Exposure to sexual explicit material, sexual behavior and associated factors among undergraduates of three faculties of University of Colombo.
MSc. Community Medicine – 2018   **D 4691**

Background

Youth are naturally sexually curious with hormonal changes. They tends to seek sexual information and pleasure through sexual explicit material (SEM). With advances in technology and wide spread of accessible, affordable, unlimited SEM, need of assessing the SEM exposure among youth exists.

Objective

Study was aimed to assess the exposure to sexual explicit material (SEM), sexual behaviour and associated factors among three faculties of University of Colombo.

Methodology

The study was an institutional based cross sectional analytical survey among 425 undergraduates of three selected faculties of University of Colombo. Study participants were selected by probability proportionate to the size using, multi stage random sampling. A structured, pre tested, pre coded self-administered questionnaire was used to assess exposure to sexual explicit material, sexual behaviour and associated factors with SEM consumption as family context, environmental factors and risky behaviours. Data analysed using SPSS-21 and presented with frequency distributions and cross tabulations were made according to specific objectives of study. The chi square test and Odd Ratio were used to assess the associations of categorical variables.

Results

SEM exposure was 77.9% (n=317) among undergraduates with more males (93.2%, n=177) were exposed than females (68.9%, n= 140). SEM was obtained mostly through friends (56.8%, n=150), and watched mostly via internet (76.1%, n=216). Undergraduates watched SEM for curiosity (53.1%, n=155) and sexual education (53.1%, n=155). Prevalence of pre-marital sex was 11.8% (n=42). From it 5.9% (n=3) had sex with commercial sex workers, 32.6% (n=14) had multiple

sexual partners and never used condoms by 58.8% (n=30). Significant association was seen between SEM exposures with ever had sex status, perceiving SEM as beneficial and fantasizing images seen with (P<0.001). SEM exposure was associated with alcohol consumption (P<0.001) and smoking (P=0.003). Presence of internet at home (P=0.01) and internet being sexual education source (P0.00l) was significantly associated with SEM consumption. For all these significant associated factors with SEM, Odd Ratios>l with 95% Confident Interval of it not going through one.

Conclusion

Study revealed a high prevalence of students exposed SEM. Study recommends strengthening sexual education, counselling and preventing than learning sexuality from unhealthy sources.

Keywords: Sexually explicit materials, sexual behavior, pornography

0110.De Silva, R.K.K.
Tobacco use, its associated factors and the knowledge of harmful effects among advanced level students in the Ampara education zone.
MSc. Community Medicine - 2015   **D 3700**

Background: Tobacco use is a major public health concern in both developed and developing countries. However, its detrimental impact is considered to be more profound on developing countries.

Objective: Against this backdrop, the aim of this study was to determine the prevalence tobacco use, its associated factors, knowledge of harmful effects and attitudes to tobacco among adolescents.

Methods: A cross-sectional study was conducted among 390 participants aged between 16 19 years from nine schools in the Ampara Education Zone during 2014. Systematic rand' sampling method was used to select the sample. Sociodemographic data, respondents' tobacco use patterns, knowledge and attitudes with respect to tobacco use and fan members' tobacco habits were collected by means of a self-administered, pre-tested questionnaire.

Results: The response rate was 99.5%. The mean age of the study sample was 16.9 ±0.8 ye while 62% of the sample consisted of females. The prevalence of smoking

was 8%. Arm males, the prevalence was 19.1% while 1.2% of female students were current smokers. Ne; 16% had used smokeless tobacco and the prevalence was 32.2% and 6.2% among male *i* female students respectively.

Both knowledge about harmful effects of tobacco and attitudes to tobacco use were poor with about 50% in the sample having low scores.

Male sex (p<0.0001), older age (p=0.02), low education level of mother (p=0.02), low education of father (p<0.0001), having family members other than parents who use smokeless tobacco home (p=0.001) were significantly associated with smoking.

Male sex (p<0.0001), older age (p=0.02),), low education of mother (p=0.004), low education of father (p=0.002), having family members other than parents who smoke at home (p<0.0001), having family members other than parents who use smokeless at tobacco home (p=0.0002), low knowledge about harmful effects of tobacco(p=0.04) and low attitude scores (p=0.02) were significantly associated with smokeless tobacco use.

Conclusions and recommendations: As emerged from the findings, the prevalence of tobacco use among this group of rural adolescent school children, especially among the males was relatively high, compared to other local and regional studies. The peer influence and sociodemographic variables such as age, gender and parents' education level were associated with tobacco habits in this group, indicating, social disparities. Therefore, special tobacco cessation programmes would be required for this group of high risk adolescents.

Keywords: Tobacco, smoking, smokeless, adolescents

0111.De Silva, S.H.P.
Functional disability, health related quality of life and healthcare cost profile of young elderly in urban and rural areas of the Kalutara District. MD Community Medicine - 2010   D 4067

The present study was designed with the objective of developing and validating an instrument to measure the Quality of Life (QoL) among the young elderly (60   - 75 years) population, and to describe the functional disabilities, quality of life and health care cost profile information on the young elderly population of urban and rural areas of the Kalutara district. The cost of health care for the young elderly in selected government medical institutions within the district was identified. The

study consisted of three components; a development and validation study, community-based survey and a hospital based costing study.

Development and validation of the Elderly Quality of Life Instrument (EQLI). A three-tiered development process including item selection, item reduction and items presentation was undertaken for the development of the instrument. Review of twenty-five Quality of Life (QoL) and General Health Status instruments, Focus Group Discussions with four population groups and Key informant interviews was conducted for the items selection process. A psychometric evaluation using the endorsement rates and impact scores followed by a two stage Factor Analysis resulted in the final 28 items on which the questions were prepared producing the EQLI.

A validation study was conducted in a sample of 200 young elderly participants from the Kotte Divisional Secretary area. Content, construct and criterion validity were assessed in the validation study. Confirmatory Factor Analysis (CFA) was performed to assess the factor structure within the domains and within the EQLI. Since there was no gold standard for measuring QoL, three instruments: World Health Organization Quality of Life - (BREF) instrument, Abbreviated Mental Test Score (AMTS) and the Activities of Daily Living / Instrumental Activities of Daily Living (ADL/LADL) scale, was used for assessing the criterion validity and a correlation in excess of 0.4 was considered as satisfactory. Internal consistency was assessed using item - item and item - domain correlations while test retest reliability was also assessed.

A high internal consistency, with Chronbach's alpha ranging from 0.778 to 0.923 was observed and a high test - retest values (minimum 0.88) indicated a good reliability for the EQLI. The CFA established the construct validity of the six domain model and correlations ranging from 0.525 to 0.756 were observed for the WHO QoL - BREF domains, 0.605 to 0.724 for the AMTS and 0.419 to 0.497 for the ADL / 1ADL scales. Community based descriptive study

A total of 1900 study subjects were selected using a multistage, stratified, cluster sampling technique for the community based descriptive cross sectional study. 127 clusters with 15 subjects in each cluster was selected using probability proportionate to size of the population of the GN divisions. The first person was selected randomly, and the subsequent persons were recruited by going to the right hand direction from the first house.

Information on socio demographic characteristics of the study participants was obtained by application of a questionnaire and functional disability was assessed by the ADL / LADL scales. The Qol was assessed by application of the developed and validated EQLI. A pretested costing questionnaire was used to extract the information pertaining to the health care costing.

The study found that 84.5% of the sample was functionally independent for ADL, whereas a lesser prevalence was found for the Instrumental Activities of Daily Living. The percentage of the young elderly population with visual impairments was 54.5%, while the percentage of persons having hearing impairments was 30.5%. The functional independence for ADL was significantly higher for the males ($p < 0.01$) and IADL was significantly higher among the urban population ($p < 0.05$) and the age group of 60 - 64 ($p < 0.001$).

The prevalence of Quality of Life among the young elderly population of the district of Kalutara ranged from a mean of 56.03% (95% Cl 55.5 - 56.56) for the physical domain to a mean of 65.39% (95% Cl 64.7 - 66.1) for the functional domain. The multiple regression analysis conducted in order to explain the determinants for the EQLI revealed, age category 60 -64, male sex, residing in an urban sector, being currently married, educational attainment in excess of grade 5, having a stable income, normal vision, normal hearing, functional independence in ADL and IADL, morbidity pattern, and the physical mobility scales to have statistically significant regression coefficients ($p < 0.001$).

Approximately 65% of the young elderly participants were found to have at least one chronic medical condition, while the treatment seeking pattern during the month preceding the survey was that nearly 50% of the population had sought health care, out of which around 50% was for acute conditions. The government medical institutions were used more by persons having chronic conditions, while the acute conditions were treated by general practitioners.

The total out of pocket expenditure varied from Rs. 200.00 for seeking medical care at OPD or clinic services of the state medical institutions to Rs. 3850.00 incurred while receiving in-ward care. The median cost for obtaining treatment from a general practitioner was at Rs. 700.00 while that of a Specialist was at Rs. 3300.00.

Hospital based costing study

Component three of the study was for the identification of health system costs at different healthcare institutions, and at different treatment centres. The scenario

building methodology was used to calculate the per person treatment cost at the Out Patient Department (OPD), clinic, wards and dental clinics for selected medical institutions from Central Dispensary (CD) to a District General Hospital (DGH). The individual cost components for the provision of services varied from institution to institution. The highest cost component excluding individual treatment costs were for the staff salaries. The treatment costs varied from station to station, and were highest at DGH level where specialized medical and surgical care was available. The cost of providing OPD services range from Rs. 17.24 at the CD to Rs. 67.65 at the DGH. The cost of providing clinic services range from Rs. 124.06 at the Rural Hospital (RH) to Rs. 201.70 at the DGH. The cost of providing in ward care services range from Rs. 470.90 at the District Hospital to Rs. 806.81 at the DGH. The cost of providing dental care services range from Rs. 230.03 at RH to Rs. 356.13 at the DGH.

0112.Denuwara, H.M.B.H.
Level of health literacy and the factors associated with it among school teachers in the Colombo education zone.
MSc. Community Medicine -2016   D 3984

Introduction

Health literacy refers to people's competencies to access, understand, judge, and apply health information in healthcare, disease prevention and health promotion.
Objective : To describe the level of health literacy and the factors associated with it among school teachers in the Colombo Education Zone.

Methods

A cross-sectional study among 502 teachers representing Colombo Education Zone measured health literacy using the self-administered version of HLS-EU translated to Sinhalese and adapted to local setting. Information on factors was through a selfadministered questionnaire. The HLS- EU requires the respondent to assess own competencies to access, understand, judge and apply health information in the domains of disease prevention, healthcare and health promotion. Based on a score study participants were divided into four levels of health literacy as 'inadequate', 'problematic', 'sufficient' and 'excellent' as well as two levels as 'limited' and 'adequate'. Association of the factors with 'limited' health literacy was determined

by cross tabulating and assessing their associations using chi square test. A p value of 0.05 determined the significance.

Results

The response rate was 96.5%. Mean age was 43years (SD=+9.75), 81.7% (n= 410) were females and 66.1% (n=332) were graduates. Only 3.6% (n=18) were teaching health while 18.3% (n=92) were teaching science.

'Limited' health literacy was found in 32.5% (95%CI 28.4%-36.6%) while 67.5% (95%CI 63.4%71.6%), 61.2% (95% Cl 56.9% - 65.5%) and 6.4% (95%CI 4.3%8.5%) showed 'adequate', 'sufficient' and 'excellent' levels, respectively. 'Problematic' and 'inadequate' health literacy were 31,5% (95%CI 35.6%-27.4%) and 1%(95%CI 0.1%-1.9%).

The modifiable factors associated with 'limited' health literacy were not being a member of health club/welfare group (p=0.002), having not done any special course on health (p=0.009), not getting an opportunity to participate/being exposed to a health awareness program (p=0.007), visit to a medical practitioner/ preventive health staff (p=0.049), not accessing print media to obtain general information (p=0.007), not accessing print media to obtain health information (p=0.009) and poor health knowledge (p=0.036). Non-modifiable factors were age being <45 years (p=0.025) and service as a teacher being < 10 years (p=0.012).

Conclusions: The high proportions of 'limited' health literacy among school teachers in the Colombo Education Zone needs the attention of education and health authorities. The interventions should consider the study findings on modifiable factors.

Keywords : Health Literacy ; Factors; Teachers

0113.Dharmakeerthi, K.P.W.N.U.
Epilepsy profile and association of selected factors in epilepsy control, knowledge of caregivers in basic epilepsy management in children, attending the epilepsy clinic at Lady Ridgeway Hospital for Children, Colombo.
MSc. Community Medicine – 2017   D 4482

Introduction: Approxim ately 50 million people currently live with epilepsy worldwide. Childhood epilepsy is reported to affect 6-10 children per 1000 children in developing countries. Promotion of medication adherence is important particularly in a disease like epilepsy which needs long term medication. Adequate

knowledge of the caregiver on basic management of an acute seizure at home is essential.

Objective: To describe the epilepsy profile, adherence to medication, assess the knowledge of caregivers in basic epilepsy management and determine the association of selected factors with in epilepsy control and adherence to medication in children attending the epilepsy clinic at Lady Ridgeway Hospital for Children.

Methods: A cross sectional study was conducted among 349 children with epilepsy accompanied by the main caregiver. Systematic sampling method was applied. An interviewer administered questionnaire was used to collect data. Data analysis was done using statistical package for social sciences (SPSS version 21). Chi square test was applied to assess the associations.

Results: The mean age of the children attending the epilepsy clinic at the Lady Ridgway Hospital for Children, was 2.7 years. Of the children who were eligible for schooling, 95% were attending schools regularly. A majority (96.8%) of the main caregivers were the mothers. The commonest type of epilepsy among the children attending the clinic was generalized epilepsy (30.8%). It was found that 52.3% children of the study sample were on mono therapy while 47.7% were on more than one drug. Good adherence to antiepileptic medication was seen in 83.7% of the children. The employment status of the caregiver ($p<0.05$), the type of epilepsy ($p<0.05$), type of therapy ($p=0.01$) and the fit free duration ($p=0.03$) had statistically significant association with adherence medication in children with epilepsy. In the study sample 82.6% of caregivers had above average knowledge on emergency management at home in an event of an acute seizure.

Conclusion and Recommendations: Regular assessment of adherence to antiepileptic medication and updating care givers' knowledge on the disease is important to improve the overall care in children with epilepsy.

 Keywords: Epilepsy profile, Epilepsy control, Care givers, Children, Epilepsy clinic

0114.Dilshani, T.V.I.
Risk factors for poor control of bronchial asthma among five to ten years old children attending to Lady Ridgeway Hospital for children of Sri Lanka.
MSc. Community Medicine - -2018   **D 4818**

Introduction

Childhood bronchial asthma is a global health problem. It is associated with suboptimal control for which knowing the risk factors would be worthwhile.

Objectives

To determine the risk factors for poor control of bronchial asthma among five to ten years children attending to Lady Ridgeway Hospital for Children of Sri Lanka.

Methods

Case control study was carried out among75 cases, who had poor control of bronchial asthma and 150 controls, who had good control of bronchial asthma. Cases and controls were divided using validated asthma therapy assessment questionnaire. Systematic sampling was used. For data collection interviewer administered questionnaire was used. For data analysis SPSS 21st version was used and to evaluate risk and statistical significance odds ratio and chi square were used.

Results

This study identified that being a female child (OR=2.66; 95% 0=1.5-4.71), age between 5 to 7 years (OR=2.34; 95% C 1=1.31-4.18), exposed to passive smoking (OR =3.11; 95% CI=1.39-6.99), exposed to pets (OR=2.65; 95% 0=1.12-6.24), sleep disturbance associated with wheezing (OR =16.9; 95% 0=6.62-43.16), inadequate cleaning of dust in furniture (OR = 4.82 95% 0=2.51-9.24), having bronchial asthma for less than one year duration (OR = 1.96; 95% 0=1.12-3.45) and incorrect inhaler technique (OR = 5.4; 95% 0=1.9- 14.8) were significant risk factors for the development of poor control in bronchial asthma. Whereas inadequate changing pillow cases (OR = 0.53; 95% 0=0.3-0.94) and bedsheets (OR = 0.9; 95% 0=0.22-0.71) were found to be significant protective factors.

Conclusion and recommendation- It is recommended that educate the parents/caregivers regarding the inhaler technique in each clinic visit. Future studies are needed to be focused on community setting to assess the risk factors for the level of control of bronchial asthma.

Keywords: Childhood bronchial asthma, control, risk factors

0115.Dissanayake, G.S.
Knowledge, attitudes and intended practices related to birth spacing and selected associated factors among mothers in the Medical officer of health area, Kaduwela.
MSc. Community Medicine – 2015   **D 3930**

Background: Short and long birth intervals have being associated with adverse health effects on the infants and older siblings while increasing maternal morbidity and mortality.

Objective: To determine the knowledge, attitudes and intended practices related to birth spacing and associated factors, among mothers attending to Child Welfare Clinics (CWC) at Medical Officer of Health area Kaduwela.

Methods: A cross sectional study was carried out to achieve the above objective, among mothers attending Child Welfare Clinics. The selected sample was mothers (n=248) of children aged two months attending Child Welfare Clinics for vaccination. Two hundred and twenty six mothers met the inclusion criteria and were interviewed by the principal \investigator using an interviewer administered questionnaire. Data gathered were analyzed using Statistical Package for Social Science (SPSS) software version 20. The results were expressed as frequencies, percentages and "p" values.

Results: Knowledge on current recommendations of birth spacing (gap between two live births) within the study sample was low (22.1%), but a vast majority (96.1%) mentioned advantages of birth spacing. Recommended duration of optimal birth spacing (i.e. three to five years) was not correctly indicated by majority of participants (only 21.3% were correct). Public Health Midwife (PHM) was mentioned as the major source (79.1%) of information regarding family planning methods and birth spacing by the sample. Majority of mothers (53.5%) were of the view that modern family planning methods result in fewer children. Ninety one percent (91%) of couples had taken decisions on duration and family planning method used for birth spacing after discussing among them. In the study sample 42.7% had more than five year birth gap, 31.7% had short birth spacing and 25.4% had optimum birth spacing. The highest proportion (32.7%) of mothers had practiced natural methods for family planning and the intention to practice the same was high (17.6%).For the same 17.6% had not still not decided the intended method

to delay the pregnancy. Significant associations for birth spacing were found with employment status of mother, number of living children and parity.

Conclusions and recommendations: The proportion of mothers with short and long birth interval was 31.7% and 42.7% respectively. The study recommends improving the delivery of existing health messages on time, intensification of targeted awareness programs on contraceptive methods used for spacing the births and importance of maintaining optimum birth interval.

Keywords: Birth spacing, Kaduwela, knowledge, practices

0116.Ekanayake, E.M.R.S.
Prevalence, associated factors and coping strategies of psychological distress among trainee teachers in National Colleges of Education in Western Province.
MSc. Community Medicine - 2017   **D 4479**

Psychological wellbeing is important for good health of an individual. Pragmatic evidence suggests that trainee teachers face a lot of challenges when achieving their academic goals which adversely affect their psychological wellbeing. A significant attention has been given throughout the world in recent years to understand the element of psychological distress and it's on the personal wellbeing.

This study is an attempt to understand the psychological distress among trainee teachers since this issue has not been addressed before in this population in Sri Lanka. The objectives of this study was to describe the socio-demographic characteristics, prevalence, associated factors and coping strategies of psychological distress among trainee teachers in western province.

A cross-sectional descriptive study was carried among trainee teachers in NCOEs Siyane, Hapitigama, Pasdunrata and Dharga town NCOE for ladies. The calculated sample size was 404 and the sample of trainees were selected according to probability proportionate to size stratified random sampling method. Trainee teachers belonged to first and third study years. A self-administered questionnaire was used to collect information regarding sociodemographic, work and non-work related characteristics of trainee teachers.

The assessment of psychological distress was done using GHQ-30. "Brief COPE Inventory" was the assessment tool of coping strategies. Data was analyzed using SPSS package, with bivariate statistical analysis.

The mean age of trainee teachers were 23±1.07 years. Majority were Sinhalese (76.8%; n=297) and 18.6% (n=72) were Muslims. 38.2% (n=148) were the eldest in the family. This study found that 37.2% (n=144) of trainee teachers were having psychological distress with a confidence interval of 32.4% to 42.0%. Sociodemographic factors and other factors like age, ethnicity, position in the family, parents' employment status of parents were not associated with psychological distress (p>0.05). Work related factors like dissatisfaction at work, work overload, not being rewarded for good work, lack of teaching competence, lack of opportunities to use abilities, fear of failure in examinations and having financial and other problems were associated with psychological distress (p<0.05).Emotion focused (52.8%; n=204) and problem focused strategies (52.5%; n=203) were practiced by trainee teachers more frequently in stressful encounters.

0117.Fernando, B.M.S.
Prevalence, factors associated with burnout and its association to self reported patient care among postgraduate doctors of selected medical specialties working in Colombo district.
MSc. Community Medicine – 2016   **D 3997**

Introduction/Background

Postgraduate doctors who simultaneously engage in patient management, knowledge gathering, skill development and exam preparation, are prone to burnout, resulting from chronic stress at work. Situation of burnout in Sri Lankan postgraduate doctors is unknown.

Objective

To determine prevalence and associated factors of burnout and its association with self- reported patient care among postgraduate doctors of selected medical specialties working in Colombo district.

Methods

A descriptive cross-sectional study conducted, among all 278 postgraduate doctors undergoing pre-MD training in selected eight clinical specialties in training centers in Colombo during August 2016. A self-administered questionnaire, including Copenhagen Burnout Inventory, associated factors and six self-reported patient care statements was used. Cut-off of 50 defined each burnout type. Odds ratios and

chi-square test was used to analyze associations of burnout, with associated factors and self-reported patient care.

Results

Response rate was 88.1%. Prevalence of personal, work-related and client-related burnout were 41.6% (95%CI,35.5-47.8%), 30.6% (95%CI,24.8-36.4%) and 8.9% (95%CI,5.4-12.5%) respectively.

Male sex (OR=0.4,p=0.002), chronic disease (OR=2.7,p=0.006), frequent unhealthy habits (OR=2.1,p=0.007) and frequent healthy habits (OR=0.2,p<0.001) were personal factors significantly associated with personal burnout. Male sex (OR=0.4,p=0.004), frequent unhealthy habits (OR=2.0,p=0.019), frequent healthy habits (OR=0.5,p=0.006) and stressful life-event (OR=1.8,p=0.037) were personal factors significantly associated with work-related burnout. Frequent healthy habits (OR=0.3,p=0.014) was significantly associated with client-related burnout.

Parent/s being doctors (OR=2.1,p=0.046), satisfied with child security (OR=0.2,p<0.001) and satisfied with family time (OR=0.3,p=0.001) were familyrelated factors significantly associated with personal burnout. Satisfied with child security (OR=0.2,p<0.001) and satisfaction with family-time (OR=0.2,p<0.001) were significantly associated with work-related burnout.

Home-work demands (OR=2.7,p=0.002), emotional demands (OR=3.6,p<0.00 resources (OR=0.6,p=0.031) were occupational factors significantly associated with personal burnout. Workload (OR=2.2,p=0.005), home-work demands (OR=4.3,p<0.001) and demands (OR=4.1,p<0.001) were significantly associated with work-related burnout demands (OR=5.6,p<0.001) and job resources (OR=0.4,p=0.044) were significantly with client-related burnout.

Satisfaction with relevance of training to clinical practice (OR=0.56,p=0.039), satisfaction with educational resources in training center (OR=0.58,p=0.036), satisfaction on skill de opportunities (OR=0.5,p=0.009), satisfaction on clinical judgment development op, (OR=0.5,p=0.029), satisfaction with research time (OR=0.4,p=0.005), overall training (OR=0.4,p=0.006), time management (OR=0.4,p=0.001) and studying using deep a (OR=0.3,p<0.001) were trainingrelated factors significantly associated with persona Satisfaction with educational resources in training center (OR=0.57,p=0.046),overall satisfaction (OR=0.4,p=0.004) and studying using deep approaches (OR=0.4,p=0.C significantly associated with work-related burnout. Satisfaction with relevance of

clinical practice (OR=0.41,p=0.044), overall training satisfaction (OR=0.2,p<0.) supervisor-support (OR=0.3,p=0.018) were significantly associated with client related burnout.

Client-related burnout was significantly associated with self-reported patient care patient communication (OR=2.7,p=0.026), poor clinical practice (OR=3.3,p=0.02 response to patient's needs (OR=5.2,p<0.001) and poor communication during handing over (OR=3.6,p=0.010).

Conclusions and recommendations

Postgraduate doctors of selected medical specialties in Colombo district have high pre of personal and work-related burnout and a low prevalence of client-related burnout, personal, family-related, occupation-related and training-related factors are sign associated with personal, work-related and client-related burnout. Client related burnout significantly associated with frequent self-reported suboptimal patient care practices. Incorporating a training module on personal development with emphasis on burnout prevention, and establishing a mentoring system to ensure student support are recommended.

Keywords: Burnout, Postgraduate doctors, self reported patient care

0118. Fernando, D.E.G.
Selected non-communicable disease screening practices and factors associated with attendance to government screening clinics among 35 to 65 year adults in Dimbulagala Medical Officer of health area.
MSc. Community Medicine - 2016   D 4005

Introduction: Non communicable diseases (NCD) accounts for almost 75% of all deaths worldwide. The majority of these deaths occur in low and middle income countries. In many instances, curative and preventive health systems are not equipped to the challenges of NCDs. Even though the Sri Lankan health system offers selected NCD screening services free of charge, a substantial proportion of the targeted population does not attend NCD screening.

Objective: General objective of this study is to determine the selected NCD screening knowledge and practices of adults (35 to 65 years of age) and to determine factors associated with attendance to free government screening clinics among them in the Dimbulagala Medical Officer of Health (MOH) area.

Methods: A descriptive cross sectional study was conducted among adults aged 35 to 65 years, permanently residing in MOH area, Dimbulagala. An estimated sample size of 537 study units were selected from 30 clusters by probability proportionate sampling. An interviewer administered questionnaire was used to ascertain the data on respondents' knowledge and practices on NCD screening, awareness of the free government NCD screening services, and factors associated with attendance to these clinics, etc. The data were entered to an Epi-Data software and subsequently exported to Statistical Package for Social Sciences (Version 22) software for analysis. A knowledge score was developed based on the questions. Administrative and ethical clearance was obtained prior to the data collection.

Results: Five hundred thirty-seven (n = 537) questionnaires were successfully administered with a response rate of 93%. The mean age of the study population was 46.5 (SD = 8.75) years. Majority (83.2%) of the study population had scored more than the middle value (i.e., 20) of the knowledge score. Only 37.8% individuals have ever attended a NCD screening clinic. Majority of the respondents provided poor responses to assessing food habits, level of physical activity, regular blood pressure measurement and for self-breast examination of females. The multivariate analysis showed "gender" and "heard about healthy life style center" are the most important factors determining the attendance to a screening clinic (p < 0.001)

Conclusions and recommendations: There is a gap between the respondents NCD screening knowledge and practice. Out of the several factors associated with the attendance to NCD screening clinics "gender" and "heard about the healthy life style center" are the most important.

Keywords: Non Communicable Disease

0119.Fernando, R.L.

Incidence of road traffic crashes and injuries, and knowledge, attitudes and practices related to road safety among grade 12 students of schools in the Piliyandala education zone.
MSc. Community Medicine – 2016   **D 3989**

Introduction

Road traffic crashes claim over 1.2 million lives annually, and injure another 50 million worldwide. Victims are mostly young adults in the working age group, which affects not just the family, but the productivity and economic development of the country. Children, limited by their physical, social and cognitive development, and adolescents, due to their impulsive, risk taking behaviour, are identified as vulnerable road users. In Sri Lanka, a road traffic crash is reported to a police station every ten minutes and seven road traffic fatalities occur every day, with children accounting for ten percent of fatalities. Education of road users is an integral part of preventing road traffic crashes and injuries. School children are an ideal target group for educational interventions, not just because of their vulnerability as road users, but because this large, accessible population constitutes the next generation of road users.

Objectives

A school based descriptive cross sectional study was conducted among grade 12 students in government schools in the Piliyandala education zone, Colombo district, to determine the incidence of road traffic crashes and injuries, and to assess the knowledge and describe the attitudes and practices related to road safety among them.

Methods

Multistage cluster sampling was used to obtain the sample: schools were first stratified by category, from which 17 schools were selected by probability proportionate to size sampling and 30 students were selected from each school using simple random sampling from the attendance registers. Data from 511 students were collected by the principal investigator during September and October 2016 using a pretested self-administered questionnaire, which included 16 questions to assess knowledge, 10 for attitudes and 12 for practices as various types of road users. Data was analysed using the Statistical Package for Social Sciences (version 20). The incidence of road traffic crashes and road traffic injuries was

calculated, giving 95% confidence intervals. Categorical variables were described using frequency tables, and continuous variables were presented using measures of central tendency and dispersion.

Results

The annual incidence of road traffic crashes among Grade 12 students of the Piliyandala education zone was 174.1 per 1000 students (95% Cl: 141.3 - 207.1) and the annual incidence of road traffic injury was 105.6 per 1000 students (95% Cl: 79.0 - 132.3). The incidence of road traffic crashes during the preceding three months was 50.9 per 1000 students (95% Cl: 31.8 - 69.9). Majority of crashes (58.4%; n=52) occurred between 12 noon to 6 pm, and most were involved as pedestrians (29.2%; n=26), or while travelling on a motorcycle (27%; n=24), bicycle (15.7%; n=14) and three wheeler (12.4%; n=ll). Sixty percent of those involved in a road traffic crash had sustained an injury. Majority (72.2%; n=39) of injuries reported were minor (contusions and abrasions), but seven students (13%) had suffered a fracture. Fourteen students (25.9%) had been admitted to a hospital and twenty students (22.5%) had missed at least one day of school due to the injury. Only 46.4% (n=237) said they had ever attended an educational or awareness class on road safety. Major sources of information on road safety are family (84.3%; n=431), television/radio (65.8%; n=336), school teachers (63.4%; n=324), but only 5.5% (n=28) cited health workers as providers of information. Of the respondents, 75.6% (n=386) had a 'good' overall knowledge on road safety. However only 58.7% (n=300) knew that it is illegal to travel on the footboard of a bus and only 49.1% (n=251) knew that it is mandatory by law to report all accidents to the nearest police station.

Attitudes on road safety showed a marked variation among the different statements. Only 4.3% (n=22) had an attitude favourable for road safety with regards to the severity of penalty for drunk driving. Thirty percent (n=156) perceived that the roads in Sri Lanka are not safe to travel on and only 39.1% students feel that there are sufficient numbers of crossing points to cross the road. As pedestrians, 65.4% (n=334) always check for a nearby pedestrian crossing to use if they had to cross the street. However 40.3% (n=206) admitted that they talk on the mobile phone while crossing the street, and 19.6% (n=100) use headphones while walking on the road. The use of safety devices such as helmets and seatbelts is satisfactory: 69.1% (n=353) always wear their seat belt when travelling in the front seat of a car and

65.4% (n=334) always wear a helmet when travelling on a motorcycle. Twenty five percent of students surveyed have driven a motorized vehicle without a valid driving license.

Conclusions and Recommendations - The study revealed that the annual incidence of road traffic crashes among Grade 12 students of the Piliyandala education zone is 174.1 per 1000 students (95% Cl: 141.3 - 207.1). The annual incidence of road traffic injury among Grade 12 students of the Piliyandala education zone is 105.6 per 1000 students (95% Cl: 79.0 -132.3).

The overall level of knowledge among the study population is good. About one third of students perceived that the roads in Sri Lanka are not safe to travel on. The use of safety devices such as helmets and seatbelts was satisfactory among students. One fourth of students surveyed have driven a motorised vehicle without a valid driving license.

The study recommends practical demonstrations to support classroom teaching and a more active role of health workers in road safety education. Further research through observation of children's road safety practices is recommended to develop education interventions. It is recommended (where feasible) to demarcate cycle lanes to promote cycling in children and to close off the road in front of schools to vehicular traffic to allow students to walk a safe distance to school, as well as strengthen law enforcement to discourage young drivers driving without a Learner's Permit or a valid Driving License.

Keywords: Road traffic crashes, road traffic injuries, road safety, child injury prevention, road safety education

0120.Fernando, T.S.M.
Factors affecting difficulties in breast feeding in mothers attending selected lactation management centers in Colombo district.
MSc. Community Medicine – 2015   D 4212

Background : Exclusive breast feeding up to six months is recommended in Sri Lanka because it is known to be the best food for the infants and it provides vast benefits to the mother as well. The objective of the study was to describe the factors associated with difficulty in breast feeding in mothers with neonates attending selected lactation management centers in Colombo district.

Methods: A hospital based descriptive cross sectional study was conducted at lactation management centers in De Soyza Maternity Hospital and Colombo South Teaching Hospital from August to September 2015.Mothers who pay their first visit with the corresponding neonates were selected. Sample size was 288. They were selected by systematic random sampling method, proportionate to their monthly admissions excluding neonates with congenital hypothyroidism. Chi squared test and fishers exact test where relevant were used for statistical analysis.

Results: Majority (n = 236; 81.9%) of the mothers were referred to the LMC from the hospital where they delivered and 163 (56.6%) had difficulty in breast feeding. Among the socio demographic factors studied, employment status and (p = 0.009) type of family (p<0.0001) were statistically significantly associated. Among the maternal factors, mode of delivery (p = 0.007), Encouragement of the health care worker (p <0.0001), ante natal health education (p = 0.009), at hospital ante natal clinic (p<0.0001) and after getting admitted to the ward (p = 0.003), introduction of formula milk (p<0.0001) and bottle feeding (p = 0.001) were statistically significantly associated. Birth weight of the neonate (p = 0.41), period of amenorrhoea (p = 0.35) and multiple pregnancy (p = 0.26) were statistically not significant neonatal factors. Neonatal weight loss > 10% (p <0.0001), jaundice (p<0.0001), fever (p<0.0001) and urine output (p<0.0001) were statistically significant effects of the neonate**.**

Conclusions and Recommendations:

There are many factors which can be modified during the ante natal, intra natal and post natal period to overcome breast feeding difficulty. Antenatal health education on breast feeding at the hospital ante natal clinic and after getting admitted to the ward is recommended.

Keywords: Breast feeding difficulty, maternal factors, neonatal factors, neonatal effects

0121.Fernando, Y.K.J.
Review of cervical cancer screening programme in Puttalam district: Factors associated with coverage and effectiveness of interventions to improve coverage.
MD Community Medicine – 2016   **D 3974**

Introduction/Background

Cervical cancer screening coverage in Sri Lanka among the target age group women (completing 35 years in a given year) is around 34% (2013). Coverage is a major determinant to the effectiveness of a screening programme. Programme factors as well as individual factors may affect coverage. Reviewing a programme and improving it, and addressing individual factors associated with participation using effective interventions, can be used to increase coverage.

Objectives -To review the cervical cancer screening program with reference to coverage and to develop and determine the effectiveness of interventions to improve the coverage in the Puttalam District.

Methods - The project had six components. In Component 1, the structure, process and outcome of the state sector cervical cancer screening programme in the Puttalam District was reviewed by using existing program data and data collected from service providers using semi-structured interviews and self-administered questionnaires and comparing with set standards.

Component II was a cross sectional study of knowledge, attitude and practices relating to cervical cancer screening among Medical Officers of Health, Public Health Nursing Sisters, Supervising Public Health Midwives and Public Health Midwives of the Puttalam District using a self-administered questionnaire. Component III was a cross sectional study among 500 women aged 35 to 37 years randomly selected from the voters' list from five MOH areas to determine the associated factors when undergoing Pap screening. Data was collected at residences by an interviewer administered questionnaire. In Component IV, a template document was developed following review of existing documents, literature and in consultation with the stakeholders to be used at MOH level to follow up women with positive Pap smear results.

Component V was a retrospective follow-up study among all cervical cancer screened positives in the Puttalam District from 2013 to 2015 using an interviewer administered questionnaire to determine their short term outcome.

Component VI was a pragmatic randomized control trial with a 2X2X2 factorial design among 544 women aged 35 years from two MOH areas. Messages with information about cervical cancer, midwife contact details and appointment information for Pap screening were delivered via mailed letter, telephone call, and community support groups(Clinical trial registration SLCTR/2015/015).Ethical approval for the whole project was obtained from the Ethical Review Committee (ERC), Faculty of Medicine, University of Kelaniya.

Results -The existing well distributed services have room for improvement with respect to human resource allocation, equipment availability, documentation, process evaluation, and quality' control. The mean time taken to produce a positive Pap cytology report was 72 (2-334) days. The turnaround time was not being monitored. The knowledge regarding cervical cancer and the screening program was satisfactory among the 160 service providers included in the study. Three quarter of them showed a favourable attitude towards inviting participants, conducting clinics and distributing reports but not tracing non-attendees. Sixtyeight per cent of married women over 35 had undergone Pap smear but only 18% of them had done so at the age of 35 years. Five hundred women were sampled in the age group of 35 to 37 years, and out of this only 409were interviewed. The results showed that knowledge of cervical cancer, beneficial attitude, invitation by Public Health Midwife and knowing of family neighbor had undergone screening were associated with cervical screening (P<0.05).MOMCH data revealed that out of the 29 positives recorded, only 14 were traceable at MOH level and all of them had attended the first gynecological referral while 50% received surgical interventions. Only 28% were aware of the follow up plan and 21% were up-to- date with the follow-up.

Out of the 544 recruited to the trial, 254 (47%) attended for Pap smear screening. The participation rates of those who received and did not receive a particular intervention were: Community Support Group -55% vs. 30% (P<0.001), Mailed Letter-54% vs. 41% (P<0.001) and Telephone Call -49% vs. 42% (P=0.1).

Conclusions and Recommendations-Resource allocation, documentation and effectiveness of processes related to cervical cancer screening programme should

be improved. Information relating to cervical cancer and the benefits of screening should be communicated through the PHM. Participation in screening should be promoted via neighbours and family members. Pap smear screened positives need to be documented and mechanisms developed to increase effectiveness of follow up. Community support group and mailed interventions can be used to increase participation in cervical screening.

Keywords: cervical cancer screening, coverage, program review, community trial, health belief model

0122.Fonseka, H.N.A.
Incidence of occupational injuries, knowledge and practices on occupational injuries among carpenters in the Moratuwa Medical Officer of health area.
MSc. Community Medicine – 2014   D 3927

Introduction - Occupational injuries represent a considerable part of the injury burden to society. Carpentry is a common industry in Sri Lanka. There are many hazards associated with carpentry and injuries can occur due to multiple factors. A descriptive epidemiology of injuries among carpenters is required to identify timely interventions and reduce the burden of work-related injuries.

Objective -To determine the incidence, describe type of occupational injuries, knowledge and practices on occupational injuries among carpenters in the Moratuwa Medical Officer of Health area.

Methods -A community based, retrospective, descriptive study was conducted between September to November 2014 to determine the incidence during three month period immediately prior to the survey. The total calculated sample size was 352. Multistage sampling method was used. Twenty one Grama Niladhari divisions were selected using simple random sampling method, in which clusters were selected using probability proportional to population size (PPS) method. From each selected carpentry workshop, one carpenter was selected randomly. A pre tested interviewer administered questionnaire was administered. Associations were tested using chi square test and a probability of less than 0.05 was selected as the significant level. Results were expressed as Odds Ratio (OR) and 95% Confidence Interval (Cl) using bivariate analysis.

Results -Response rate was 90.06 *%* (n=317). Cumulative incidence of occupational injuries for a period of three months was 255.5 per 1000 carpenters

(95% Cl: 209.8-305.7). The commonest type of injury was superficial cuts (44.6%, n=42). Hands and fingers (64.9%, n=61) were commonly affected. A majority (85.5%, n=271) had good knowledge. With regard to work practices, personal protective equipment's (OR 2.14; 1.087-4.21, P=0.025), work without rest (OR 2.3:95%CI: 1.08-4.94, P=0.034) and work with vibrating equipment's continuously (OR 1.9: 95%CI: 1.11-3.37, P=0.024) were significantly associated with occurrence of occupational injuries.

Conclusions and Recommendations -Incidence of occupational injuries observed is considerably high. Although high proportion of carpenters had a good knowledge on occupational injuries, it would appear that they do not follow the safety measures. Therefore, proper mechanism for implementation of regulations and provision of basic training is required. Focus should be made to conduct prospective longitudinal studies in future.

Keywords : Carpenters, Occupational injuries, Incidence, Work practices

0123.Galgamuge, S.P.
Prevalence of psychological distress and its correlates, and coping strategies among prison guards in the Welikada prison complex.
MSc. Community Medicine – 2016   **D 3981**

Introduction- Prison guards are a highly vulnerable group for psychological distress due to the inherently stressful nature of their occupation. However, there are no studies in published literature on mental health status of prison guards in Sri Lanka.

Objectives- To assess the prevalence of psychological distress, its correlates and coping strategies among prison guards in the Welikada prison complex.

Methods - A descriptive cross-sectional study was done using a sample of randomly selected 386 prison guards currently employed in the three prisons of Welikada prison complex. The General Health Questionnaire 12 and the Brief Cope were the instruments used. A pre-tested self- administered questionnaire was used to collect data. Results were expressed using odds ratios with 95% confidence intervals.

Results - The prevalence of psychological distress among prison guards was 39.4% (95% Cl: 34.4-44.4) using a GHQ score of >2, which was higher than several studies in other countries. Sociodemographic correlates were not associated with

psychological distress while having a chronic illness (OR=2.0; 95% Cl: 1.2-3.4) and having a stressful life event in the past year (OR=2.3; 95% Cl: 1.5-3.5) were significantly (p=0.006 and p<.001 respectively) associated with psychological distress. Being satisfied with family support (OR=0.5, 95% Cl: 0.3-0.9) was significantly (p=0.02) protective of psychological distress while not being satisfied with the monthly income of the family (OR= 1.7; 95% Cl: 1.1-2.6) emerged as a significant (p=0.01) predictor of psychological distress.

The work load related correlates, total work hours of more than 56 hours per week (OR= 2.2 ; 95% Cl: 1.5-3.4), spending more than 36 hours per week directly interacting with prisoners (OR= 1.9 ; 95% Cl: 1.2-2.8), doing more than seven night shifts per month (OR= 1.8; 95% Cl: 1.2-2.7) were significantly (p<.001, p=0.003, p=0.008 respectively) associated with psychological distress among prison guards. The prison guards who were not satisfied with physical work conditions (OR= 1.8; 95% Cl: 1.1-2.9) and who perceived inadequacy of resources at work place (OR=2.2; 95% Cl: 1.5-3.4) were more likely to be distressed a associations were significant (p=0.023 and p<.001 respectively). Not being satisfied with support at work (OR= 1.8; 95% Cl: 1.2-2.7), not being satisfied tangible rewards at work (OR=1.8; 95% Cl: 1.1-3.0), low self-satisfaction from work (95% Cl: 1.4-3.4) were also significant (p=0.008, p=0.011, p=0.001 respectively) predictors psychological distress. Perceived difficulty of doing a dual role at work (OR= 1.8; 955< 2.7), low opportunity for decision making related to work matters (OR= 1.9; 95% Cl: work affecting family life (OR=2.4; 95% Cl: 1.63.7) were significantly (p=0.01, p=0.005 respectively) associated with psychological distress. The prison guards who \ opportunity to update knowledge and skills at work (OR=1.6; 95% Cl: 1.1-2.5) a perceived poor public image of profession (OR= 2.2; 95% Cl: 1.5-3.4) were more like distressed and these associations were significant (p=0.024 and p<.001 respectively). Perceived risk of contracting diseases from the prisoners (OR= 1.9; 95% Cl: 1.1-3 frequent exposure to violence among prisoners (OR=1.9; 95% Cl: 1.2-2.9) were sign (p=0.015 and p=0.004 respectively) associated with psychological distress in prison guards The mean scores for dysfunctional coping subscale was 26.6 (SD=5.1), emotional subscale was 24.3 (SD=4.5) and problem focused subscale was 16.2 (SD=4.2) as assessed the Brief Cope. A high score in dysfunctional coping (OR=1.8; 95% Cl:

1.2-2.6) which ineffective coping strategy was significantly (p=0.008) associated with psychological dis prison guards.

Conclusions and Recommendations -There is a high prevalence of psychological distress among prison guards in the Welikada prison complex which is associated with many work related correlates. The coping s prison guards need to be improved. Therefore, a mechanism should be developed to a modifiable correlate and promote mental wellbeing of prison guards.

Keywords: prison guards, psychological distress, correlates, coping

0124.Galliyadda, A.B.
Characteristics of dog bites and comparison of attitudes and practices towards dogs between adult dog bite victims and a comparable group attending district General Hospital Nuwara Eliya.
MSc. Community Medicine – 2017   D 4491

Background: Dog bites among adults continue to be a public health problem in Sri Lanka despite multiple preventive strategies.

Objective: To describe the characteristics of dog bites and to compare the attitudes and practices towards dogs between adult dog bite victims and a comparable group attending District General Hospital Nuwara Eliya.

Methods: The cross sectional analytical study design was employed and the 275 of dog bite victims were selected from the Preliminary Care Unit of District General Hospital Nuwara Eliya by consecutive sampling method and 275 of age and sex matched comparable group was selected from the Outpatient Department of the same hospital. A pretested interviewer administered questionnaire was used to collect data and the difference of attitudes and practices towards dogs among two groups were compared using chi square test placing the level of significance at 0.05.

Results: The dog bite victims were more likely to be females, unemployed or employed under elementary occupations, bitten only once in their life time, and have washed the wound with soap and water within 30 minutes and have sought medical care within 24 hours of the incident. The highest proportion of the dog bite injuries (48.4%, n= 133) were minor injuries. Most of them were in lower limbs, caused by unprovoked, unvaccinated, personally owned, well grown male dogs and occurred at the streets. The majority of both groups had non disturbing practices towards stray dogs and have kept their dogs freely during the day and night. The

higher proportion of both groups had positive attitudes towards dogs without a significant difference *(p>.* 05).

Conclusion: There is no significant difference of attitudes towards dogs between two groups. There is no significant difference of practices towards dogs among the two groups.

Recommendation: Targeted Health promotion programmes should be conducted and dog vaccination and responsible dog ownership should be strengthened.

Keywords: Dog bites, attitudes and practices towards dogs

0125.Gamage, A.W.
Coping strategies and its related factors among adolescents aged 15-19 years in government schools in the Kolonnawa educational division.
MSc. Community Medicine – 2016   D 4216

Introduction - In recent past, interest for coping strategies in children and adolescents has grown rapidly. Although they are invariably faced with a lot of physiological and psychological challenges leading to risk taking behaviours, suicides etc., their adopted coping strategies and related factors in facing those challenges is an unexplored area of research to a greater extent in Sri Lanka.

Objective - To assess the coping strategies and its related factors in school going adolescents aged 15 -19 years in the Kolonnawa educational division.

Methodology- A descriptive cross-sectional study among 520 school going adolescents aged 15-19 years in the Kolonnawa   educational division. Multistage cluster sampling with probability proportionate to the size was used and a class was considered as a cluster. Self- administered questionnaires; Demographic & Social inequality Assessment Questionnaire (DSAQ), Stress Sensation Inventory (SSI), Perceived Self-efficacy Assessment Questionnaire (PSAQ) and Coping Strategies Check List (CSCL) were used for data collection. Chi square test with SPSS 20.0 were used for data analysis.

Results -The final sample was 520 with a 100% response rate. Avoidance was the mostly adopted coping strategy (74.2%, $n = 386$) while Problem-focused strategies was the least used (64.2%, $n = 334$). Male students were found to have a higher mean score for the avoidance domain (26, SD = 3.44) than their counterpart. Being Buddhist was found to be associated with a higher level of coping (p < 0.05). Furthermore, having low/medium level of perceived self-efficacy was associated

with low levels of coping. However, only the association between the perceived general self-efficacy domain and level of coping was found to be statistically significant (p < 0.05). Among the students, those who were stressed were found to be associated with low level of coping and vice versa and the associations were statistically significant *(p < 0.05).*

Conclusions and Recommendations - Improvement and strengthening of life skills programs in order to encourage positive coping strategies while discouraging negative ones should be done. Furthermore, increasing awareness among parents, teachers and general public on how they influence children as well as the magnitude of the effects of negative coping is important as it may not only affect the child but eventually the whole country.

Keywords: Coping strategies, Adolescents, Stress

0126.Gamage, U.S.H.
Quality of cause of death reporting by doctors and the effect of an intervention to improve the quality of death certification in hospitals in the Colombo District of Sri Lanka.
MD Community Medicine – 2015   **D3695**

Introduction - Poor quality cause of death certification by medical officers has been identified as a key public health issue globally. Previous studies in Sri Lanka and information released by the Registrar General's department suggests poor cause of death certification characterized by reporting ill-defined conditions and incompatibilities of reported causes of deaths with medical record data.

Objectives- To assess the quality of cause of death certification by doctors and the attitudes of doctors towards cause of death certification and mortality data and to evaluate the effect of using the international medical certificate of cause of death and an educational intervention to improve the quality of cause of death certification and the attitudes of doctors ind hospitals in the District of Colombo, Sri Lanka

Methods -The study comprised three components. These were cross-sectional descriptive studies to assess the quality of cause of death certification in death declaration forms (Old B33); a cross-sectional descriptive study to describe the attitudes of the medical officers of different grades towards cause of death certification and mortality data; and designing and implementing an intervention

comprising an educational component and the introduction of a newly revised death declaration form (New B33) in the WHO recommended format to improve cause of death certification and to evaluate the effectiveness of the intervention. A death declaration form filled in legibly with no abbreviations and ill-defined conditions used and correctly sequencing the accurate morbid conditions leading directly to death was considered to be of good quality. To assess the quality of certification of cause of death, a proportionate sample of death declaration forms (Old B33) (n = 1585) was randomly selected from selected hospitals. The corresponding medical records of the deceased were traced. The cause of death and medical data extraction and audit form was   adapted from the Grand Challenges- 13 (GC - 13) study and validated for the Sri Lankan setting. Cause of death data were extracted from death declaration forms by trained physicians. The trained physicians then extracted cause of death data from the corresponding medical records and constructed new death certificates and the newly constructed death certificates were considered the gold standard. The original death declaration forms were validated with the gold standard death certificates constructed by trained physicians.

In the assessment of quality, the certification of death declaration forms was graded using a weighted scoring system. Matrices were constructed to examine the agreement between vital registration diagnosis and the gold standard diagnosis through the review of medical records by trained physicians.

Attitudes towards cause of death certification and mortality data was assessed in 485 medical officers using a self-administered questionnaire based on a Likert scale. (Response rate - 96.2% (n = 467)).

An intervention package including an educational component on accurate certification of cause of death was developed. The existing death declaration form (Old B33) was redesigned to conform to the WHO recommended format. A quasi-experimental study consisting of a control group (from the Galle district) and a pre-post-test design was conducted to assess the effectiveness of the intervention, with post-intervention assessments being done 12 and 18 weeks after the intervention for both the study and the control groups.

Results - In the Colombo district, before intervention 4.5% of death declaration forms were of 'good' quality. 'Use of abbreviations' was 54.3%, 'legibility' was

54% and 'Use of ill- defined conditions' was 21.3%. The necessity to change the original causes of deaths recorded by hospital medical officers in death declaration forms (Old B33) was 70.1% for the immediate cause of death, 85.6% and 59% for the antecedent and underlying causes of death, respectively.

Prior to intervention, in the Colombo district, of the total number of cases identified by the gold standard, the percentage of cases with correctly identified cause of death registration in the vital registration system i.e. agreement between the gold standard and the vital registration system (sensitivity of vital registration) was 43%. Furthermore, the percentage of deceased with correctly recorded causes of death in the vital registration system (Positive Predictive Value) was 43%. Differences were observed between the cause specific mortality fractions obtained through the vital registration system and the gold standard.

In the Colombo district, prior to intervention almost 59% of medical officers of different grades had 'unfavorable' attitudes and 18% had 'favorable' attitudes. In the first and the second post-intervention assessments, 'good' quality of cause of death certificates significantly increased to 57.2% and 64%, respectively, from 4.5% in the pre intervention assessment, in the Colombo district (p<0.001); there was no change in the control sample (Galle district). In the Colombo district, all individual criteria used for quality assessment had improved significantly (p<0.001) at the post-intervention assessments but there was no change in the Galle district. The agreement between gold standard diagnosis and the vital registration diagnosis i.e. sensitivity of vital registration system and the percentage of deceased with correctly recorded causes of death in the vital registration system i.e. positive predictive value for leading causes of deaths increased significantly at the post intervention assessments, as compared to the pre-intervention assessment, in the Colombo district but not in the Galle district. The percent change in cause specific mortality fractions was less in the Colombo district in the two post intervention assessments as compared to the pre-intervention assessment; there was no such change in the Galle district.

Conclusions & Recommendations - The overall quality of cause of death certification in death declaration was poor and the attitudes of medical officers of different grades towards cause of death certification and mortality data were mostly

'unfavorable'. The intervention comprising introduction of a revised death declaration form and an educational component significantly improved cause of death certification in the intervention group.

It is recommended that the educational intervention designed in the present study be implemented as an in-service training in health institutions of other districts of the country. It is also recommended to implement the newly revised death declaration form (New B33) throughout the country.

Keywords: Quality of certification of cause of death. Accuracy of cause of death. Attitudes of doctors

0127.Gammulla, S.P.K.H.M.A.T.
Future fertility intentions and associated factors among women in reproductive age group in Negombo Medical Officer of health area
MSc. Community Medicine – 2017   D 4471

Introduction: There is limited research evidence on Future Fertility Intention among Sri Lankan women. Exploring about the factors related with fertility desire is important to take necessary actions to promote health and wellbeing of families.

Objectives: The objective of this study was to describe the Future Fertility Intentions and associated factors among women in the reproductive age group in Medical Officer of Health area, Negombo.

Methods: This was a community based descriptive cross sectional study conducted among currently co-habiting females aged 15-49 years. Pregnant, menopause and sterilized women and partners of sterilized males were excluded. Two staged cluster sampling was performed to obtain a sample size of 520 in 26 clusters. The primary and secondary sampling units were respectively Grama Niladhari divisions and eligible family registers. The data were collected by trained interviewers using a pre-tested questionnaire. The associated factors assessed were socio-economic and demographic, obstetric and medical, and health service related factors. Descriptive statistics were used for describing the data and the Chi square test was used to make comparisons.

Results: The response rate was 94.6% and the mean age of participants was 30.9 (SD=6.4) years. About 55% (n=271) had positive intentions and among them 62.4% (n=169) wanted only one child while 64.6% (n=175) wanted a child after two years. Age < 30 years (p<0.001), Muslim ethnicity (p=0.001), Islamic religion

(p=0.002), duration of cohabitation < five years (/?<0.001), a good marital relationship (p=0.001), number of living children < two (p<0.001), predicted satisfactory family support (p<0.001), positive social influence (p<0.001), parity < 1 (p<0.001), meeting Public Health Midwife during last three months (p<0.001) were significantly associated with positive intention. However Catholic/Christian religion (p=0.01), average monthly family income LKR < 50,000 *(p=0.029)*, being in a nuclear family (p=0.001), currently having children in both sexes (p<0.001), live birth being the last pregnancy outcome (/?<0.001), ever undergoing a normal vaginal delivery (p<0.001), discussing with Public Health Midwife (/i<0.001) were factors associated with negative intention.

Conclusions and Recommendations: Most of the factors associated with fertility intention can be modified with various public health and policy level decisions. Well designed interventions will be needed to ensure all families to attain their fertility goals *and* achieve optimum levels of family health.

Keywords: Future Fertility Intentions, reproductive age group, women, Sri Lanka

0128.Gunaratna, I. E.
Risk factors for behavioral problems among preschool children in a selected area in Colombo district.
MD Community Medicine – 2014   **D 3697**

Strength and Difficulties Questionnaire (SDQ) is a widely used screening tool to detect behavioural problems among children and adolescents. The Sinhala translation of child and adolescent version of SDQ had been validated and widely used for research purposes in Sri Lanka, but the modified version of SDQ for 3 and 4 year old was neither translated nor validated in Sri Lanka.

Preschool age is the earliest point in child's life where behaviour problems and related risk factors can be easily identified and intervened to reduce lifetime negative consequences.

Objective: 1. To determine validity of Sinhala translated parents' (SDQ-P) and teachers'(SDQ-T) versions of SDQ to screen preschool children with behaviour problems.

Objective 2. To determine risk factors for behavior problems among preschool children.

Methodology: Validational study was carried out among parents and teachers of 223 preschool children in Medical Officer's of Health area of Maharagama. The Sinhala translated SDQ-P and SDQ-T was given to be completed by the participants. Clinical examination was carried out by the Consultant Child Psychiatrist based on reference standards of DSM-IV, ICD-10 and clinical experience. The threshold values for SDQs were determined by applying Receiver Operation Characteristic (ROC) curves.

Thereafter, a case-control study was conducted among 169 children with behavior problems and 169 controls attending preschools in Medical Officer's Health (MOH) area of Kaduwela. Cases and controls were selected using the scores of Sinhala validated SDQs.

Results: The ROC curve showed optimal cutoff level for SDQ-P as 11.5 with sensitivity of 82% and specificity of 81% and the optimal cutoff level for SDQ-T as 13.5 with sensitivity of 80% and specificity of 80%.

Logistic regression analysis revealed, being a male (OR=T2.80, 0=4.35-37.63), having antenatal complications (OR=5.96, 0=1.87-19.02), having low birth weight (OR=3.07, 0=1.26-7.49) and postnatal complications (OR=4.56, 0=1.61-12.90) as biological risk factors and low nutritional status (OR=4.12, 0=1.22-13.99) as a childhood related risk factor for problem behavior.

Having low monthly income (Rs. <10,000) (OR=50.71, p=0.000) was the strongest risk factor found in multivariate analysis. Frequent consumption of alcohol by father (0R=1.7t 0=5.19-42.35), parental arguments which lead to physical violence (OR=2.5, 0=1.25 5.36) and low maternal educational level (OR=4.49, 0=0.0110.03) were identified a parental risk factors while maternal employment status inside or outside the house on par time basis (0R= 0.01, 0=0.00-0.10) and child cared during day time by mother (OR=0.03 0=0.00-0.25) was identified as significant protective factors for behavior problems.

Conclusion: Both SDQ-P and SDQ-T are valid instruments for assessing behavioui problems among preschool children in Sri Lanka.

Having a low monthly, being a male and being a non-Buddhist were the biological risk factors for problem behaviour. But, being the only child in the family was found to be significant protective factors for behavioural problems. Having antenatal complications, low birth weight and post natal complications were significant birth

related risk predictors for behavioural problems while having low nutritional status was a significant childhood related risk predictor on problem behaviours among preschool children. Also having a low maternal educational level, child care during day time by mother and unemployment of mother were found to be significant maternal risk factors for behavioural problems and frequency of alcohol consumption of father, frequent arguments among parents were identified as stressful life conditions within family which had risk on problem behaviours.

Keywords: Behaviour, SDQ, validation, preschool children, risk factors

0129.Gunaratne, M.V.V.W.

Respiratory symptoms, lung functions and its associated factors among quartz processing workers in Matale District.
MSc. Community Medicine – 2017   D 4472

Introduction

Quartz, the oxide of silicon is a mineral of economical importance. Occupational exposure to silica dust is known to cause silicosis, airway diseases and lung cancer. Hence quartz processing industry is considered as a high risk occupation for silica induced lung diseases.

Objectives

The objective of the study was to assess selected respiratory symptoms, lung functions and to determine its associated factors among quartz processing workers in Matale District.

Methods

A cross sectional study was done among 373 quartz industry workers in Matale district. Among all the workers engaged in quartz industry in Matale district 379 fulfilled the inclusion criteria and were included in to the study. Information on socio demographic, occupational, behavioural characteristics and personal protective equipment usage of the workers were collected via an interviewer administered questionnaire. Lung functions of the workers were assessed with a spirometer. Associations were assessed using chi square test and significance of associations were identified. The confidence interval was maintained at 95% and p value < 0.05 was considered as significant.

Results

The response rate was 98% (373/379). There were 52% workers who had at least one respiratory symptom within the past three months duration. The most prevalent respiratory symptom within the past three months of duration was cough 29.2%, followed by shortness of breath 25.7%. There were 19.3% workers with abnormal FVC values and 18.8% workers had abnormal FEV1 values. The PEFR values were abnormal in 72.9% of the workers. Out of all workers 74% workers were directly exposed to quartz dust. Among them 58.6% of the workers were using at least a face mask as a PPE. Having at least one respiratory symptom within the past three months showed a statistically significant association with sex ($p=0.002$), age ($p=0.042$), average monthly income ($p=0.026$), highest educational qualification ($p=0.009$), smoking during anytime of the life ($p<0.001$) and usage of at least the facemask ($p=0.036$). Having an abnormal FVC showed statistically significant associations with sex of the workers ($p<0.001$), age ($p=0.047$) work duration ($p<0.001$) and job category ($p=0.016$). The sex of the workers ($p<0.001$) and age ($p=0.005$) had statistically significant associations with having an abnormal FEV1. There was a statistically significant *(p=0.005)* association between usage of at least the facemask and having an abnormal PEFR value whereas there were no statistically significant associations seen between usage of at least the facemask and having abnormal FVC or FEV1 value.

Conclusions and Recommendations

Nearly half of the quartz processing workers in Mutale district were having at least one respiratory symptom. Nearly 20% of the workers were having restrictive type respiratory impairment while nearly 70% had obstructive type. Strengthening of the regulations related to workers wellbeing and empowerment of the workers on their own safety at the workplace are recommended.

Keywords : Quartz, Workers, Respiratory Symptoms, Lung function test, PPE

0130. Gunatilake, A.W.P.I.
Knowledge, attitudes, practice, prevalence and associated factors of family planning among married male Naval personnel in Southern Naval Base ' Dakshina', Galle.
MSc. Community Medicine - 2019   D 4704

Use of any method of family planning (FP) by women is often influenced by their husbands. In many countries men have been excluded from participating in FP programmes as FP is viewed as a woman's affaire. Consequences of unmet need of improper use of FP may affect the whole family. Therefore, a set ting need to be built up to minimize the gap between the knowledge and the attitudes with the practice of the FP of the couple through improving the knowledge and the attitudes of the male rather than involving only the female partner. This study was aimed at finding the gap of knowledge and attitudes with the practices of family planning of the couple in order to reduce the unmet need of FP, which is a timely need of the country.

The study was aimed at determining the knowledge, attitudes, practice and the prevalence of FP and the associated factors among married male Navy Personnel in Sri Lankan Naval Base "Dakshina", Galle.

This study was an occupational based descriptive cross sectional study carried out in Southern Naval Base "Dakshina", Galle, among 424 married male Navy Personnel. Study participants were selected using simple random sampling **Method.**

Study instrument was a self administered questionnaire, with closed ended questions. The knowledge was assessed using a composite score comprising 50 knowledge related questions. Similarly, attitudes were measured based on 13 questions based on positive and negative attitudes using the Likert Scale. Ever use and current use of FP were also assed as important variables. The associations were analyzed using Chi-Square test, considering $p<0.05$ as the significant value.

The overall knowledge on FP was satisfactory among 53%(n=224) of study subjects. Among the different methods, the highest percentage of men (85%) reported good knowledge on condoms, oral pills (57%) being at the second place. A satisfactory knowledge on injectable and the lUCDs were reported in 38% and 39% of subjects respectively. Eighty-two percent(n=348) of the study subjects had either good or average knowledge on traditional methods of FP while on emergency

contraception it was 57%. Overall favorable attitudes towards FP was observed among 61% of the respondents.

The study found that nearly 73%(95% 0=0.68-0.77) of couples had ever used a regular FP method while the balance 27% had never used a FP method. The most common ever used method was condoms(34%,n=14) which was fallowed by oral pills(32%) and injectable (17%. Before marriage the commonest FP method used was condoms(6%,n=19) followed by oral pills whereas from the marriage to the first pregnancy, the most common method was the pill(20%). After the third pregnancy it was the LRT(4%) which showed the highest prevalence.

Among the total study population, 59% were currently using any FP method while 52% were modern method users. Most commonly used method was condoms(16%,n=69) while the second commonest was oral pills(12%,n—50). Emergency contraceptives were ever used by 10%.

This study attempted to identify selected factors related to knowledge, attitudes and practice of FP among the study participants. It revealed that 53%(n=224) of respondents showed an overall knowledge score of average and above on FP methods. The overall favourable attitudes were observed among 61%(n=165) of the respondents towards FP.

There was strong significant association between the knowledge of the study subjects and the ever use of FP among them (x2=21.101,df=2,p=0.000). The attitude scores of the study subjects and the ever use of FP among them had a more stronger association than the knowledge and ever use (x2=16.714,df=2,p=0.000). There was a noticeably significant association between the knowledge of family planning methods and the current use of FP Number of children and the ever use of family planning has a strong negative statistically significant link (x2=19.168,df=4,p=0.001). However, there was no substantial association between age categories, academic qualifications or ranks of the study subjects with the satisfactory knowledge and attitudes on FP methods.

The findings of the study recommends that there is enough room for improvement of FP practices for this occupational category through regular updating of their knowledge and making attitudinal changes. This could be easily achieved by well-organized programmes conducted at work places.

0131.Gunatilake, K.H.
Prevalence of postpartum depression and its associated factors among parents of infants in the Kolonnawa MOH area.
MSc. Community Medicine – 2018   **D 4817**

Depression among parents during the postpartum period is an impending public health problem in the community. Limited research is available in Sri Lanka on the prevalence of maternal and paternal postpartum depression.

The present study was designed with the objective to determine the prevalence of postpartum depression its associated risk factors among parents of infants aged 6 weeks to 6 months in the Kolonnawa MOH area. Seven hundred and twenty parents of 360 infants attending clinic were selected using systematic sampling technique. Edinburgh Postnatal Depression Scale and socio-demographic questionnaire in all three languages (Sinhala, Tamil and English) were given to the eligible parents. The information was obtained by self- administered and interviewer administered questionnaires. Data was entered using IBM-SPSS version 21 and Chi square test was used to determine the association between sociodemographic characteristics and psycho-social risk factors with maternal and paternal PPD.

Prevalence of maternal PPD was 17.8%, paternal PPD 4.2% and either parent having PPD was 10.9% among the study population. Study revealed that there is a significant association between maternal PPD and education level (x^2=13.02, df=2, p=0.001), monthly income of the family (x^2=10.871, df=2, p=0.012), unplanned pregnancy (x^2= 18.31, df=l, p<0.001), birth weight of the infant (x2=7.98, df =1, p<0.005), breast feeding problems (x^2= 10.393, df=2, p=0.006) III child or a family member at home (x^2= 16.126, df=l, p<0.001),inadequate maternal leisure time (x^2=41.737, df =2, p<0.001), no person to share sorrows (x^2=87.218, df=l, p<0.001), no emotional support (x^2=102.031, df=l, p<0.001), physical abuse during life time (X^2=36.926, df=l, p<0.001), abuse during pregnancy (x^z=40.800, df=l, p<0.001), frequent arguments with the spouse (x2=36.926. df=2, p<0.001) and paternal alcohol intake (x^2=31.252, df=l, p<0.001) and parental PPD (Fishers Exact test, df=l, p=0.008). Unplanned pregnancy (x^2=l 1.143, df=l. P<0.001) and alcohol intake (x^2=16.458, df=l, p0.00l) was significantly associated with paternal depression.

Ethnicity, religion, parity, employment nature, type of residency, number people living in the house, mode of delivery, maternal comorbidities, gender of the infant, type of pregnancy , age of the infant, prolong hospital stay, gestation age of the baby and the support received in taking care of the baby was not significantly associated with maternal or paternal depression.

Further research is required to identify more associations of paternal postpartum depression and its association with maternal postpartum depression. Depression of parents is negatively associated with behavioral problems of the children. Active intervention should be taken by the health sector to address this issue as a family.

Keywords: Postpartum depression (PPD), Edinburg Postnatal Depression Scale (EPDS)

0132.Gunawardane, D.A.
The neonatal outcomes, maternal risk factors and neonatal care cost of 'adverse neonatal outcome' following term deliveries at Teaching Hospital Kandy.
MD Community Medicine – 2015   D 3954

Introduction - Major proportion (40 - 70%) of neonatal mortality is among term neonates. Even though, information on neonatal outcomes of term neonates is scarce. High volume of term neonatal admissions to neonatal care units signify the importance of studying the neonatal outcomes among term neonates, risk factors and their management cost.

Objectives - To describe the neonatal outcomes, identify maternal risk factors for 'adverse neonatal outcome' and the neonatal care cost of 'adverse neonatal outcome' following term deliveries (37 completed weeks - 41 completed weeks and 6 days) at Teaching Hospital Kandy.

Methodology - This study consisted of three components and was carried out from 26th of February to 20th of May 2015. Part IA was a descriptive cross sectional study to describe neonatal outcomes of term neonates before the initial hospital discharge point A sample of 1105 neonates, delivered at term were studied, Part IB was a telephone survey conducted among 770 mothers of term neonates, to describe neonatal outcome following hospital discharge. This part mainly focused on neonatal care received at field and reported neonatal morbidity by mothers. Part II was a case control stud based on the already collected data in Part I. Cases were

defined as a composite measure of neonatal death and morbidity, which needed admission to a neonatal care unit (NCI ('adverse neonatal outcome')). Total of 175 cases and 525 controls were included. . Risk factor were identified through multivariate logistic regression and the findings we expressed in odds ratios and their 95% confidence interval. Part III of the study was cost analysis, to analyse the government, out-of-pocket and total neonatal care cost term neonates with 'adverse neonatal outcome' and to estimate neonatal care cost term neonates with four most prevalent neonatal conditions contributing to 'adverse neonatal outcome'.

Results - Out of all term neonates 15.84% (n=175) were admitted to NCU and 23.3 (n=257) had at least one diagnosed neonatal condition. Commonest neonatal condition was bacterial sepsis of newborn (n=138, 12.48%), followed by neonatal jaundice from other and unspecified causes (n=84, 7.6%), respiratory distress of newborn (n=< 3.94%) and birth asphyxia (1.68%). Nearly half (n=197, 46.79%) of the mothers seek medical advice (outside home visits) for their neonates following hospital discharge during the neonatal period. Nineteen neonates (4.28%) were hospitalized during the neonatal period and most common reason for admission was breathing difficulty followed by yellow coloration of the body. Considerable proportion (n=121,29.66%) of mothers stated that postnatal visits by PHM were not helpful in any of the six aspects of postnatal care questioned in the telephone interview. Under multivariate analysis it was found that caesarian section with labour increases the risk of 'adverse neonatal outcome' among term neonates by 3.37 (95% Cl- 2.13-5.33) times compared to normal vaginal delivery. Thirty seven completed weeks of POA (OR-2.91,95% 1.57-5.42), PIH (OR-2.46, 95% Cl- 1.27-4.75), GDM (OR-2.33, 95% Cl- 1.06-5.15), primi parity (OR- 1.53, 95% Cl-1.022.30) and maternal occupation as professionals (OR-3.45, 95% CI- 1.46-8.13) was identified independent risk factors of 'adverse neonatal outcome' among term neonates. Total neonatal care cost during the study period which includes both government and out-of-pocket cost was Rs. 12,140,040.00 from which 92.94% consisted of government neonatal care costs. Median total neonatal care cost per term neonates with 'adverse neonatal outcome' was Rs. 50,193.00 with a inter quartile range of Rs. 39,047.00 to Rs. 79,638.00. Respiratory distress syndrome was condition that required largest proportion of total neonatal care cost of term neonates with 'adverse neonatal outcome'. Birth asphyxia was the most costly

neonatal condition to manage when per neonate median neonatal care cost is considered.

Conclusions - Nearly 1/6 of term neonates required admissions to NCU, before initial discharge from hospital. Cesarean section with labour, 37 completed weeks of POA at delivery, PIH, GDM, primi parity and maternal occupation as professionals are independent risk factors of 'adverse neonatal outcome' in term neonates. Government cost was 92.9% of total neonatal care cost. Considerable proportion (89%) had out-of- pocket cost with regard to laboratory services.

Median total neonatal care cost per term neonates with 'adverse neonatal outcome' is Rs. 50,193.00 (IQR Rs. 39,047.00 - Rs. 79,638.00).

Keywords - Term neonate, adverse neonatal outcome, maternal risk factors, neonatal care cost

0133.Hamsananthy, J.
Social vulnerability to malaria during the prevention of re-introduction phase in Sri Lanka.
MD Community Medicine – 2018   D 4669

Background-Prevention of re-introduction of malaria is a challenge for Sri Lanka after being certified 'malaria-free' by WHO in September 2016 as receptivity and vulnerability to malaria continues to be high. In addition, social vulnerability plays a role in predisposing populations to get malaria infections and their ability to mitigate the risk of getting malaria. At this juncture, addressing social vulnerability to malaria during the prevention of re-introduction phase is crucial for planning and implementing suitable interventions to keep the country malaria-free.

Objectives -The main objectives of this study were to assess social vulnerability to malaria in the prevention of re-introduction phase in Sri Lanka and to develop country specific standards for health institutions for PoR phase.

Methodology -The study was conducted in 3 phases. In phase 1, the conceptual framework was adapted from Kienberger and Hagenlocher (2014) and a tool (national survey questionnaires) was developed based on an extensive literature review, a validation study and discussions with experts. Country specific standards for health institutions were developed following an extensive literature review, inputs from the validation study referred to earlier with field visits, and inputs from experts using a modified Delphi technique.

A national survey was conducted among 3454 households, 766 healthcare providers and 394 health institutions in phase 2. The social vulnerability index was derived and mapped in phase 3. Household sampling was done using a multistage cluster sampling technique and data were collected using an interviewer administered questionnaire. Health institutions were selected by simple random sampling after stratifying institutions by type. Simple random sampling was used to select healthcare providers from the selected institutions. Participatory observation questionnaire and self-administered questionnaire were used for health institutions and healthcare providers, respectively.

Social vulnerability was assessed based on the developed conceptual framework for social vulnerability. Items in the developed country specific standards were used as a guide to assess resilience of health institutions. SPSS version 20 package was used for statistical analysis. Social vulnerability index was modeled using principal component analysis. The social vulnerability index was mapped at district and population level using the natural neighbourhood technique in arcGIS software.

Results -The overall social vulnerability to malaria during the PoR phase for the country was 0.27. The social vulnerability index (SVI) was mostly influenced by the resilience indicators including health system response. There were inter-district variations in SVI ranging from 0.10 to 0.81; Nuwara Eliya district had the lowest SVI and Colombo district had the highest SVI. There were intra-district variations in spatial mapping. Social vulnerability was significantly lower in urban areas (0.09), migrant populations (0.18) and high in upper socio-economic strata (0.28). There was zero prevalence of malaria in the general population as well as in fever patients. The mean malaria awareness score of the public was 28.6% (SD-9.03) while that of healthcare providers was 54.7% (SD-10.6). The majority of migrant population with fever (81.4%, n=35) sought medical care within one week of the onset of fever and were checked for malaria. Among those who had fever within 2 weeks prior to the survey, 91.3%(n=125) sought medical care within one week of onset of fever but only 3.6% were tested for malaria. Around 20% of persons who had a fever episode 2 weeks prior to the survey perceived that they do not have access to universal health coverage for fever management. Around 10% of the population with fever within 2 weeks of the survey did not seek medical care or self-medicated themselves.

Anti Malaria campaign offices were up to the developed country specific minimum standards except in some aspects - human resources and documentation. Diagnostic and treatment facilities were available in accordance with the developed country specific standards. However, there were no Anti Malaria Campaign offices in 6 districts including Colombo which had the highest social vulnerability index in this study. In addition, there were many lapses in the other healthcare institutions.

Conclusions and recommendations -The overall social vulnerability of the country shows the continued need for resource allocation for prevention of reintroduction of malaria to increase the resilience of the health system. The regional disparities of social vulnerability show the need for more resource allocations for the high socially vulnerable districts; allocations should take into account intra district disparities.

Upper social class populations should be targeted for raising awareness on malaria and prevention of its re-introduction. Zero prevalence of malaria supports the malaria-free status of the country. Pooled blood samples may be tested for malaria parasites to detect parasite reservoirs in the community as a more efficient cost effective approach.

As the awareness on malaria among both public and healthcare providers was low, more awareness programmes should be conducted for both public and healthcare providers to keep malaria on the radar through television, mobile phones and newspapers. Both television advertisements and SMS alerts from mobile phones could be used to increase awareness on malaria. As around 10 % of the population did not seek medical care or self-medicated themselves, this group should be specially targeted through pharmacists to prevent re-introduction of malaria.

The health system responsiveness of the anti-malaria campaign offices and other health institutions including the private sector should be upgraded according to the developed country specific standards.

As the social vulnerability to malaria is a dynamic phenomenon, the assessment could be done periodically in every 4 or 5 years. Future research could be done by combining environmental, parasitological and entomological aspects to obtain an integrated and complete assessment of the risk of re-introduction of malaria.

Keywords: Malaria, Social vulnerability, Prevention of Reintroduction, Sri Lanka

0134.Hathamuna, A.I.
Level of emotional intelligence and its' association with perceived stress and coping strategies among primary grade school teachers in Homagama education zone.
MSc. Community Medicine – 2017   **D 4477**

Introduction -The value of Emotional Intelligence in educational reforms related to teachers and students have been widely experiencing globally. Despite, there are no studies in Sri Lankan literature on emotional intelligence among primary grade teachers and its' association with stress and coping.

Objective -To determine the level of emotional intelligence and its' association with perceived   stress and coping strategies among primary grade school teachers in Homagama education zone

Methods- A descriptive cross sectional study was carried out among the primary grade teachers in Homagama education zone. Multistage cluster sampling method was used to select primary grade teachers and 549 teachers participated for the study. A pre tested self- administered questionnaire consisting of "Schutte Self Report Emotional Intelligence Test (SSEIT)", 10 items "Perceived Stress Scale (PSS)", "Brief Cope" was used for data collection. Level of emotional intelligence was described using percentages and mean values. Associations between variables were assessed using Chi-square test and *p* value of < 0.05 was considered as significant.

Results- Among the primary school teachers 72.1% (n=396) of them showed normal level of El while 14.2% (n= 228) had high El and only 13.7% (n= 75) had low El .The majority (82.5%, n=453) of teachers had low perceived stress (0 - 20) while only 17.5% (n=96) teachers had high perceived stress (21 - 40). Results showed statistical significant association *(p* <0.013) between emotional intelligence and perceived stress (OR= 0.451, Cl = 0.238-0.854). A statistical significant association was found between emotional intelligence and problem focused coping strategies among the primary grade teachers (chi =13.72, p <0.001) with an OR of 2.79 (95% Cl 1.59- 4.88). There was a statistically significant association between emotional intelligence and emotional focused coping strategies among the primary grade teachers *(x^2 =*13.72, *p* = 0.009) with an OR= 1.97 (CI= 1.17-3.30). According to Coefficient" there was significant and negative correlation   intelligence and perceived stress (r= -0.275, *p* <.01). Both emotional focused coping and problem

focused coping strategies were significantly and positively correlated with emotional intelligence (r = 0.21, $p < .01$, and r = 0.273, p< 05, respectively).

Conclusions and recommendations- The results revealed that majority of primary grade teachers in Homagama education zone having high or normal level of El. Further there are significant association between El and perceived stress, between El and problem focused coping . The finding implies importance of emotional intelligence in educational sector reforms. Training programmes should be carried out to further develop emotions intelligence among the teachers.

Keywords: Primary grade teachers, emotional intelligence, perceived stress, coping

0135.Hemamali, E.L.V.
Perceived school environmental factors on subjective well-being of adolescents of 13-15 years in selected government schools of Colombo district.
MSc. Community Medicine – 2018   D 4705

Introduction:

A positive school environment not only influences the academic development, but also the health and well-being of adolescents.

Objectives

The main objective of the study was to describe the adolescents' perception of the physical and psychosocial school environmental factors on subjective well-being among adolescent of 13 - 15 years studying in selected government schools of Colombo District.

Methods

A school based cross-sectional study was conducted among 813 adolescents of 1315 years in Colombo District. Sampling of adolescents was done using simple random sampling cluster sampling methods. Data were obtained using a self administered questionnaire including Student Subjective Well-being Questionnaire (SSWQ) to assess the level subjective well-being among adolescents as well as a questionnaire to identify studs' perception of the school environment, which was developed following extensive liters review.

Results

Majority of the study sample were females (n=500, 61.5%) with the response rate of 98. Prevalence of a high level of SWB among the adolescents was 54.6% (Cl

51.2-58.0). Factors associated with a high level of Subjective well-being were belonging to age category of less than 15 years (p=0.031), having a family income of more than Rs 30,000 (p<0.0 having good health (p=0.022), having good school performance (p<0.001), participate extracurricular activities (p<0.001), not having a parent or relative working at school (p=0.023) and studying in Tamil medium (p<0.001).

Among the socio-demographic factors religion, ethnicity, sex, current living condition parent's living or not, parent's occupation and educational level were not associated with level of SWB. The school functional type, type of school (mixed/ not mixed), school attendance, number of close friends and presence of siblings at school were also not found to be significantly associated with the level of SWB Out of the psychosocial environmental factors obvious gaps were identified in each category, but weaknesses regarding peer relationship, student-teacher relationship, fairness and prevention of bullying at school were found to be more profound. The student's perception of school sanitary facilities and classroom conditions were unsatisfactory.

Conclusion

Only about half of the adolescents in the study population had a high level of SWB. Physical and psychosocial school environmental factors were found to be associated with students' SWB.

Recommendation

Positive changes in the focused areas of the school environment should be arranged by education and health authorities to promote the well-being among adolescents. Future studies should in cooperate objective measures to assess the SWB of adolescents as well as the school environment.

Keywords: School Environment, Subjective Well-being, Adolescents

0136.Herath , I.N.S.
Physical and psychological problems among antenatal mothers in the district of Kegalle and effects of antenatal exercises.
MD Community Medicine- 2015   D 3688

Introduction - Exercises are beneficial for physical and psychological wellbeing and overall health. Minor physical and psychological symptoms not appropriately treated could debilitate pregnant women. The present study was undertaken

considering the importance of developing a standard guideline to effectively promote physical exercises among pregnant mothers.

Objective - To determine physical and psychological problems associated with pregnancy and to assess the effects of physical exercises among a group of primigravida antenatal mothers in Kegalle District, Sri Lanka.

Methods - Component I - Prevalence of physical and psychological problems were assessed by pre-tested interviewer administered and self administered questionnaires, among 1017 second and third trimester primi gravid antenatal mothers, in Kegalle district. Sample selected by two stage probability proportional to size cluster sampling method.

Component II - Qualitative study, by key informant in-depth interviews and consultative meetings to develop the exercise guidelines.

Component III - Quasi experimental study to implement the course of antenatal exercises developed for a selected group of primigravida mothers in second trimester, at two MOH areas in Kegalle district. Sample size was 234 each for control and intervention groups. Study instruments were similar to component I. Control and intervention groups assessed at pre intervention and after four months during pregnancy and at six weeks post partum.

Component IV - Descriptive cross sectional and qualitative study to assess factors associated with in intervention group in component III. Study participants were mothers at post intervention level at six weeks post partum. Sample size was 138. Study instrument was a self administered questionnaire. Evaluation of the diary and observation field visits with in- depth interviews of selected number of husbands and family members were carried out.

Results - Component I - Overall 76% presented with some type of physical problems. Psychological distress 23% whereas depression 10%. Age and status of employment of mother, type of occupants at home and presence of other occupants other than parents were significantly associated with physical and psychological problems.

Component II - Exercise guideline developed with 10 physical exercise steps in a wall chart.

Component III - At post intervention assessment, four months after intervention, during pregnancy backache, fatigue, musculoskeletal pain, psychological distress

and depression had been reduced significantly. However, assessment at six weeks post partum, musculoskeletal pain, urinary incontinence, psychological distress and depression had reduced significantly. Furthermore, low birth weight was significantly reduced in the intervention group. Vaginal deliveries were significantly higher among those who did regular exercises in the intervention group.

Component IV - Encouragement and motivation by family members, husband and PHM, helped mothers to exercise regularly. Younger age, level of education above grade 10, absence of physical problems and absence of depression of the mother were significantly associated with compliance. Increased knowledge and attitude on exercises and benefits of exercises were identified as contributory factors for increased participation by mothers.

Conclusions - Some physical and psychological problems in pregnant women can be alleviated by the introduced exercise program.

Recommendations - Introduce this physical exercise guideline to pregnant compliance women in selected districts as a pilot project and later in all districts.

Keywords -antenatal, exercise, physical, problem, psychological

0137.Herath, K.K.W.H.P.
Long term effects of hyper glycaemia in pregnancy on anthropometric and cardio metabolic parameters in the off spring at 10-11 years of age in Colombo district.
MD Community Medicine – 2017   **D 4322**

Introduction: -The escalating epidemic of obesity and diabetes is a major public health problem leading to premature death from cardiovascular diseases. As evidenced by the studies of developmental origins of health and disease, intrauterine exposure to hyper glycaemia can affect future risk of obesity, diabetes and cardiovascular diseases in the offspring via fetal programming.

Objectives: -To determine the long term effects of intrauterine exposure to hyper glycaemia in pregnancy (HIP) on anthropometric and cardio metabolic parameters in the offspring at 10- 11 years of age in Colombo district

Methods: -A retrospective cohort study was conducted in Colombo district involving 159 offspring of mothers who had HIP (exposed group) and 253 offspring of mothers who did not have HIP (non-exposed group). Participants were selected

using a multi stage sampling technique. Exposure status was ascertained based on antenatal records. Outcome was ascertained by clinical measurements (height, weight, waist circumference, Triceps skinfold thickness (TSFT), blood pressure) using calibrated equipment and laboratory investigations (fasting blood sugar and lipid profile). Information on confounding variables were obtained using pretested questionnaires (questionnaire 2 and 3, physical activity questionnaire).

Participants' dietary energy intake was assessed using a 24 hour dietary recall. Bivariate analysis followed by logistic regression determined the outcomes significantly associated with exposure to HIP with adjustments for confounders.

Results: Mean age of participants in the exposed and non-exposed groups were 10.89 years and 10.82 years respectively. Forty two percent (n=67) of exposed and forty seven percent (n=l 18) of non-exposed children were males. The vast majority of participants were Sinhala, Buddhists. Mothers of exposed children were significantly older (31.9 years versus 27.8 years, p < 0.001) and had higher BMI at first trimester of index pregnancy compared to mothers of non -exposed children. Approximately 50% (n= 128) of non -exposed children were firstborns as compared to only one third (n = 53) among the exposed children (p=0.002). Exposed children were significantly heavier at birth than non-exposed children (3.1 kg versus 2.9 kg, p<0.001). After adjusting for confounders, the following outcomes were significantly associated with intrauterine exposure to HIP: overweight (OR=2.85; 95% Cl 1.49 5.41), abdominal obesity (OR=2.89; 95% Cl 1.29 - 6.46), TSFT > 70th percentile (OR=2.0; 95% Cl 1.10 - 3.77), Elevated LDL cholesterol (OR=2; 95% Cl 1.1 - 3.4), elevated triglycerides (OR=2.6; 95% Cl 1.3 -5.2).

The following outcomes were significantly associated with exposure to HIP in the bivariate analysis, but the significance disappeared after adjustment. Impaired fasting glycaemia (crude OR=5.9; 95% Cl 1.2-28.9), total cholesterol (crude OR=2.1; 95% Cl 1.3-3.4). There was no significant difference in the risk of having obesity, systolic hypertension and prehypertension, diastolic hypertension and prehypertension and low HDL cholesterol levels between exposed and nonexposed groups in the crude or adjusted analysis. There was no significant association between exposure to HIP and metabolic syndrome (OR=3.3; 95% Cl 0.8 -13.6).

Conclusions and recommendations: -Intrauterine exposure to HIP has long term effects on the offspring. These mother-child pairs need long term follow up and

advice on lifestyle modifications to prevent or delay the onset of adverse anthropometric and cardio metabolic outcomes. Children exposed to HIP need long term monitoring of growth and cardio metabolic risk parameters to detect and manage the adverse outcomes early.

Keywords – hyper glycaemia in pregnancy and offspring, gestational diabetes, long term risk of intrauterine hyper glycaemia, offspring of diabetic mother, Sri Lanka

0138.Herath, M.D.
Knowledge and attitudes toward caring and perceived level of satisfaction on clinic care and associated factors among caregivers of children with cerebral palsy attending the rheumatology and rehabilitation clinic at Lady Ridgeway Hospital, Colombo.
MSc. Community Medicine – 2016   D 3983

Introduction and objectives
Cerebral palsy is the commonest childhood physical disability. It is permanent and irreversible and requires life-long care. Over the years, the global incidence of cerebral palsy has remained at 2.5/1000 live births. With the advancement of medical sciences, this rate is likely to rise as children with brain damage are more likely to survive. Children with cerebral palsy have varying levels of disability and they usually require the assistance of a caregiver to carry-out their day to day activities. This highly demanding role of the caregivers requires them to have an adequate knowledge of the disease and about its care; have a favourable attitude towards these activities.

The study describes the knowledge and attitudes toward caring and the perceived level of satisfaction on clinic care and associated factors among caregivers of children with cerebral palsy attending the Rheumatology and Rehabilitation clinic at Lady Ridgeway Hospital, Colombo.

Methodology
This study was carried out as an institution-based descriptive cross-sectional study over a period of one month. All the caregivers of children with cerebral palsy attending the clinic during the study period fulfilling the inclusion/exclusion criteria were included in the study. An interviewer administered questionnaire and data extraction form were used to collect data.

Results

The response rate was 96.4%. Most of the caregivers (95.6%) were a parent; and a majority (92.3%) of them were mothers. Most were in the 30 to 34 years age category and the mean age was 36.09 years; 52.4% of them had an education level above GCE O/L; and 80.9% were unemployed. The main source of health education was the hospital clinic staff followed by public health staff. The children attending the clinic were mostly boys (57.7%), first born (52%) with no other living siblings; and belonged to nuclear families. Most children (67.5%) eligible to attend school were doing so; of them 61.3% were attending normal schools/pre-schools. Most of the clinic attendees were from the Western Province (63.8%); 61.4% of them travelled less than 60 km to reach the clinic; 64% travelled for less than 3 hours to reach the clinic; 53.7% spent less than 1500 rupees per clinic visit; and the common mode of transport was public transport (60.2%). Among parents, 98.4% fathers and 18.4% mothers were employed; the commonest monthly income category was 20,000 to 29,000 rupees. Only 8.1% of the children received financial support. Most children (80.9%) had associated conditions, the commonest were speech disorders and seizures; 79.7% had illnesses un cerebral palsy and 36.6% had minimum disability level of GMFCS level I.

Most caregivers (83.3%) had a good knowledge on cerebral palsy and its care the association was assessed with key characteristics of children and caregivers did not show any statistical significance. | Most caregivers (89%) had favourable attitudes but did not show a significant association to key factors assessed except for the caregiver's level of education. Most caregivers (76.4%) were satisfied with the overall clinic care, the process component was satisfactory among 91.8% caregivers structure component was found to be unsatisfactory among 53.3% of caregivers. Unavailability; facilities for disabled children, lack of comfort in the waiting area and lack of good toilet accounted for this outcome. Caregivers' age and child's family type showed significant associations.

Conclusions and recommendations

Most caregivers were parents - mothers most of the time; most were married, educated unemployed. The children were mostly boys, first born, from nuclear families and attending school. Most caregivers had a good knowledge and good attitudes on caring for cerebral palsy, reported in other countries. Overall,

caregivers were satisfied with clinic care, but unsatisfied the structure component of clinic care.

Facilities in the hospital and in the community through community based re programmes, improving access to disabled children providing, improving the education promoting the traditional extended family set up are recommended. Improving care for 16 years with cerebral palsy at adult clinics and encouraging prevalence studies on CP to determine the magnitude of the problem are suggested.

Keywords: cerebral palsy, caregivers, knowledge, attitudes, satisfaction on care, rehabilitation

0139.Hettiarachchi, C.A.
Evaluation of labelling regulations and effectiveness of a training package in improving adherence of labels of beverages to labelling regulations in Kalutara district.
MD Community Medicine – 2018   **D 4674**

Introduction

Food is generally referred as an 'article' consumed by humans. Food can be solid, semisolid or liquid. A beverage is a liquid intended for human consumption. Food label is the main medium of communication between the manufacturer, distributor and the consumer. The label is regulated by laws and guided by standards. In Sri Lanka under the Food Act there are regulations in relation to labelling of beverages. In addition, Codex standards on food labelling made by Codex Alimentarius Commission are considered as benchmark in international standards of food labelling. Implementation of labelling regulations is vital to ensure the safety of food. Therefore, it is important to study on labelling regulations; strengths and implementation status.

Objectives

The study was carried out with the objectives of describing the strengths and deficiencies of Sri Lankan labeling regulations for beverages in comparison to international labeling standards of Codex Alimentarius, assessing the compliance of labels of beverages to the Sri Lankan labeling regulations and Codex standards, and determining the effectiveness of an training programme to manufactures / distributors and authorized officers in improving the compliance of beverages to the labeling regulations.

Methods

The first phase was a descriptive study. Description of strengths and deficiencies of the Sri Lankan food labeling regulations for beverages was carried out by comparing with the relevant labelling standards of Codex Alimentarius by using a check list. Attitudes and practical difficulties of local manufacturers / distributors and authorized officers related to labelling regulations in the Kalutara district and consumers were assessed through Focus Group Discussions.

The second phase was a pre-post study. The pre intervention assessment was done in 835 beverage labels, 134 manufactures / distributors and 46 authorized officers in Kalutara district. The compliance of beverage to labelling regulations and Codex standards were assessed by a check list. Knowledge, attitudes and practices assessed by a self- administered questionnaire. The training package consisted of a training programme and an information booklet. The knowledge, attitudes and practices were assessed in three months and compliance of labels to Sri Lankan labelling regulations in six months.

Results

The strengths of the Sri Lankan labelling regulation compared to Codex labelling standards includes location of information, language, font size and font type being regulated and displaying of sugar levels in carbonated and fruit-based beverages. On the other hand, no availability and disparity in definitions of technical terms, absent of provisions on nutrient information and hypersensitivity warnings are weaknesses.

Of the 835 beverage labels surveyed, not a single label was fully complied with the labelling law. The compliance to Codex standards which are not included in to Sri Lankan regulations was poor. The knowledge on labelling regulations was poor among manufacturers / distributors (n=138) and authorized officers (n=46). However, attitudes were favourable towards implantation of labelling regulations. Of all authorized officers (n=46) not a single authorized officer had implemented legal proceedings for labelling regulations during the period of three months preceding the pre interventional assessment.

There was statistical significant improvement ($p<0.05$) of the knowledge and attitudes of manufacturers / distributors and authorized officers in immediate post intervention and number of legal proceedings in three months' period after the intervention. In addition, there were statistically significant improvement ($p<0.05$)

in correction of font type and font size though, many other violations remained uncorrected six months after the intervention.

Conclusions and Recommendations

Sri Lankan food labelling law is relatively complex and less user-friendly document. None of the food industries fully adhered to the labelling regulations. The knowledge and practices were also poor while attitudes were favourable. Drawbacks in the legislation as well as the public health system in relevant to food safety had contributed to poor implementation of labelling regulations. The intervention of the training package was effective to improve the knowledge, attitudes and practices. However the intervention was not effective to sustain the knowledge. It was effective in correcting few violations by the food industry and most of violations remained uncorrected.

Therefore, it is recommended to formulate/amend the food labelling regulations and conduct regular training programs / awareness programs. The public health system needs to be more strengthening by establishing resource teams for legal proceedings at national and local level, improving monitoring and evaluation of implementing legislation, and training of trial conducting officers.

Keywords: Food, food legislation, food labelling, labelling regulations, beverage, Food Act, training package

0140.Hewawasam, H.K.K.R.P.
Role of grandparents in upbringing of grandchildren between six months to five years of age, their stress levels and associated factors in Homagama Medical Officer of health area.
MSc. Community Medicine – 2017   D 4490

Introduction/ Background

The grandparents who raise their grandchildren is currently a growing trend worldwide. Changing in to new role during the evening of life is challenging and stressful.

Objectives : To describe the role of grandparents in upbringing of grandchildren between six months to five years of age, their stress levels and associated factors in Homagama Medical Officer of health area.

Methods: A descriptive cross sectional study was conducted in Homagama MOH area. The calculated sample size was 510 and grandparents upbringing of

grandchildren between six month years of age were recruited using the multi stage sampling technique. An into administered questionnaire was used. The role was assessed using the questionnaire formulated using the previous studies. The parental stress scale and perceived stress scale were assess the overall stress among the grandparents. Data was analyzed using statistical package social sciences (SPSS version 21). Chi square test was performed to assess associations.

Results: Majority who looked after their grandchildren were grandmothers 76%(n=383) and Sinhala Buddhists (>90%) The mean age of grandparents was 62.6(SD=6.55, Range 78).Nearly half of the grandchildren were less than thirty months. More than 90% grandparents cared for their grandchildren on a daily basis. The role of grandparents assessed in three dimensions. The frequency of contact was measured as median mini each caring practices and then the median for total minutes of care for the d; calculated (Median= 360; IQR=135). The grandparents who scored for more than median considered as having good role (n=260; 52%). Majority of grandparents held positive a towards the grand parenting (>75%). In relation to the multiple role occupancy (extra ac other than the parenting role) 98%(n= 493) of the grandparents had good role. The mean score for parental stress score and perceived stress scale was 34.92 (SD=8.27) and 20.19(SE respectively. Being a grandfather, other religions, higher income status, presence of chronic disease, higher age of the child, higher duration of upbringing and presence of housemaid significantly associated with the level of stress (p=.001). Although grandparents with got had high level of stress this observed difference was not statistically significant (p>0.05).

Conclusions: Grandparents experienced varying degree of stress levels when looking after their grandchildren. These aspects should be addressed by responsible policy makers and health care professionals.

Keywords: Grandparenting, Grandchildren, Caring Practices, Stress Level.

0141.Irshad, M.M.M.
Level of health literacy and factors associated among environmental police officers in five divisions in Colombo district.
MSc. Community Medicine – 2018   **D 4816**

Introduction: Health Literacy is an evolutionary product of the health promotion concept and 'Adequate Health Literacy' is fundamental to health care, disease prevention and health promotion that requires environmental police officers to have a more active role in public health.

Objective: To describe level of health literacy and factors associated among environmental police officers in five divisions in Colombo district.

Methods: The level of health literacy and its associated factors among 376 environmental police officers in five divisions in Colombo district were assessed by a descriptive cross-sectional study using modified & adopted HLS-EU questionnaire. Health literacy categorized into two levels as adequate & limited health literacy based on a score of 47 questions. Associated factors were analyzed with the level of health literacy by the chi - square test and p value of 0.05 was used to determine the significance.

Results: The level of health literacy among environmental police officers revealed that 52.9% (Cl 47.5%-57.4%) has adequate health literacy, meanwhile considerable proportion of the study population belongs to the limited health literacy (47.1%, Cl 42.6%-52.5%). Member of the health club or welfare group was significantly associated with the level of health literacy (p=0.02). There was a significant association (p=0.001) between limited health literacy and study participants who have not undergone awareness program during the last six months (OR = 0.47, 95% Cl = 0.3-0.7). Study participants who were not being able to read and write in English, was significantly (p=0.04) associated with limited health literacy (OR = 0.6, 95% Cl =0.3-0.99). There was a significant association (p=0.003) between study participants who had poor health knowledge (52.1%, n=138) and limited health literacy when compared to the study participants who had good health knowledge (35.1%, n=39).

Conclusions: Approximately half of the environmental police officers have limited health literacy with modifiable associated factors in five divisions in Colombo

district, which need to be considered for planned interventions by the relevant sectors in health due to the implications.

Keywords: 'environmental police officers', 'health literacy', 'associated factors'

0142.Jayakody, H.G.
Impact of preterm birth on health related quality of life of children at the age of three years in the Gampaha district.
MD Community Medicine – 2016   D 4012

Introduction / Background - Survival of preterm children had improved over the years in Sri Lanka. However preterm born children are at increased risk of medical and developmental complications. As a result, health related quality of life of children gel affected. Thus the impact of gestational age on the quality of life of children during the preschool years provides valuable information of the quality of survival of preterm born children. It fulfills the gap in information to provide effective care for them.

Objectives - To assess the impact of gestational age on health related quality of life among preterm born children at the age of three years and to describe its impact on their families in the Gampaha district

Methods - Study had three main components. A tool was validated to the local setting and it was used to assess health related quality of life of children at three years of age In the first component TNO AZL quality of life questionnaire for preschool aged children was cross culturally adapted and translated to Sinhalese language. Validation study was conducted in Colombo district among 467 children in the age group of 3 and 4 years.

 Second and Third component of the study was conducted in Gampaha district. A cross sectional descriptive study was conducted among 379 preterm born children to describe health related quality of life and to describe health care utilization. An interviewer administered questionnaire and a data extraction form was used to collect data for this component.

The third component of the study was a community based retrospective cohort study. I included 800 preterm and term born children from 36 months to 42 months of age. The; were selected from public health midwife areas using a multi stage cluster sampling method. Data was collected using the Sinhala validated version of

TAP QOI questionnaire, Sinhala translated version of impact on the family scale and at interviewer administered questionnaire. Relationship between health related quality of life and preterm birth was explored using multivariate analysis.

Results - Sinhala version of TAP QOL questionnaire for preschool aged children was validated. Health related quality of life was measured in 12 subscales. For the retrospective cohort study, the response rate was 94.6% (n=757). Gestational ag (preterm birth) showed statistically significant association with health related quality of life in the subscales on sleep wellbeing (|3 = -0.104, p=0.050), general wellbeing ((3=- 0.101, p=0.050) and abdominal symptoms (p = -0.196,p=0.001) when related factors were controlled in the analysis. None of the subscales on emotional, social and cognitive wellbeing were predicted by gestational age (preterm birth). Further, chronic ill health, development status of children and parental perception of the health status of the child predicted the health related quality of life of children.

Impact on the family due to a preterm born child were reflected in the aspects of impact on social relationship (p = 0.127), general family impact (P= 0.077), coping and mastery (P=-0.078) and in overall total impact score (P = 0.063). In addition to that index child being a twin, income of the family and chronic illness of the child predicted the impact on the family.

With regard to field health care only 61.5% of preterm born children were visited by a public health midwife during the past 6 months (n=233, 95%CI 56.6 to 66.4%) and developmental milestones were marked only among 33.5% of children (n=127, 95%CI 28.8 to 38.2%). Less than 5% of preterm children had received medical screening during past 6 months There was increase utilization of primary health care facilities and specialist care facilities in the private sector by preterm born children when compared to term born children (p = 0.041 and p=0.038 respectively).

Conclusions and Recommendations - Preterm birth was a predictor of physical wellbeing aspect of health related quality of life. Further having a preterm born child had made a negative impact on the family in the aspects of social relationships, genera impact and positive impact on coping and mastery.

Family support groups and peer groups at the community level and parental awareness programmes are recognized to reduce the impact on families due to

preterm bon children. In order to improve the health related quality of life, globally recommended evidence based interventions such as early developmental care and periodic medical screening of preterm children could be adapted to the local setting.

Keywords - Health related quality of life, preterm children, preschool age

0143.Jayakody, J.M.S.N.
Prevalence and psychosocial correlates of depression during antenatal period in pregnant women of medical officer of health area Galigamuwa.
MSc. Community Medicine – 2013   D 3952

Depression is a psychiatric illness which significantly contributes to the global burden of disease, and also affects people all over the world. According to WHO, unipolar depressive disorder rank among the top five with respect to the global burden of disease. It is the leading cause of disability worldwide. The burden of depression is 50% higher for females than for male. The difference is marked during childbearing years in women. Pregnancy is usually considered to be the time of emotional well-being; however women are not protected from depression during pregnancy. Prevalence and determinants of post-partum depression has been thoroughly investigated in many countries around the world, but few have overlooked them during pregnancy. Data on prevalence of antenatal depression in Sri Lanka was also very limited.

The present study was a descriptive cross sectional study aiming to determine the prevalence and psychosocial correlates of depression during antenatal period in pregnant women of MOH area, Galigamuwa in Kegalle District. Three hundred and forty-six (346), pregnant women who registered for antenatal care at the time of data collection were included in the sample. EPDS scale was used to assess the probable prevalence of antenatal depression. Self-administered questionnaire on socio-demographic data, and on reproductive health, Maternity Social support scale, Abuse assessment questionnaire, and Modified life events inventory were administered at the same time to identify the factors associated with antenatal depression. All the above tools had being validated for Sri Lanka. EPDS cut off score for antenatal depression was taken as nine (9). Antenatal prevalence of probable depression in the study group was twenty-two point eight percent (22.8%). The study population were mainly Sinhala Buddhist (96%). Mean age was 28 years (SD= 5.146; range= 17-40 years). All of them were married. Eighty-two point nine

percent (82.9%) of the mothers had studied up to or above G.C.E Ordinary level. But most of them were housewives(84%).All husbands in the study population were employed. Most of them (59.2%) were in skilled or semi-skilled category of occupations. Most of the mothers were lived in extended families (62.7%) and 59.8%were belongs to middle social class.

The following factors were found to be significantly associated with the antenatal prevalence of depression:

Low level of education of the spouse (p=0.002), total family income of <5000 rupees(p=0.002), low social class (p = 0.005), those who undergoing 4th or 5th pregnancy (p = 0.001), unplanned pregnancy (p = 0.001), those with pregnancy related complications (p=0.005),non-availability of social support(p = 0.001),ever physical abuse, physical abuse within last one year, physical abuse during pregnancy(p = 0.001), those with 2 or more life events (p = 0.001).

Age, level of education and the employment status of the mother were not found to be associated with the antenatal prevalence of depression.

The present study concluded that about one fifth of antenatal mothers in the study group were having probable depression (22.8%), and the factors associated for the prevalence of depression were low level of education of the spouse, total family income of <5000 rupees, low social class, 4th or 5th pregnancy, unplanned pregnancy, pregnancy related complications, lack of social support, presence of physical abuse and having 2 or more life events.

Health care provider especially primary health care staff need to be sensitive to this issue as early identification and treatment of depression will improve the outcome. Awareness programmes on antenatal mental health problems and their associations should be carried out for PHMM as well as in antenatal classes. Mental health services should be made available at MOH level, as improving maternal mental health will invariably improve the family's mental well-being.

Keywords: Antenatal depression, prevalence, Edinburgh post-natal depression scale, Life events, social support, pregnancy.

0144.Jayamani, K.H.G.C.
Comparison of knowledge, myths, accessibility and practices on emergency contraception among post-partum mothers in two selected urban and rural Medical Officer of health areas in the Western Province.
MSc. Community Medicine – 2018   **D 4823**

Introduction

Emergency contraception is methods of contraception that can prevent pregnancy after sexual intercourse. (WHO, 2018) In Sri Lanka knowledge on any contraception is 99.6% but knowledge on emergency contraception method is only 53.1% which is the second lowest from the modem family planning method other than female condoms. Sri Lankan contraceptive prevalence in the currently married women age 15-49 years is 65% and current use of emergency contraceptives is low. Based on development, density of population, opportunities and amenities human settlement can be divided in to two groups as urban and rural. These two human settlements are very different. In Sri Lanka no comparative study has been done for this topic.

Objectives

To compare knowledge, myths, accessibility and practices on emergency contraception among post-partum mothers with babies aged two to twelve months, attending Child Welfare Clinics in two selected urban and rural Medical Officer of Health areas in the Western Province.

Methods

A descriptive cross-sectional study; comparison of urban and rural settings. Clinic based study. Study population was Child welfare clinic attendees for vaccination in Battaramulla and Baduraliya MOH area with babies aged 2 months to 12 months. Study done using 295 of clinic attendees in Baduraliya and 291 clinic attendees in Battaramulla. In Baduraliya systematic sampling technique was applied and in Battaramulla all the clinic attendees were included in the sample. Study instrument was Pre-tested interviewer administered questionnaire. It was prepared with the supervisor and experts in the subject. Two population were compared by chi square value.

Results

Rural mothers (Baduraliya) had low knowledge on emergency contraception than urban(Battaramulla)($p < 0.001$). There was no significant difference on myths on

emergency contraception in both rural and urban groups. Accessibility of the emergency pills were significantly low in rural population than urban population. Baduraliya group need to travel more than 10 km for a service provider. There is significant difference in affordability of emergency contraception due to price in rural population compared to urban population. Rural population was less affordable for emergency contraception. (p=0.006). Compared to urban population rural population had significantly missed more emergency pills when they needed. Lack of knowledge is the main reason for missed pills. *(p~ 0.02)*. When comparing practices urban population had practiced emergency contraception more than rural population. But there was no statistical significance. (p=0.41). There was no statistical difference between frequency of usage of emergency contraception. There was no difference of experiencing side effects of emergency contraception between two groups. There was no difference in comparing the decision of emergency contraception. More people in the urban group has used emergency pills due to, not using regular contraceptive pills. (p<0.001)

Conclusions and recommendations

There are gaps in lack of knowledge, accessibility and practices in emergency contraception in rural community than urban community. Therefore, mechanism should be developed to address these issues in health care sector and non-health sector.

Keywords: Emergency contraceptives, knowledge, myths, accessibility, practices, comparison.

0145.Jayarathna, K.A.D.N.S
Knowledge, attitude and practices of contraception among male spouses, their involvement in family planning decision making and its associated factors in the Medical Officer of health area Deraniyagala.
MSc. Community Medicine – 2018   D 4696

Introduction: Traditionally, the family planning programmes have focused mainly on women ignoring the crucial role played by men in the family's decision-making process. Male involvement in family planning includes; men as clients of contraception, men as partners in decision making, and men in a supportive role with their partners to use contraception.

Objective: The objective of this study was to, describe the knowledge, attitude and practices of contraception among male spouses, to assess their involvement in family planning decision making and its associated factors in the Medical Officer of Health (MOH) area Deraniyagala.

Methods: A community based descriptive cross-sectional study was conducted, among the married males, whose female spouses were between 15- 49 years. Multistage cluster sampling method was applied to obtain the calculated sample size of 507. There were 16 clusters and from each cluster, the first household was selected using the simple random method. A pre-tested interviewer-administered questionnaire was used to collect the data.

Results: Age of the participants ranged from 21 to 52 years with a mean of 32.7 (SD = 6.5) years. Among the 485 males participated, the majority (99.2%, n=476) were aware of family planning, even though, a low percentage (15.4%, n=63) were currently practicing any contraceptive method. Male condoms was the highest known method (92.4%, n=440), followed by oral contraceptive pills (65.3, n=311) and hormonal implants (32.6%, n=155). Only 33.1% (n=159) of male spouses had a satisfactory knowledge on family planning whereas 56.9% (n=273) of them had a positive attitude towards family planning. Majority (64.7%, n=262), showed a good involvement in decision making related to family planning. Male spouse's residence (OR = 2.3; 95% Cl: 1.4 - 3.9; $p = 0.001$), age (OR = 0.5; 95% Cl: 0.3 - 0.7; $p = 0.002$), monthly income (OR = 0.6; 95% Cl: 0.3 - 0.9; $p = 0.016$), age at marriage (OR = 0.6; 95% Cl: 0.2 - 0.8; $p = 0.002$), duration married (R = 0.4; 95% Cl = 0.3 - 0.7; $p = 0.001$) and the knowledge on family planning (OR = 2.2; 95% Cl = 1.4 - 3.2; $p < 0.001$) showed statistically significant associations with their involvement in family planning decision making.

Conclusions and recommendations: Majority of the males had an unsatisfactory knowledge but a positive attitude towards family planning. A high percentage of male spouses showed good involvement in decision making related to family planning. But the current practice of contraception by males was poor. Hence, family planning information, education and communication need to target men more s increase their knowledge and participation.

Keywords: Family planning, male spouse, decision making

0146.Jayasena, A.K.S.S.
Prevalence of obesity and level of physical activity among 10-19 years aged visually or hearing disabled adolescents and availability of enabling institutional sports facilities in all special education schools in Western province of Sri Lanka.
MSc. Community Medicine – 2018   **D 4495**

Introduction: There was no solid data readily available for the physical activity level and the prevalence of obesity among visually or hearing disabled adolescents in Sri Lanka. The objective of the study was to describe the prevalence of obesity and overweight and the level of physical activity and perceived needs among 1019 years aged visually or hearing disabled adolescents in all special education schools in Western Province, to describe the availability of enabling institutional sports facilities for physical activities in all special education schools in Western Province.

Methods: A descriptive cross-sectional study was conducted among 376 aged 1019 years old visually or hearing disabled adolescents in all (ten) special education schools in Western Province. The Validated Physical Activity Questionnaire-Sinhala (PAQ-S) and Physical Activity Psychosocial and Environment (PACE) questionnaire was used to interview. Body Mass Index (BMI) was measured. Institutional facilities were observed with a checklist. Data were analyzed with SPSS 21.0. Chi- square and significance of p=0.05 were used.

Result: The response rate was 100%. The prevalence of physical activity was 38.8%. The prevalence of overweight, obesity and underweight was 12%, 3.5% and 16.5% respectively. A significant association was found with the level of physical activity and chronic illness (p<0.001), recreational activity (p=0.01), physical exercise satisfaction (p=0.05), the number of sports clubs participated (p=0.02), the number of days engaged in school physical exercise programs in last week (p<0.001). The level of physical activity found insignificant association with gender, sector, and knowledge on benefits or injury prevention or developing a plan for physical exercise. The obesity showed insignificant association with gender, sector and chronic illness. The availability of playground, modified equipment and Individualized Education Programs (IEPs) were seen in 80%, 70% and 30 % of schools respectively.

Conclusion and recommendations: The study population was double burden with both excessive weight and underweight. The majority were insufficiently active.

Institutional facilities were inadequate for physical activities. Health promotion on physical activities and nutritional education among disabled adolescents were recommended. The study findings m ust be available to Ministry of Education to facilitate the necessary interventions.

Keywords: Obesity, Visual or hearing disabled, physical activity, adolescent

0147.Jayasinghe, A.V.K.
Post mastectomy pain syndrome (PMPS) quality of line of female underwent mastectomy followed up at National Cancer Institute Maharagama.
MSc. Community Medicine – 2016   D 3980

Introduction:

The breast cancer is the commonest carcinoma among females in Sri Lanka and majority of them are offered mastectomy as a treatment. However, mastectomy itself cause many complications including Post Mastectomy Pain Syndrome (PMPS) which detriment the quality of life (QoL). This study gives an account of the prevalence of PMPS, QoL and associated factors among patients underwent mastectomy.

Objective:

General objective of present study is to determine the prevalence of PMPS and to assess the QoL of patients underwent mastectomy and followed up at clinics in National Cancer Institute Maharagama (NCIM), Sri Lanka.

Methods:

A descriptive cross sectional study was conducted at clinics in NCIM. An interviewer administered questionnaire was used to ascertain socio-demographic characteristics, etc. Perceived pain and severity of pain were assessed with numerical pain scale. The WHOQOL- BREF questionnaire was used to assess QoL. The association between domain scores and associated factors were assessed with student "t"- test. The chi-square test was used to find associations of categorical variables. Multivariate analysis was used to identify most important factors associated with the PMPS.

Results:

The mean age of the study sample was 54.5 years (SD=9.9) and majority of them (65.5%) were above 50 years. The prevalence of PMPS was 27.5% among the study population. Patients with PMPS had significantly low scores (p<0.001) in all four

domains of QoL. PMPS was common (p<0.014)among the patients had surgery within 18 months. The prevalence of PMPS was comparatively high among young patients than older patients (p<0.001) and patients underwent axillary clearance (p<0.001). Multivariate analysis showed, most important factor that determine the PMPS was age of patients (i.e., patients' age less than 50 years).

Conclusion and recommendation:

More than one fourth of mastectomy patients were suffering from PMPS and negatively impacted on QoL. Patients less than 50 years and patients underwent axillary clearance more likely to suffer from PMPS. Measures *need to be* taken to manage PMPS and improve QoL of mastectomy patients.

Keywords: Breast cancer, Mastectomy, Post Mastectomy Pain Syndrome, Quality of life

148.Jayasinghe, E.H.K.
Stages and associated factors of retinopathy and cataract among diabetes patients referred to Eye Clinic at Teaching Hospital Kandy.
MSc. Community Medicine – 2019   **D 4815**

Introduction/background

Non-communicable diseases (NCDs) are main health and development challenge of the 21st century which account for 70% of disease burden in Sri Lanka. Diabetes mellitus is a common NCD with multi system complications. Diabetic related ocular diseases are disabling complication of diabetes. Diabetic Retinopathy (DR) and Cataract are main diabetic related ocular complications.

Objectives

To describe stages and associated factors of retinopathy and cataract among diabetic patients referred to the eye clinic at Teaching Hospital. Kandy.

Methods

A descriptive cross-sectional study was done among 381 diabetic patients over 18 years of age who were registered for the first time at the eye clinic T H Kandy from2nd of August to 20lh of September 2018.

An interviewer-administered questionnaire and data extraction sheet were used to collect data. Data was analyzed using SPSS 20.0 statistical software. A univariate analysis was conducted initially and for selected variables a bivariate analysis was conducted. Later, chi square test was used for categorical variables and the t test

was used for continuous variables. "p" value of 0.05 was used to identify statistical significance.

Results

DR was identified among 31.7% which consists of 13.7% mild Non-proliferative Diabetic Retinopathy (NPDR). 7.3% moderate NPDR. 1.3% severe NPDR .6% Proliferative Diabetic Retinopathy and 3.6% pure macular edema among patients with Diabetic Mellitus (DM). Proportion of cataract in current study was 29.9%. The mean time duration to get an appointment in the eye clinic was 74.8 days (SD 32.4days). Statistically significant associations were found between gender and cataract (OR 2.3. 95% Cl: 1.3-4.1. X^2 9. df=l. /?=0.003). DR and duration of DM (OR 0.4. 0:0.2-0.7, X' =9.2, df=l, p =0.002) and DR and presence of hypertension (OR 1.8, 95% 0:1.02-3.1, X' = 4.1, df=l, /?=0.04). Statistically significant higher mean age was observed in DR only group compared to no DR and cataract group [t=2.8(265), /?=0.005] and cataract only group compared to no DR or cataract group [t=6.7(258), p«A001].

Conclusions and recommendations

Nearly 1 /3rd of diabetic patients referred to eye clinic T H Kandy had retinopathy with higher proportions of early stages. Similarly, l/3rd of patients found to have cataract. Adequate treatment for hypertension in patients with DR and frequent screening in elderly population and males with DM for cataract are recommended. Improved epidemiological studies on DR and cataract are still required to find out reasons for delay in presentation.

Keywords: Diabetic retinopathy, Cataract among diabetes

0149.Jayasinghe, L.V.
Prevalence, knowledge, attitudes and associated factors of tobacco use among Army soldiers in security forces headquarters west.
MSc. Community Medicine – 2018   D 4693

Introduction:. Tobacco use is one of the biggest and most challenging public health threats the world has ever known, and it has a multitude of negative implications in fitness and combat readiness of military personnel. The Sri Tanka army is mandated in maintaining national security. Therefore, the optimal fitness and performance of army soldiers is of crucial importance

Objectives: To assess the prevalence, knowledge, attitudes and associated factors of tobacco use among army soldiers in Security Forces Headquarters (SFHQ) West.

Methodology: A cross-sectional study was conducted among 722 army soldiers in nine battalions at SFHQ-West using multistage sampling, conforming to ethical procedures. A self- administered questionnaire was developed using existing and validated tools, pretested and used for data collection. Data was analyzed using SPSS 21.0 version.

Results: Non-response and incomplete data sheets accounted for 3.2%. All 699 participated were males with a mean age of 29.2 years. Majority were privates, had studied up to G.C.E. O/L, were currently married with a military service of 6-10 years. The prevalence rates for current smokers was 45.1% (95% Cl 41.8-48.9) and 47.8% for current smokeless tobacco use (95% Cl 43.6-52.4). There were 30.2% current daily smokers (95% Cl 27.2-33.6) and 36.3% of the soldiers residing in camps were exposed to second-hand smoking in their billets. The most popular types of tobacco products used were manufactured cigarettes and betel.

There were higher proportions of both ever and never tobacco users (both smoking and smokeless tobacco) with poor level of knowledge on tobacco use as well as unfavorable attitudes. There were statistically significant associations between smoking status and attitudes, total military service and battle injuries. Statistically significant associations between smokeless tobacco use, and marital status and place of residence were observed. Statistically significant association was observed between tobacco use and mental distress.

Conclusion: The high prevalence rates of tobacco use and second-hand smoking can seriously affect the health of army soldiers as well as their military performance. This should be urgently rectified by means of implementation of evidence-based tobacco control intervention commencing from recruitment and basic military training.

Keywords: Tobacco use, prevalence, army soldiers, GHQ-12

0150.Jayasumana, H.M.K.S.D.
Prevalence and factors associated with musculoskeletal symptoms and health seeking behaviour among health activity assistants attached to operating theatres of Teaching Hospitals in Colombo district.
MSc. Community Medicine – 2017   **D 4492**

Background -Musculoskeletal disorders (MSDs) are gaining importance worldwide, causing high morbidity, disability and poor quality of life. MSDs are more common among workers involved in physically demanding activities. Health care workers, particularly those engaged in manual tasks like nursing assistants and health activity assistants (HAA) are at high risk.

Objectives -This study aimed to determine the prevalence and factors associated with selected musculoskeletal symptoms (MSSs) and to describe related health seeking behaviour among health activity assistants attached to operating theatres of teaching hospitals in Colombo district.

Methods -A workplace-based cross-sectional study was conducted among 378 health activity assistants attached to operating theatres of teaching hospitals in Colombo district, selected using a simple random sampling from a common name list of all health activity assistants attached to respective operating theatres. Data were collected using content- validated and pre-tested interviewer-administered questionnaire. Musculoskeletal symptoms were assessed using Cornell Musculoskeletal Discomfort Questionnaire. Socio-demographic and work-related characteristics were described using standard *descriptive* methods. Prevalence (with 95% Cl) of MSSs was calculated for preceding three months and one week according to body region. Associations were analysed using odds ratio (with 95% Cl) and Chi-square test with p value at 5% significance level.

Results - The study group consisted of 63.2% (n=239) males. Median age of the sample was 35 (lQR=28-42). For females, median weight, height and body BMI were 55.2 kg (IQR=5 1.0-59.4); 154 cm (1QR== 152 to 157) and 23.3 kg/m^2 (1QR=21.0-25.0) respectively. For males, median weight, height and body BMI were 62.0 kg (1QR=54.5-67.0); 160 cm (IQRM57 to 165) and 23.0 kg/m^2 (IQR=21.3-26.9) respectively.

The prevalence of MSSs at least in one anatomical region among HAA attached to operating theatres in teaching hospitals in Colombo district, during preceding three months was 59.7% (n=226, 95%CI 54.77-64.63), and during preceding work week

was 53% (n=131, 95% Cl 47.98-58.02). Lower back was the most affected body region (32.5% n=123) during preceding three months followed by foot (28.6% n=108) and knee (19% n=72). Same pattern was observed during preceding work week lower back being the most affected (16.9% n=64) followed by foot (16.4% n=62) and knee (9.3% n=35). In the lower back (11.3%, n=43), knee (5.8%, n=22) and foot (10.0%, n=38) most of subjects experienced symptoms more than once a week during preceding three months. Moderately uncomfortable pain was reported by most subjects in all anatomical regions which substantially interfered with work in most. During preceding week, pain was commonly experienced once or twice a week and symptoms were moderately uncomfortable (lower back (8.7%, n=33); knee (5.0%, n= 19); foot (10.8%, n=41)). Most had symptoms that slightly interfered with work.

Having children less than five years of age (OR= 1.58, 95% C1= 1.04-2.41), (p=0.02) was significantly associated with MSSs in preceding three months. Being 41-50 years old (OR=0.53, 95% CI=0.28-0.97), not engaging in physical activities (OR=0.57, 95% 0=0.36-0.89) (p=0.01) had significantly lesser likelihood. Compared to those with normal BMI, subjects with low BMI had more likelihood (OR=2.71, 95% 0=0.88- 8.29) while overweight /obese subjects had less likelihood (OR=0.73, 95% 0=0.46- 1.13) of developing musculoskeletal symptoms during preceding three months.

Of work characteristics, experience of more than five years at current operating theatre (OR= 1.515, 95% 0=1.001-2.293) (p=0.049), having rest of one hour or more per work shift (OR=1.71, 95% 0=1.03-2.83) (p=0.03) showed significant associations. Carrying loads (OR=3.224, 95% 0=2.096-4.959) (P0.00l), pushing and/or pulling trollies with patients (OR=2.125, 95% 0=1.13-3.965) (p=0.016) and cleaning surgical instruments (OR=2.020, 95% 0=1.330-3.069) (p= 0.001), were significantly associated with developing MSSs during preceding three months. Transferring patients (from trollies to theatre tables or beds at wards and vice versa) for four days or more a week, (OR=1.886, 95% 0=1.082-3.287), (p=0.024) and transferring 15 patients or more a day, (OR=4.478, 95% 0=2.800-7.163), (P0.000l), pushing and/or pulling trollies with patients for four or more days per week, (OR=2.149, 95%CI=1.562-1.197) (p=0.001) and pushing and/or pulling 15 trollies or more with patients (OR=2.658, 95% CI= 1.408-5.018), (p=0.002), cleaning surgical instruments for four days or more per week (OR= 1.648, 95%

0=1.0748.243) (p=0.022) and carrying loads ten or more times per week (OR=3.980, 95% 0=2.139-7.402), (p<0.0001) demonstrated statistically significant positive associations with developing MSSs during preceding three months.

Among perceived psychological demands, excessive work load (OR=3.792, 95% 0=2.425-5.929), (p<0.0001), fast pace of work (OR=2.772, 95% Cl 1.471-5.224), (p<0.0001), too many different tasks (OR=5.589, 95% 0=3.229-9.672), (p<0.0001), repeated shifts (OR= 12.240, 95% 0=4.333-34.573), (p<0.0001), excessive over-time work (OR=8.470, 95% 0=2.326-30.840), (p0.000l) too many night shifts (OR=8.253, 95% 0=3.203-21.264), (p0.000l) opportunity to discuss with supervisors (OR=0.045, 95% 0=0.006-0.334), (p<0.0001) had significant associations with developing MSSs during preceding three months.

Approximately, three fifth of subjects (61.5%, n=139), with MSSs had sought health care, leading reason being unbearable pain (71.2% n=99). Median delay in seeking care was 5 days (IQR=2-10). More than half of the group (52.5%, n=73) with symptoms sought care within one week. Over half preferred government hospitals (50.3%, n=70). Over half (58.6%, n=51) of the subjects who did not seek health care believed any medication would not resolve the symptoms.

Conclusions and Recommendations - Prevalence of MSSs among HAAs was high with substantial severity and interference with their work. Several sociodemographic characteristics and physical and cognitive/psychological demand at work were associated with developing MSSs. Related health seeking behaviour is satisfactory, but deficiencies in understanding the illness and adherence with prescribed treatment and advice were observed.

MSDs among HAAs should be considered as occupational health priority and preventive measures should be implemented at institutional level addressing physical and psychological demands.

Keywords : Musculoskeletal symptoms, prevalence, factors associated, health seeking behaviour, Health activity assistants.

0151.Jayawardene, D.M.S.
Refractive errors among school children aged 5-15 years attending government schools in the Colombo district : Prevalence, correlates, barriers for seeking healthcare, vision related quality of life and visual ability.
MD Community Medicine – 2016   **D 4074**

Introduction - Refractive errors are one of the three major causes of visual impairment in the world. Research pertaining to refractive errors among Sri Lankan children is scarce.

Objectives - The present study aimed to determine the prevalence, correlates and barriers for seeking health care related to refractive errors among children aged 515 years attending state schools in the Colombo district and to determine the vision related quality of life and visual ability of Sinhala speaking children aged 11-15 years attending state schools in the Colombo district.

Methods - A cross-sectional study was conducted among 1344, 5-15 year old children selected by a multistage cluster sampling method from schools in the Colombo district. Refractive errors were identified by assessing the visual acuity of all. Thereafter cycloplegic auto refraction, manual and subjective refraction, post cycloplegic refraction and clinical diagnosis were carried out on those with uncorrected reduced visual acuity of one or both eyes. Personal, family related, academic and leisure related factors were assessed as correlates. The study population for this was those with refractive errors and those with normal visual acuity. Barriers for seeking health care related to refractive errors was explored among parents of children with refractive errors, and public health staff using qualitative research techniques. Locally adapted "Vision related quality of life and visual ability assessment tool -the Sri Lankan version" was validated using Rasch analyses test- retest reliability. The validated questionnaire was used to compare the vision related quality of life and visual ability of the Sinhala speaking school children aged 11-15 years with and without refractive errors in the Colombo district.

Results -The prevalence of refractive errors among children aged 5-15 years attending state schools in the Colombo district was 18.3 % (n=244, 95% CI=16.22%-20.38%). Among children aged 5-15 years, the prevalence of refractive errors detected from the study (11.6%, n=155, 95% Cl—9.88%-l 3.22%) was significantly higher than the prevalence of refractive errors detected prior to the

study (6.7%, n=89, 95% CI=5.36%-8.04%). Of the 89 who had been detected with a refractive error prior to the study, a majority had not been corrected (53.9%, n=48). The most prevalent type of refractive error was myopia (12.6%, n=167, 95% CI=10.82%- 14.38%). Of the factors found to be significantly associated with refractive errors after accounting for confounding by way of multivariate analysis, being a 5-10 year old (OR=0.68) and a history of having been exclusively breast fed for at least four months (OR=0.59) were found to lower the risk of presence of a refractive error. Of the family level factors, having at least one sibling with a refractive error (OR=2.74), having at least one parent with a refractive error (OR1.62) and having both parents with refractive errors (OR=5.25) were found to be significantly associated with a presence of a refractive error. Watching the television at a distance of less than 10 feet (OR=27.55), working, playing or viewing the computer at a distance less than 30 cm (OR=l .79), sleeping with the light on at night (OR=2.37) using a handheld computer or video game for more than two hours per day (OR=3.65) were the academic and leisure related factors which were significantly associated with the presence of refractive errors while reading less than two books per week (OR^O.06), and sleeping for nine hours or more per day (0.23) were found to protect one against refractive errors.

Barriers for seeking health care related to refractive errors among the parents were related to trust and confidence in the existing health care structure, bullying, peer related factors, inadequate knowledge and resources and defects in service provision. The themes that emerged from the qualitative interviews conducted among the health staff were related to defects in service provision, defects in follow up, capacity building and specialized services, peer factors and revision of cadre positions.

Rasch analyses confirmed the validity of the "Vision related quality of life and visual ability assessment tool -the Sri Lankan version" to assess vision related quality of life and visual ability among Sinhala speaking school children aged 1115 years attending state schools in the Colombo district. Reliability was also found to be good. Children with refractive errors were found to have a statistically significantly lower level of vision related quality of life (p=0.0004) and visual ability (p=0.0002) than their counterparts with normal visual acuity.

Conclusions and recommendations -The prevalence of refractive errors among children aged 5-15 years in the Colombo district was high. Most with refractive

errors had not been detected prior to the study, f he visual ability and vision related quality of life of the study units with refractive errors were significantly lower than those with normal visual acuity. The study identified several factors associated with the presence of refractive errors. Preventive health team and parents identified barriers within the existing system of services related to refractive errors. The study recommends immediate measures be taken to screen, detect, and adequately correct refractive errors among children aged 5-15 years in the Colombo district taking into account the measures to address the identified barriers.

Keywords: Refractive errors, myopia, visual ability, vision related quality of life, Rasch analysis

0152.Jayawerdana, K.J.C.N.
Drug compliance and associated factors among hypertensive patients attending outpatient medical clinic at Colombo South Teaching Hospital Kalubowila.
MSc. Community Medicine – 2016   **D 4071**

Introduction: Nearly one billion of world adult population is suffering from hypertension. Drug treatment is the key factor in controlling hypertension and associated complications. However nearly 58% of hypertensive patients do not take medicine as prescribed globally (WHO, 2003).

Objective: To assess the drug compliance for hypertensive treatment and determine the factors associated with drug compliance.

Methods: A cross sectional descriptive study was carried out on a sample of 400 hypertensive patients attending Out Patient Medical Clinic at Colombo South Teaching Hospital Kalubowila. Drug compliance was measured by using a questionnaire (scale) adopted from Moriskey Medication Adherence Scale (MMAS) (Moriskey, 2008) with some modifications according to the Sri Lankan context. A scoring system was developed ranging from zero to eighteen. In addition patients self-reporting of drug taking for a 28 day period was completed using a check list.

Results: The mean age of the participants was 63.5 years and 82.5% were females. Nearly 85% of the participants were unemployed and in more than two thirds, the self-reported monthly income was less than ten thousand. The mean knowledge score was 3.6 (SD =2.2). Mean drug compliance was 53.3% (mean MMAS

score=9.6, SD=1.4) There was a significant difference (p<0.05) in drug compliance status in relation to the hypertension related complications status. The common behaviors identified in the patients leading to poor compliance we forgetfulness in taking drugs, manipulating dosage forms and halting treatment when feeling bad or better with drugs, not bringing or consuming drugs when they go out, missing clinic appointments and not getting clarified the problems regarding' medication with clinicians. Client satisfaction in the areas of reliability a; tangibles are statistically associated with drug compliance.

Conclusions: Drug compliance of the respondents was unsatisfactory according to WHO cutoffs. Low health literacy level leading to incorrect behaviors of taking medication due to poor understanding of danger of hypertensive complications a benefits of drug treatment was seen. These findings may be used to planning a implementing intervention to achieve blood pressure control and reduce t morbidity, mortality and health care cost.

Key words: hypertension, drug compliance, health literacy

0153.Jeyakumaran, D.
Complementary feeding practices among infants in Jaffna district : prevalence , risk factors for poor feeding and the effectiveness of an educational intervention for its improvement.
MD Community Medicine – 2016   D 4065

Complementary feeding is a combination of actions taken to feed food other than breast milk to an infant to meet the increasing energy and nutrient requirement at completion of 6 months and beyond. Complementary feeding is crucial for the sustenance of growth and failing results in under nutrition, morbidity and mortality among children.

In Sri Lanka, reduction in under nutrition was minimal over the past decade and the levels of infant feeding indicators were low with a wide interregional variation. The national nutrition review conducted in Sri Lanka in 2012 had recommended identifying the high risk population and implementing context specific interventions to improve infant feeding. Jaffna District was identified as one of the poor performing district with regard to infant feeding practices.

Objective: To determine complementary feeding practices and risk factors associated with poor complementary feeding practices among infants and to

develop and determine the effectiveness of an educational intervention on complementary feeding practices for caregivers of infants delivered through Public Health Midwives (PHMs) in the Jaffna District.

Methods: A cross-sectional study using an interviewer administered questionnaire was conducted among 1122 caregivers of infants in the Jaffna District. A total of 384 cases with . inadequate feeding practices and 384 controls with adequate feeding practices were identified matched for age and PHM area from above data set to determine risk factors for inadequate complementary feeding practices. Ten focus group discussions among caregivers of infants and a cross-sectional study among PHMs were conducted. An intervention model using a self- learning complementary feeding handbook for caregivers with a complementary feeding class approach by PHMs was developed. Cluster randomized trial was performed, using 21 clusters of PHM areas as intervention groups and 21 clusters as control groups. The intervention was introduced among caregivers of infant reaching 6 months of age and followed up for 6 months.

Results: Initiation of complementary feeding, minimum meal frequency, minimum dietary diversity and minimum acceptable diet were reported as 93.5%, 88.2%, 45.0% and 43.3% respectively among infants aged 6-8 months and they were 97.7%, 73.7%, 71.1% and 56.2% among infants aged 9-11 months respectively. Bottle feeding and feeding with food of thin consistency were 62.1% and 28.6% among infant aged 6 to 8 month respectively.

Infant's past history of respiratory illness, mother not being the caregiver, caregivers' food consumption habits related to selected food items, not living in their own house, use of firewood as source of energy, wealth index of the household, beliefs on adverse effects of food items, inadequate knowledge on infant feeding, consistency of infant's food were significantly associated with inadequate feeding practices with P-value less than 0.05.

Complementary feeding knowledge level and adequacy of meal frequency during the trial follow up showed statistical significant increase among interventions group over controls (P < 0.05). However, growth indicators did not show significant improvements.

Conclusions and recommendations: Complementary feeding practices among infants in Jaffna District need improvement. The self-learning handbook for

caregivers with the complementary feeding class approach was found effective in improving knowledge and selected complementary feeding practices in the Jaffna District.

0154.Jothipala, P.A.S.D.
Prevalence & associated factors of depression among Army personnel at security force head quarters Jaffna.
MSc. Community Medicine- 2017   **D 4480**

Introduction: Depression is one of the commonest prevalent mental disorders, and a major contributor to the global burden of disease. Studies done among military personnel especially in western armies revealed military environment is more vulnerable for depression. Sri Lanka Army was engaged in a brutal war against terrorism over 30 years and then, faced lots of working environment changes in post war period.

Objectives: To describe the prevalence and associated factors of depression among Army personnel in Security Forces Headquarters (SFHQ), Jaffna.

Methodology: A cross sectional descriptive study was conducted among 986 Army personnel in SFHQ Jaffna selected using stratified multi stage random sampling. A self- administered questionnaire with depression scale was used for data collection during the month of September 2017. Data was analyzed using SPSS 21.0 version.

Results: Incomplete data percentage accumulated to 4.8%. Mean age of study sample was 30.7years (SD +/- 6.47) and majority (72%) had not passed GCE (O/L). married percentage was 68.2%. Monthly salary of 82% lied between 30,000-50,000 rupees. Participant percentage that had less than Rs. 50 000 in their bank accounts was 81.4%. Two third of respondents had more than 3 dependents (68.4%). Nearly half (48.1%) had service period of 6-10 years. Among respondents, 54.8% had engaged in battle. Among war participants, 51.7% had less than 4-year combat exposure. Percentage of war participants with battle injury was 18%. Out of war participants, 18% of them felt fear of death at battle. Current smokers' percentage among participant was 40%. One out twenty respondents was high risk alcohol consumers. Prevalence of probable major depression was 9.7 % (95% Cl: 7.84-11.56)

Those who had no money saved were having significantly higher depression. Except that, other all selected socio-demographic-economic factors including Age,

educational level, marital status, monthly income, numbers of dependents were not significant.

Unsatisfied married life, worries on children and other dependents were the statistical significant family related factors. Among service related factors total service period, leave frequency, combat exposure period, feeling fear of death at battle and been injured at battle had significant association with depression. But exposure to battle, age at 1st battle exposure and absenteeism were not significant. Childhood abuses, family history of psychiatric illness were the significant psychosocial factors. Hazardous behavioral factors including smoking and alcohol misuse also had significant association with depression. All selected work life balance related factors had significant association with depression.

Conclusion: High prevalence of probable major depressive disorder among Army personnel would adversely influence on achievement of organizational goals of Sri Lanka Army as well as the security of the country. Conduction of outreach screening sessions and mental health promotion programmes, consideration of identified risk factors in recruitment and deployment, capacities building in preventive mental health services were highly recommended.

Key words: Depression, prevalence, military personnel, SL Army

0155.Kariyawasam, K.T.G.M.P.
Cutaneous leishmaniasis : Validation of an instrument for community based active case detection and epidemiology in Polonnaruwa district.
MD Community Medicine – 2016   D 4015

Cutaneous Leishmaniasis (CL), an emerging neglected tropical disease, has been reported in large numbers in Sri Lanka in recent times. However, there is limited evidence on its epidemiology in local settings, and the use of available case-detection tools is practically difficult in the community. In this context, the present study was designed with a view to developing and validating an instrument to actively detect cutaneous leishmaniasis in the community and establish its epidemiology in a selected district in Sri Lanka.

The study consisted of three components. In the first component, Cutaneous Leishmaniasis Active Case Detection Instrument (CLACDI) was developed and validated. The developed instrument consisted with four key domains such as

factors related to clinical history and clinical features of the lesion, epidemiological factors, behavioural factors, and laboratory component.

Component two was a community based, cross sectional study to assess the prevalence of CL in the district while the third component was a case control study to determine the potential risk factors for the disease.

The Cutaneous Leishmaniasis Active Case Detection Instrument was developed in a process where multi expert consensus was generated through the Delphi technique, the validity (judgmental and criterion) and reliability were assessed. The instrument originally developed in English language was translated into Sinhala and Tamil languages using the nominal group technique. In assessment of the criterion validity, the cut off value of the Cutaneous Leishmaniasis Active Case Detection ' Instrument score for distinguishing CL patients from non-patients was determined to be 42.75. The instrument demonstrated a high sensitivity (96%) and specificity (95%) at the selected cut off point.

In the community based, cross sectional study, conducted in 218 clusters, selected probability proportionates to size, 6492 (99.2%) study participants participated. The study which revealed that prevalence of CL in the district was 1.6% (95% Cl 1.3-1.9)

0156.Karunarana, P.V.S.
Role of Agrahara insurance scheme in reducing private health expenditure among public sector employees in Kalutara district, Sri Lanka.
MSc. Community Medicine – 2016   **D 3987**

Introduction: Health systems dependent on high out of pocket expenditure (OOPE) burden on households at times of illness. Tax based financing and social insurance are more geared towards financial risk protection. Agrahara insurance scheme with mandatory prepayment, covering only in-patient care, is provided to public sector employees in Sri Lanka to enhance their welfare.

Objective: To describe the most preferred types of healthcare for out-patient and inpatient needs, the direct health expenditures incurred and the role played by "Agrahara" in reducing this cost burden borne by public sector employees in Kalutara District, Sri Lanka.

Methodology: A Descriptive cross-sectional study design was used, involving a sample of 500 public sector employees: 20 each selected from 25 government

institutions (cluster units) in Kalutara District using random sampling at each stage. Data collected using interviewer assisted self-administered questionnaire. Data analyzed and presented as frequency distributions, measures of central tendency and cross tabulations involving chi square tests. Catastrophic health expenditure is defined as OOPE more than 10% of total household income.

Findings: Private clinics were preferred by 68% for out-patient care and 79.7% preferred government hospitals for in-patient care. Similar patterns were observed for actual utilization. Users of private out-patient clinics and government clinic spent a monthly mean OOPE of Rs. 7,857 and Rs. 1,546 respectively. Private and government hospital users spent a mean of Rs. 82,785 and Rs 9,302 per annum for inpatient care respectively. The rates of households bearing catastrophic expenditure for out-patient care and inpatient care were 29.4% per month and 7.2% per annum respectively.

Of the households which had in-patient admissions only 80.2% were eligible to claim Agrahara, and of these only 38.2% had submitted a claim. The reimbursement rate was 70.8% on average. The costs recovered from what was spent as OOPE by households, through reimbursement by Agrahara was 76.9% on average.

Conclusions and Recommendations: Utilizing private out-patient care pushes many people into incurring catastrophic health expenditure. Low rates of utilization of Agrahara for inpatient care has left some policy-holders facing catastrophe.

Creating more awareness regarding Agrahara: benefits and claims processes, means of widening coverage: covering older family members and introducing limited forms of out-patient care is crucial.

Keywords: Public sector employees; Healthcare utilization; Out of pocket Agrahara Insurance

0157.Karunaratne, J.I.N.C.
Depression among school going adolescents aged 14 to 17 years in the Gampaha District : prevalence and correlates.
MD Community Medicine – 2016   D 4068

Depression among adolescents remains a major public health problem given its high prevalence globally and locally in Sri Lanka. Depression in adolescents leads to negative consequences on individuals and on society, contributing to morbidity and mortality during adolescence as well as in adulthood.

Although, the problem had detrimental consequences, lack of research evidence had imposed a restriction in initiating strategic decisions for early identification, intervention and management of depression in adolescents in Sri Lanka.

The objective of the present study was to develop and validate a self-administered questionnaire to screen school going adolescents aged 14 to 17 years for depression and to determine prevalence and correlates of depression among school going adolescents aged 14 to 17 years in the Gamapaha District. The study comprised of two components.

In the first component a self- administered questionnaire was developed using Delphi technique. Its reliability was assessed by estimating internal consistency (Cronbach's alpha coefficient - 0.862) and test re-test reliability [intra class correlation coefficient - 0.985, 95% Cl (0.99-0.97)].

The validity of the questionnaire was assessed by using judgmental validity, criterion validity and construct validity. Judgmental validity was ascertained while developing the questionnaire. Criterion validity was determined against the gold standard being the decision of the Consultant Psychiatrist. The cut- off point was decided at 20 meaning any score of 20 or more considered as depressed. Sensitivity [96.9%, 95% Cl (92.9-98.7)] and specificity [93.4%, 95% Cl (9assessed and deemed very satisfactory. Further factor analysis was performed to ascertain construct validity which revealed positive results. It was concluded that the QAMHSA (Questionnaire to Assess Mental Health Status of school going Adolescents) was a reliable and valid questionnaire to screen school going adolescents for depression.

The second component of the study which was an analytical cross sectional study determined the prevalence of depression and its correlates among school going adolescents aged 14 to 17 years in the Gampaha District. Cluster sampling was adhered to, with probability proportionate to size sampling where 30 students from 57 clusters were sampled and completed questionnaires were obtained from 1,730 adolescents. The validated QAMHSA was used to detect prevalence of depression. The data was processed and analyzed with the SPSS statistical software. The response rate was 96.0% and overall prevalence was 20.9% {95% Cl (19.03-22.90). The prevalence for females was 17.7%, 95% Cl (15.87-21.06) and that for males was 24.3%, 95% Cl (21.50-27.35Eight percent of the study population was positive

for Strength and Difficulties Questionnaire (SDQ) and were excluded from the analysis to identify correlates of depression. Out of the 1,575 SDQ negative adolescents of the study sample 48.5% were males and 51.5% were females. The participants belonged to ages 14 (27.4%), 15(30.2%) and 16 (31.1%) whereas 17 years old (11.3%) represented the least percentage. The majority of mothers (76.5%) and fathers (71.2%) had studied up to grade six to Advanced Level. Most fathers were engaged in Class two occupations (51.6%) and most mothers were housewives (34.6%).

Data analysis was performed using standard statistical methods such as bivariate odds ratio to assess the strength of associations between depression and independent variables.

The identified correlates of depression among school going adolescents in the Gampaha District, after removing the confounding effects by performing logistic regression analysis were: increasing age (OR = 3.78), not living with both parents (OR = 2.34), fathers engaged in class two and three occupations (OR = 2.36), father being unemployed (OR = 10.77), mother not alive (OR = 4.99), father consuming alcohol (OR = 2.48), either parent living away from home (OR = 1.83) and existence of a chronic illness among any family member (OR = 1.89). Logistic regression did not reveal gender, level of education of either mother or father, occupation of mother, number of siblings in the family and frequency of having conflicts between parents to be correlated with depression among adolescent of Gampaha District.

Bivariate analysis of depression and selected variables where the direction of association could be in either direction showed that poor coping skills (OR = 10.16), engaging in sports rarely at home and in school (OR = 11.9), being bullied at school more than thrice (OR = 5.48)., bullied others at school more than thrice (OR = 4.09), unsatisfactory relationships with parents (OR = 10.02), high frequency of receiving punishments by parents (OR = 4.77) and pressure exerted by parents (OR = 4.33) and teachers (OR = 6.75) to study hard to be significantly associated.

Considering the high prevalence and its associated modifiable correlates, it is recommended that the Ministries of Health and of Education should work together and find out remedial measures to manage this burning problem.

0158.Karunathilaka, A.N.S.

Prevalence of diabetes mellitus, hypertension, selected modifiable risk factors for both diseases and knowledge, attitude, practices on both diseases among elders in the Medical Officer of health area Kuruwita.
MSc. Community Medicine – 2018   D 4819

Background -Diabetes Mellitus and the Hypertension are chronic NonCommunicable Diseases. Multiple modifiable risk factors are leading to those diseases and prevalence increasing globally especially among elders. Knowledge, attitude, and practices regarding those risk factors and conditions are important for the prevention and control.

Objectives- This study aimed to determine the prevalence of Diabetes Mellitus, Hypertension, selected modifiable risk factors for both diseases and knowledge, attitude, practices on both diseases among elders in the Medical Officer of Health area Kuruwita.

Method-A descriptive cross-sectional study conducted in the Medical Officer of Health area Kuruwita in Rathnapura district. Age between 60 and above to 85-year elders participated. The cluster sampling method used. Grama Niladhari division took as a cluster. The calculated sample size was 465 and cluster size was 25.

Nineteen clusters were selected randomly. Interviewer administer questioner used. Height, weight, blood pressure and fasting blood pressure measurement done. Prevalence of Diabetes Mellitus, Hypertension and modifiable risk factors were estimated. The odd ratio calculated to determine the probable associations.

Results

The collected sample size was 430, and the response rate was *92.5%.* The mean age of the participants was $67.8(SD \pm 5.85)$ years, and female predominance (59.1%) observed. Detected prevalence of Diabetes Mellitus was 25.8%, and Hypertension was 42.5%. Undetected Diabetes Mellitus identified during the study was 7.2% and undetected Hypertension prevalence identified during the study was 13.7%. Salt consumption added sugar consumption and sedentary lifestyle were high among participants. Knowledge and attitude regarding risk factors for the occurrence of Diabetes Mellitus and Hypertension in a good position but not elicited by their practice among all participants. According to the results, the physical exercise showed a significant protective factor for Diabetes Mellitus

(OR=.570:95%CI=.344-.945) as well as Hypertension (OR=.403: 95% CI=.259-

.628).

Conclusion and recommendations

According to this study prevalence of Diabetes Mellitus and Hypertension high. High prevalence of undetected Diabetes Mellitus and Hypertension also detected. Certain modifiable risk factors were more prevalent. Knowledge and attitude regarding risk factors in a good position but practice were not satisfactory. Health education and promotion programs and mobile screening programs need to strengthen. Non- communicable screening program should incorporate into the welfare activities of the National Council for elders. Actions need to assess the adherence to treatment guidelines at the clinic setup.

Keywords :Diabetes Mellitus, Hypertension, Noncommunicable disease risk factors, prevalence, elders

0159.Karunathilaka, K.S.D.
Prevalence and associated factors of tobacco smoking and secondhand smoking among male undergraduates in the University of Peradeniya.
MSc. Community Medicine – 2016   D 4326

Introduction- Tobacco smoking among undergraduates is common in university setup of Sri Lanka. Although, accurate estimates are not available for Sri Lankan undergraduates, it is very likely that the health, economic and social impact of tobacco is enormous especially, when considering undergraduates as a productive age group on whom the future of Sri Lanka lies on.

Objective -The objective was to determine the prevalence, patterns, knowledge, attitudes and associated factors of tobacco smoking and exposure to secondhand smoke among third year male undergraduates in University of Peradeniya.

Methodology -A cross sectional descriptive study was carried out among a sample of 359 third year male undergraduates in university of Peradeniya. All the nine faculties were included and from each faculty sample was selected proportionately to the total number of male students in each faculty (sample proportionate to size). Each Study unit was selected using computational simple random sampling without replacement method using software WINPEPI. The list including all the male students in each faculty was used as the sampling frame. A structured self administered pre tested questionnaire was used to collect data. The analysis of data

was carried out by using the appropriate statistical methods in the Statistical Package for Social Sciences (SPSS) version 20.0.

Results-The response rate was 93.8%. Prevalence of tobacco smoking among third year male undergraduates (ever smokers) was 40.7% (95% Cl, 35.45% - 45.94%). Prevalence of current smokers, past smokers and quitters were 24.6% (95% Cl, 20% - 29.2%), 11% (95% Cl, 7.7% - 14.3%) and 5 % (95% Cl, 2.7% - 7.3%) respectively.

The overall prevalence of exposure to secondhand smoke among third year undergraduates in University of Peradeniya was 81.5% (n = 335)(95% Cl, 77.35% - 85.65%).

The most common age at initiation of tobacco smoking was 20 years or over (45.8%, n=38). Most preferred type of tobacco product to smoke was menthol cigarette (46.9%, n = 37). Higher proportion of current smokers (27.8%, n=23) had a frequency of smoking a tobacco product 2 to 3 times a month and 43.4% (n=36) of current smokers did not smoke daily. The commonest way of obtaining tobacco product was purchasing from a store (44.6%, n=37). Majority of the study sample had poor knowledge on harmful health effects of smoking (71%, n= 239) and on harmful health effects of exposure to secondhand smoke (76%, n=255).A higher proportion of study sample 55% (n=186) was having favorable attitudes on smoking. Out of total sample, 76% (n= 255) had favorable attitudes on exposure to secondhand smoke. Lower occupation of the father and lower occupation of the mother were significantly associated with tobacco smoking (p<0.001). Having a family member who is a smoker (p<0.001), father being a smoker (p<0.001), engagement of extracurricular activities (p=0.022), and presence of a friend who is a smoker (p<0.001) were significantly associated with smoking. Those who had favorable attitudes towards smoking (p<0.001), those who exposure to antismoking messages (p=0.026) and tobacco promotional activities (p=0.006) were less likely to smoke.

Exposure to secondhand smoke was significantly associated with the stream of studying (p=0.042), engagement of extracurricular activities (p=0.0i6), presence of a friend who is a smoker (p<0.001), and poor knowledge on adverse health outcome of exposure to secondhand smoke (p<0.001).

Conclusions and recommendations - The prevalence of current smokers among third year male undergraduates was 24.6% and according to the spot survey conducted on July, 2015, it is lower than for the rest of the country (31%). The prevalence of exposure to secondhand smoke was 81.5% and it is higher than for the rest of the country when compared with Global Youth Tobacco Survey data. There is a need to strengthen existing preventive programs, introduce and implement programs for health promotion considering characteristics in pattern of smoking in this community and ways they get exposed to secondhand smoke.

Keywords smoking, secondhand smoke, Tobacco, university

0160.Kithmini, G.W.V.S.
Prevalence and associations of severe fear of childbirth among pregnant women presented to specialized antenatal clinics in Badulla district : A cross sectional descriptive study.
MSc. Community Medicine – 2018   D 4700

Sri Lankan maternal health programme achieved the desired targets of maternal mortality reduction. However, the morbidity reduction and quality improvement need exploration of new areas of interventions. Fear of Childbirth (FOC) or to kophobia is a common problem affecting women's health and wellbeing, and a common reason for requesting caesarean section worldwide. As a country in transition in maternal healthcare, identification of FOC will be helpful in expanding the maternal health services and quality improvement. The objectives of the present study were to; determine the prevalence of severe fear of childbirth and to describe the association between the selected sociodemographic factors and preferred method of delivery in relation to FOC among pregnant women presented to specialized antenatal clinics in Badulla district.

For those purposes, a specialized clinic based cross-sectional descriptive study was carried out. This was done in 4 specialized clinics of the Badulla district those which cater the pregnant women in all 16 MOH areas in the district. Sampling was done according to proportionate to clinic attendance in specialized clinic method since the sampling frame is not available for the above population. The total number of women studied was 692. Pre-tested interviewer-administered structured questionnaire made by the primary investigator; include socio-demographic, pregnancy related data and factors related to FOC and two validated self

administered questionnaires (WDEQ-A and EPDS) were used to collect data. In total,692 were interviewed; 31(5%) were excluded and completed 661(95%) sample assessed for analysis, (response rate 95%)

Even though in the literature various definitions and measurements of FOC were used, in this study; the most frequently-used scale-W-DEQ with cut-off points >85 was used, describing severe /intense fear status. Out of these 661 attendants, 13.2 % (C.1.10.3-15.6) of pregnant women followed up in specialized antenatal clinics in Badulla district are having severe fear of childbirth for the current pregnancy.

Data was entered to Epi-info database and statistical analysis was performed using IBM SPSS package version 23. Chi-square method was used for data analysis. Overall pooled prevalence was detected as 13.2% (Cl 10.3%-15.6%) Subgroup analysis according to the parity showed that to kophobia was more prevalent in nulliparous women (17.7%) than multi (10.6%). Elements associated with family, partner, as well as factors related to social capital and related micro-environmental factors showed highly significant statistical associations with FOC($p<0.001$ in all cases), while having a significant medical history($p=0.001$) or surgical conditions($p=0.000$) and antenatal complications($p=0.000$), significant postnatal complication($p=0.000$) in previous pregnancies among multiparous women also showed highly significant statistical associations. Findings concerning antenatal depression also showed significant association with FOC($p=0.000$). Private sector follows up preference was higher among women who had FOC but statistically insignificant. ($p=0.149$) Most clinically and statistically significant ($p=0.000$) finding during our study was, among the women who had fear of childbirth 23.3% (n= 30) preferred on caesarean delivery.

High rates of FOC/ to kophobia among this study group clearly indicates the need of improvement in maternal mental health services and quality improvement, monitoring and follow up plans for women with deranged mental wellbeing. This service should be also offered by the private sector and the care given should be focused beyond the "medical" care. Social and family factors are highly related to FOC and the current social risk identification by PHM and healthcare workers should be strengthened. Follow up studies are needed to see whether FOC is associated with high LSCS and adverse pregnancy outcome.

Keywords: Fear of childbirth, to kophobia, Prevalence, WDEQ-A

0161.Kodithuwakku, N.C.
Knowledge and attitudes regarding tuberculosis respiratory hygiene practices and factors associated among adults aged 20 59 years in medical officer of health area, Moratuwa
MSc. Community Medicine – 2017   **D 4476**

Background- Tuberculosis is a major cause of morbidity and mortality in the world. It remains a significant health problem in Sri Lanka, particularly in the Western province. Moratuwa is one of the urban areas located within the western province, which is affected by tuberculosis burden largely. Knowledge and attitudes regarding Tuberculosis in the community is imperative to the prevention and control programs.

Objective- To describe knowledge, attitude, and health seeking behavior related to tuberculosis and respiratory hygiene practices and to determine the factors associated with tuberculosis knowledge and respiratory hygiene practices among adults aged 20 - 59 years in Medical Officer of Health area, Moratuwa. **Method -** Descriptive cross sectional study was conducted among 602 study participants selected using multi- stage cluster sampling method. Data was collected using pre tested interviewer administered questionnaire developed for local setting and assessed for validity. Knowledge and practices was categorized in to good and poor based on the mean. Factors associated with knowledge and respiratory hygiene was assessed applying chi square test, and $p<0.05$ was taken as statistically significant.

Results-Majority of the participants had good overall tuberculosis knowledge (56%). They had good knowledge regarding tuberculosis symptoms, diagnosis, treatment, sputum disposal, and tuberculosis prevention. However, knowledge with regard to causative agent of tuberculosis, tuberculosis risk factors and BCG vaccination were poor among the study participants. Being male (OR- 1.5; Cl: 1.12.0), being non-Sinhalese (OR= 2.1; Cl: 1.1-4.0), being currently single (OR= 1.4; Cl 1.1-2.1), educated up to O/L or below (OR = 2.2; Cl 1.6-3.1=) and having monthly household income equal or below 50 000 rupees (OR= 1.6; Cl -1.1 - 2.3) were significantly associated with poor overall tuberculosis knowledge. Majority of participants agreed that tuberculosis patients should not be isolated in the society and were willing to help family members and relations suffering from tuberculosis. Majority (84%) had good respiratory hygiene practices and appropriate tuberculosis

related health seeking behavior. Being aged 40 years or more (OR = 1.7; Cl 1.1-2.7) being male (OR= 2.4; Cl 1.5 - 3.8).), educated up to O/L or below(0R= 2.3: Cl 1.4-3.8) and having monthly household income equal or below 50 000 rupees (OR= 1.9; Cl 1.1-3.4) were significantly associated with poor respiratory hygiene.

Conclusions and recommendations- Tuberculosis knowledge and selected aspects of respiratory hygiene practices were relatively satisfactory among the study participants. Further research is needed to understand attitudes attached to tuberculosis, respiratory hygiene practices and effectiveness of them in preventing respiratory tract infections in the community. Sociodemographic factors should be considered in planning communication interventions and behavioral strategies.

Key words: Tuberculosis, stigma, awareness, respiratory hygiene

0162.Kumarasinghe, K.H.M.
Job satisfaction and associated factors among Public Health Inspectors in Sabaragamuwa province.
MSc. Community Medicine – 2015   **D 4222**

Background

Public Health Inspectors are key field health workers in Sri Lanka who are responsible for many preventive health functions in the community. Job satisfaction is one of the crucial factors which motivate health care workers. Being field level health workers, the performance of the PHIs would depend to a large extent on their level of motivation.

Objectives

Main objective of this study was to describe the job satisfaction and its associated factors and the problems and challenges faced in work life among Public Health Inspectors in Sabaragamuwa Province.

Methods

This descriptive cross sectional study was conducted in all 29 MOH areas of Sabaragamuwa province including all Public Health Inspectors (PHIs) and Supervising Public Health Inspectors (SPHIs) working in MOH offices in Sabaragamuwa Province in the year 2015. Study unit was a PHI or a SPHI working in the Sabaragamuwa Province at the time of the study. All 157 field PHIs and SPHIs who fulfilled eligibility criteria were recruited. Two study instruments were used for data collection. They were a validated self-administered questionnaire

assessing socio-demographic and work characteristics, job satisfaction based on Herzberg's two factor theory and factors influencing job satisfaction, and a diary for self-reporting of time utilization. A five point likert scale was used to assess the job satisfaction based on intrinsic and extrinsic factors. Overall Job satisfaction was analysed using cut off points developed by a panel of experts. Associations between total job satisfaction and socio-demographic and work-related factors and amount of field & office work were analysed using chi-square test.

Results

Out of the 157 enrolled, 119 PHIs and SPHIs responded to the questionnaire (75.8%). Out of 128 PHIs 99 responded to 1st part of the diary to assess time utilization (77.34%) Page | ii and 79 PHIs to 2nc part of the diary (61.71%). Among intrinsic factors, responsibility showed highest level of satisfaction (n=100, 84%) and among extrinsic factors, it was interpersonal relationship (n=108, 90.8%). Highest percentage of dissatisfaction among intrinsic factors was advancement (n=88, 73.9) and among extrinsic factors, it was income and payment (n=74, 62.2%). Overall, more than 73% (n=92) of PHIs and SPHIs were neither satisfied nor dissatisfied regarding their job though 10.1% (n=12) show dissatisfaction towards their job. Most of the PHIs and SPHIs believed that legal provisions were inadequate for vector control activities to prevent Dengue (n=77, 64.7%) and Sanitary facilities of new and existing building (n=80, 67.2%). One fourth of the time of PHIs' duties was spent on preventing communicable diseases (25%). More Public Health Inspectors were dissatisfied- (1 vs. 10) when their area population increased (p=0.04). PHIs who spent more time in field were less satisfied compared to officers who spent less time in field (p=0.028).

Conclusions and Recommendations

Public Health Inspectors including Supervising Public Health Inspectors were generally neither satisfied nor dissatisfied with their job. Majority of them were not satisfied with their salary and allowances, system of promotion and training and attention is needed for these areas to improve the job satisfaction of PHIs.

Keywords: Public Health Inspectors, Job satisfaction, Time utilization

0163.Kumbukage, M.P.

Knowledge, attitudes, practices and associated factors regarding feeding during diarrheal diseases among caregivers of 6-12 month old infants presenting to the out patients department (OPD) at Lady Ridgeway Hospital with a diarrheal disease,
MSc. Community Medicine – 2014   **D 4487**

Introduction – Diarrhoea disease is a leading cause of child morbidity and mortality in the world. Despite recommendations from various organizations worldwide, caregivers restrict food and liquids to their children during diarrhoea. These incorrect practices inevitably cause dehydration, malnutrition and death of children which can be easily prevented by adhering to proper guidelines. Causes for the malpractice among caregivers are multifactorial. Therefore, it's important to assess baseline levels of knowledge, attitudes and practices possessed by the caregivers related to feeding practices during diarrhea to implement targeted interventions.

Objective -To evaluate knowledge, attitudes, practices and associated factors regarding feeding during diarrhoeal diseases among caregivers of 6-12-month-old infants presenting to the Out Patients Department (OPD) at Lady Ridgeway Hospital (LRH) with a diarrhoeal disease.

Methods-A descriptive cross sectional study was carried out in the OPD at LRH from 6th of August to 2nd of September 2014. Non-probability sampling technique was adopted to collect data from 378 caregivers of infants aged 6-12 months who attended to seek care for diarrhea. A structured, pro tested interviewer administered questionnaire was used to assess the knowledge, attitudes, practices and associated factors regarding feeding practices during diarrhea. Data entry and analysis was carried out using Statistical package for Social Sciences (SPSS) Version 17.0.

Results-The response rate of the study was 99% (n=374). From the total population, 97.32% (n=366) caregivers had good knowledge while 97.32% (n=364) caregivers were having favourable attitudes regarding feeding during diarrhea. Correct breast feeding (85.82%, n=321) and liquid feeding (74.86%, n=280) practices were seen among the caregivers. However total of 297 (79.42%) were practicing wrong solid feeding practices, while 32.09% (n=120) of caregivers have stopped solid feeding completely during diarrhea. Incorrect breast feeding and liquid feeding practices were associated with being non Sinhalese (p=0.001), Non Buddhists (p=0.002) and

educated less than Grade 10 (p=0.026) while correct solid feeding practices were associated with having more than one child in the family (p=0.027) and having more than 6 members in the family (p= 0.032).

Conclusions and Recommendations - Knowledge and attitudes of the caregivers on feeding practices during diarrhea were satisfactory. However only one fifth of the caregivers practice correct solid feeding during diarrhea. Training and updating the knowledge of the field level public health staff and medical officers on feeding during diarrhea are recommended. Awareness programs on importance of solid feeding during diarrhoea to the public using mass media and targeted intervention programs to non- Sinhalese ethnicities regarding breast feeding and liquid feeding are also suggested.

 Keywords : Knowledge, attitudes, practices, Diarrhoea, feeding

0164.Liyanage, B.E.H.
Knowledge on selected aspects of leprosy, attitudes towards leprosy and it associations among adults in Medical officer of Health area Panadura.
MSc. Community Medicine – 2016   D 4484

Introduction: -Leprosy and its associated stigma have a great impact on the treatment seeking behavior. Although the introduction of Multi Drug Therapy had reduced global leprosy cases (less than 1 / 100 000 population), persistent reporting of leprosy cases from several countries highlight inadequate prevention and control of disease. Self-reporting and contract tracing are documented as the principal method of case detection in which knowledge and attitudes play a major role. Many control activities had targeted increasing awareness and alleviation of associated stigma.

Methods: A community based cross sectional study was undertaken to assess leprosy related knowledge, attitudes and to describe its associated factors among adults in Medical Officers of Health (MOH) area Panadura. Some 463 participants above 18 years continuously residing in this area for more than 2 years were recruited using a multistage cluster sampling technique. A structured, pre-tested interviewer administered questionnaire was used for data collection. The knowledge and attitudes were presented as a profile as well as a composite score. Factors associated with knowledge and attitudes were assessed using chi square test for statistical significance at $p < 0.05$ level.

Results: Some 445 participants consented to the study. Fifty participants had (11.2%) never heard of leprosy. Prevalence of overall good knowledge was only 31 *%.* A skin patch with associate anesthesia as earliest symptom was only identified by 22 % (n = 98) and 66.1% knew allopathic treatments were available for leprosy. Poor overall knowledge was significantly associated with 18 -30 years age group, non-Sinhalese, religion other than Buddhism, never employed participants at p < 0.001 level. Overall knowledge did not demonstrate a statistically significant association with sex, level of education or overall attitudes. Prevalence of Negative overall attitudes was 30.6% and was significantly associated with age less than 30 years (p = 0.004) female sex (p = 0.003), Sinhalese ethnicity (p= 0.031). Overall attitudes were not significantly associated with religion, educational status, marital state, and overall knowledge. Most of the time reason for negative attitudes was fear of contracting the disease.

Conclusion and recommendation: Participants' overall knowledge and attitudes were poor. Majority of poor attitudes was based on fear of contracting disease. Identification of early symptoms, availability of an effective treatment regimen and prevention of infectivity once on treatment should be highlighted in these awareness programs.

Keywords Leprosy, attitudes, knowledge

0165.Liyanage, C.
Knowledge, attitudes and practice regarding first aid for selected injuries among   farmers in the Medical Officer of health area Dimbulagala.
MSc. Community Medicine -   2014   D 3691

Introduction: First aid is an immediate help provided to a sick or injured person until professional help arrives. Occupation related injuries such as mechanical injuries, poisoning, bums, snake bites and insect stings are common among farming community. Farmers often involve in farming activities in locations remote from health services and without taking appropriate safety measures. In that context, knowledge, attitudes regarding first aid and how they practice first aid play a major role in reducing severe consequences of such morbidities and mortality in farming community.

Objectives: To assess the knowledge, attitudes and practice regarding first aid for selected injuries (mechanical injuries, poisoning, snake bite, bum and insect

stinging) among farmers in the Medical Officer of Health (MOH) area Dimbulagala.

Methodology: using SPSS 17 package.

Results : The response rate of the eligible individuals was 96.27%.Knowledge on first aid for selected injury types was poor among responded farmers. Approximately three fourth of the farmers had poor knowledge on first aid for mechanical injuries while that on poisoning and snake bite were poor among 59.1% and 67.8% farmers respectively. Knowledge on first aid for bums (84.3%) and insect sting (88.4%) also reported to be poor in the study. More than 96% of the farmers had good attitude toward first aid in general. Poor practice of appropriate first aid measures and practice of inappropriate first aid measures for selected injuries were observed in the study. Immediate hospitalization was the first aid measure taken by almost all farmers when encountered with the injuries selected in the study. Traditional practices like cutting bite site with sharps (5.6%), applying snake stone (8.1%) and drinking alcohol or urine (8.1%) after a snake bite had also been practiced by farmers.

Conclusion and recommendations: Poor awareness regarding first aid for poisoning, mechanical injury, snake bite, bum and insect sting among farmers was poor and has to be addressed in future health programmers. Inappropriate first aid practices are to be discouraged through awareness programme target for the farming community.

Keywords: First aid, Farming, Knowledge, Attitude, practices

0166.Liyanage, L.D.
Knowledge on diet, dietary pattern and associated factors among the elderly in Medical Officer of health area Bulathkohupitiya.
MD Community Medicine – 2018   **D 4702**

Introduction : Malnutrition among elderly is a worldwide public health problem. However, information on knowledge and dietary pattern of elderly in Sri Lanka is limited.

Objectives: To describe the knowledge on diet, dietary pattern and the associated factors and to determine the association between the knowledge on diet and the dietary pattern among the elderly in Medical Officer of Health area (MOH), Bulathkohupitiya

Methods: A community based cross sectional study was conducted in Bulathkohupitiya MOH area. Sample size was 512. Sixty years and above elders were recruited by cluster sampling technique. All Grama-Niladhari areas were chosen as clusters and the first participant was selected randomly. Thereafter, participants from consecutive households were included. Public Health Midwives collected data using an interviewer administered questionnaire and a 24-hour dietary recall. Descriptive analysis was done for socio demographic and other associated factors and associations were calculated using chi square test and Odds ratio.

Results: Response rate was 98% (N=502). The age distribution ranged from 60 to 93 years and mean age was 67.2 years. Dietary knowledge was generally adequate with 62% (n=312) scoring 50% or more marks. Knowledge was positively associated with young age (OR=1.6; 95% CI=1.09-2.36;/?=0.017) being a Sinhalese (OR=3.04; 95% 01=1.41-6.54; *p*=0.003) and being a rural resident (OR=15.23; 95% 01=3.48-66.70; /?<0.001). Knowledge level was negatively associated with low educational level (OR=0.15; 95% 01=0.10-0.22; /?<0.001) and nonparticipation in social-activities (OR=0.24; 95% 01=0.14-0.42; /?<0.001). Television (OR=2.78; 95% 01=1.88-4.12; /?<0.001) and newspapers/books (OR=4.29; 95% CI=2.73- 6.72; /?<0.001) showed a statistically significant association as sources of knowledge on diet. Health sector contribution for knowledge was inadequate (12.2%, n= 61).

Dietary pattern among elderly was cereal/tubers based (100%, n=493), with a significantly poor proportion meeting dietary recommendations in vegetable (5%; n=25); dairy (11%; n=53) and fruit (12%; n=57) consumption. Availability of food and income of elderly were associated with consumption of better quality foods (p<0.05). Food variety score (r=0.308), dietary diversity score (r=0.206) and dietary serving score (r=0.237) positively correlated (/?=0.0I) with dietary knowledge.

Conclusions and Recommendations

Dietary quality and quantity of elderly have to be improved. Health sector should contribute more to increase dietary knowledge. Availability of foods and the income for elderly have to be enhanced.

Keywords Elderly, dietary pattern, dietary knowledge

0167.Liyanage, N.R.

Prevalence of hypertension , selected risk factors , knowledge, attitudes, practices on prevention of hypertension among adults in the Medical Officer of health area Beliatta.

MSc. Community Medicine – 2015   **D 3929**

Introduction

Hypertension is a chronic disease and a public health problem. It is a non communicable disease that has reached epidemic proportions worldwide with the demographic transition of populations. Effective control of hypertension and its complications heavily depend on patients knowledge, attitudes and practices. To achieve the optimal level of disease control and to reduce the premature morbidity and mortality individuals should adhere to healthy lifestyles, dietary habits, good practices such as regular treatment and avoidance of other risk factors.

Objective

This research was carried out with the objective of assessing the prevalence, selected risk factors, knowledge, attitudes and practices on prevention of hypertension in adults in the Medical Officer of Health area Beliatta.

Methods

A descriptive cross sectional study was conducted using a pre tested, interviewer administered 244uestionnaire as the study instrument. The 244uestionnaire collected data on socio demographic factors, diagnosis and treatment of hypertension, risk factors, knowledge, attitudes and practices related to prevention of hypertension. The study population consisted of males and females above 18 years who are permanent residents of the Beliatta Medical Officer of Health area. Multi stage cluster sampling method was used to select 266 subjects from 12 Public Health Midwife areas. The data collection was carried out during the months of August and September 2014 by two interviewers. The response rate was 100%. Statistical Package for Social Sciences (SPSS) version 20 software was used for the analysis. Data analysis was done using percentages, chi square test and odds ratio.

Results

The prevalence of hypertension of the study population was 20.3% (95% Cl; 13 28.6). Prevalence of hypertension in males was 25.4% (95% Cl: 17.3-34.2) and in females 15.4% (95%CI; 8.9-23.0). Mean systolic and diastolic blood pressure of the sample was 122.6 mmHg , 78.2 mmHg respectively and mean Body Mass Index

(BMI) was 23.6. Prevalence of risk factors in the sample were, Positive family history 30.4% (95%CI;21.6-39.5), Current smoker 15% (95%CI; 8.9-23.0), Regular alcohol consumption 6.8% (95%CI; 3.1-13.3), Inadequate physical activities 39.8% (95%CI; 30.7-49.8), BMI>25 31.9% (95%CI; 23.4-41.6), added salt to rice 35.7%(95%CI; 27.0-45.7) and Stress 24.4%(95%CI; 16.4-33.1).

In hypertensive and normotensives risk factors of a positive family history (51.9% and 25%), smoking (14.8% and 15.1%), regular alcohol intake (5.5% and 7%), not engaging in regular physical activities (38.9% and 40.1%), BMI > 25 (35.1% and 31.1%), adding salt to rice (24% and 39%) and stress (30% and 30%) were present respectively.

The mean knowledge score of the sample was 69.5 (SD=18.2) out of 100 marks. Only 11.6% (n=31) had an unsatisfactory knowledge.

A majority of participants had positive attitudes on measures on control and prevention of hypertension.

In the sample 71.6% (n=101), had got their blood pressure checked when presented to the doctor for another reason. Within the proceeding three months 72% (n=26) of subjects diagnosed with hypertension had their blood pressure checked. Among hypertensive 33.4% (n=18) were unaware of their disease condition. Only 33.4% (n=18) of the hypertensive on treatment had a controlled blood pressure level.

Conclusions and Recommendations

Risk factors such as positive family history, alcohol, smoking, inadequate physical activity, high salt intake were notably present in the study population. Considerable number of hypertensives were undiagnosed and among diagnosed hypertensives control was not satisfactory. Effective education and communication strategies targeting improving patient knowledge, attitudes and practices through behavioural changes should be adopted.

Keywords: Hypertension, prevalence, knowledge, attitudes, practices

0168.Liyanage, P.

Coverage of a aTD and rubella containing vaccines among 1996 birth cohort in Kalutara district and the effectiveness of decision aid tool for parental decision making on vaccination needs.
MD Community Medicine – 2014   **D 3699**

Back ground : Sri Lanka has high coverage of vaccine preventable diseases but the decisional needs the people with regard to vaccination cannot be assessed by the level of coverage o vaccine. Decision aid is a value and evidence based tool that support people to arri[1] evidenced based value based decisions. There is no decision aid developed in Sri Lanka and this study is an attempt to develop a decision aid for aTd vaccine. Target of vaccine is to prevent outbreak of diphtheria among adolescents and booster 1 immunity towards tetanus.

Methodology : The study is consisted of three phases. Phase 1 was to develop a tool to describe decisional needs and information needs of the parents of the children who are bon 1996 and residing in the district of Kalutara with regard to rubella containing vaccines (RCV) and aTd vaccine. And the tool was interviewer administered questionnaire. T tool was developed *according to the Ottawa Decision Support Framework. Ten Fc Group Discussions* were held to obtain the information. Phase 2 of the study was assess the coverage of rubella containing vaccine and aTd among children born 1996 in the district of Kalutara and to describe the decisional needs. . It was community survey and interview administered questionnaire was the tool which w< developed in the Phase 1 of the study and the Decision Conflict Scale. Phase 3 of the study was to develop a decision aid and assess the effectiveness of decision aid by cluster randomized trial. Component 1 of the study was developing the decision aid t support parents to make evidence and value based decisions with regard to aTd vaccine Component 2 of the study was to assess the effectiveness of the developed decision aid.

Results : The response rate for these questions was 100% and total of 416 mothers, 320 fathers and 64 guardians were interviewed. The 368(46%) parents/guardians in the sample had female children majority 288(72.8) female children were attending the Government schools. Out of 800 parents 440(55%) of parents/guardians had stated their children were immunized with the rubella vaccine. There were 368 female children in the whole sample and this indicated that 54.3% female children were had been given the rubella vaccine as stated by the parents/guardians. Out of

800 parents/guardians 720 (90%) of parents/guardians had stated their children were immunized with the aTd vaccine. Parents/guardians perceive many benefits of the vaccination. The parents/guardians seek information about the pathogenesis of the diseases, immunization programme, and safety of the vaccines and the competency of the public health staff to handle the emergencies. Most parents take decisions collectively and parents trust public health staff as reliable sources of information and prefer leaflets. During any crisis such as adverse event these parents/guardians would seek information and usually develop decisional conflict due to lack of reliable information. There was a negative correlation between score of the knowledge on rubella and rubella containing vaccines and the score of the decisional conflict regard to rubella containing vaccines and it was significant (P <0.01).

Decision Aid was developed according to the International Patient Decision Aid Standard and it consisted of five stages. Effectiveness of the Decision Aid was tested in the cluster randomized trial. The parents with poor knowledge on common issues with regard to vaccination and immunization programme had decreased in both study and the control groups and the difference was significant (P<0.01).The parents with poor knowledge on diphtheria, tetanus and aTd vaccine had decreased in both study and the control groups and the difference was significant (P<0.01). In both groups number of parents with the decisional conflict score in the range of 76100 had decreased. There was a difference between pre and post scores of decisional conflict scores of the study groups and the difference was significant (p<0.01). There was a difference between pre and post scores of decisional conflict scores of the control group and it was significant (p<0.05).

Conclusions and recommendations

Developed Decision Aid was effective in reducing the decisional conflict with regard to the aTd vaccine. It can be used in the National Immunization Programme.

Keywords : Decisional needs, Decisional conflict, Decision Aid, Coverage, cluster randomized trial.

0169.Liyanage, S.I.

Perceived body image and associated factors among grade 12 students in Nugegoda Educational Division in the Colombo district.
MSc. Community Medicine – 2016   **D 4003**

Background : Perceived body image and associated factors are of a great interest of western world. But no more a western topic due to increased interest of the Asian part of the world. Perception of body image and factors associated with it plays a major role in one's health specially psycho social aspect of health. The current study assesses the perceived body image and associated factors among grade 12 students in Nugegoda Educational division.

Methods: A cross sectional study was carried out with stratified cluster sampling method with a sample of 642 grade 12 students in Nugegoda educational division. Mean age was 16.5 (SD=0.5) and comprised of 457 girls. They were assessed on demographic characteristics, perception of body image (by a figure rating scale), socio cultural attitudes towards appearance (SATAQ-3), level of self esteem (RSES), eating behavior (EAT-26) and level of physical activity (IPAQ-short) via a self administrative questionnaire. The Body Mass Index (BMI) was calculated by measuring weight and height. Chi square test and Man Whitney U test were performed in analysis.

Results: Fifty-two percent perceives their body image as normal and 72% is dissatisfied on their perceived body image. Perception of body image and actual BMI category were same in majority of thin and normal group. Body image satisfaction was significantly associated with BMI category (p=0.05, OR=2.72, 95% CI=1.91-3.88) and eating behavior (p=0.05, OR=0.54, 95% 0=0.34-0.85). Level of self-esteem, level of physical activity and gender did not show significant association with body image satisfaction or perception of body image.

Conclusions-Majority of the adolescents are having a dissatisfied perceived body image. It is high time to embark on the topic and fill the gaps between perceived body image and associated factors in our context.

0170.Liyanage, W.L.C.A.
Knowledge, preparedness and factors associated of pandemic influenza among nursing officers of the National Hospital of Sri Lanka and the Colombo South Teaching Hospital.
MSc. Community Medicine – 2015   D 4217

Introduction : Influenza pandemics are unpredictable and the impact may be imminent if not prepared. Nursing officers (NOs) as frontline health care workers are expected to play a key role in the prevention and control of the disease while they themselves carry a risk of contracting. Assessing nursing officer's knowledge and preparedness and institutional preparedness helps administrators to identify gaps in preparedness for responding potential pandemics.

Objectives : To determine the knowledge, preparedness and factors associated with pandemic Influenza (PI) among nursing officers at National Hospital Sri Lanka (NHSL) and Colombo South Teaching Hospital (CSTH) and to describe institutional preparedness.

Methods: A descriptive cross sectional study was carried out in CSTH and NHSL with a sample of 422 among NOs attach to medical, pediatric, gynecology and obstetrics wards, medical 1CU, OPD, ETU, infection control units. Sample was selected by multistage stratified systematic sampling. Self-administered questionnaire was used to assess the knowledge and preparedness of nursing officers' and check list was used to assess institutional preparedness.

Results : A total of 392 NOs responded of whom 98% were females. Overall knowledge of pandemic influenza was poor in 52.3% (n=206) of participants. Younger age, less working experience, not received PIP trainings were significantly associated with poor knowledge. Majority (85.2%) of NOs was ready to comply with routine preventive measures and it was significantly associated with knowledge of PL Over 61.7% perceived that training on infection control was inadequate. More than 61% perceived that they were personally prepared to respond pandemic influenza. The Institutional preparedness was at a higher level. Perceived preparedness was associated with knowledge on PI, risk perception and training on PIP. Projected duty reporting was satisfactory in all situations expect when family member is contracted with PL Inappropriate working behaviors were noted which would link with transmission of the disease

Conclusion : Despite inadequate knowledge, the majority was ready to comply with routine preventive measures and was prepared to respond influenza pandemics. Institutions were also had high level of preparedness. Targeted education on appropriate use of personal protective equipment and appropriate working behaviors are needed to strengthen the response of influenza pandemic.

0171.Maddumahewa, C.V.
Knowledge, attitudes, practices and the factors associated with mother baby friendly initiative among healthcare workers and postpartum mothers at Colombo South Teaching Hospital.
MSc. Community Medicine – 2017   D 4485

Introduction/Background: In 2014, International Federation of Gynecology and Obstetrics settled guiding principles for Mother Baby Friendly Birthing Facility. These evidence based, simple, effective efforts can in fact become a beacon of light to navigate the world towards anticipated low levels of maternal and neonatal morbidity and mortality rates. But such agendas warrant positive participation of both service provider and recipient with correct knowledge, attitudes and practices.

Objectives: To describe the knowledge, attitudes, practices and the factors associated with Mother Baby Friendly Initiative among healthcare workers and postpartum mothers at Colombo South Teaching Hospital

Methods: A descriptive cross sectional study was conducted at Colombo South Teaching Hospital among 246 healthcare workers of maternal, newborn and child health working stations and 384 immediate postpartum mothers. Non probability sampling method was used. Two separate interview administrator questioners were used for data collection. Knowledge and practices were assessed by a set of questions developed based on FIGO and other maternal guidelines. Attitudes were assessed using a five point Likert scale. Percentages and mean values were used to describe variables while associations were tested using Chi square test.

Results: Sample was predominantly female (70.4 %), with 48 % nursing officers for healthcare workers. Mean age of participants was 37.57 (SD=8.113) and mean years of service was 12.39 (SD=8.87). While majority of them possessed correct knowledge on most of the components of MBFI, it was minimal for postpartum mothers. Both group showed positive attitudes for many components but attitudes in breastfeeding during mastitis was poor for both groups. Cup feeding was a poorly

practiced method for both groups. Breastfeeding counselling and BFHI were two trainings that showed association with practices among healthcare workers while it was parity and educational level in postpartum mothers.

Conclusions and recommendations: Although healthcare workers have a satisfactory knowledge and attitudes on MBFI, certain practices need improvement. A knowledge gap was seen in postpartum mothers. Hence, a need of more awareness and training is recommended.

Keywords: Mother Baby Friendly Initiative, Healthcare workers, Postpartum mothers

0172.Mafrooha, S.F.
Prevalence and factors associated with the use of long acting and permanent family plaining methods among eligible couples in medical office of health area Akkaraipattu.
MSc. Community Medicine – 2018   **D 4694**

Introduction: There are very few research findings on factors associated with the use of Long Acting and Permanent family planning Methods (LAPMs) among Sri Lankan women. LAPMs are most effective and convenient methods and recognized as the best choice for achieving the all needs of family planning (FP) in low cost. Better understanding about the factors associated with the use of LAPMs is crucial to take necessary actions to promote the utilization of them. Objective: To determine the prevalence and describe the factors associated with the use of long acting and permanent family planning methods among eligible couples in Medical Officer of Health area Akkaraipattu

Methods: This study was a community based descriptive cross sectional study conducted among eligible couples in Akkaraipattu Medical Officer of Health area. Pregnant mothers and women have fertility intention within 2 years were excluded. Two stage sampling used to select 344 participants. Data was collected through trained medical officers by using structured, pretested interviewer administered questionnaire. The dependent variable was use of long acting and permanent methods of family planning. Selected socio-demographic and socioeconomic factors, reproductive related factors, contraceptive related factors and service related factors were the independent variables. Descriptive statistics used to describe the data and chi square used to determine the association.

Results: The prevalence of LAPMs among eligible couples in MOH area Akkaraipattu was 16.5% (n=55, 95%CI = 12.51 - 20.53). Client related factors that were found to have a statistically significant association with the use of LAPMs were, age of respondent (p=0.015), age of the husband (p=0.008), duration of marriage *(p = 0.002)*, family type *(p = 0.021)* fertility intention *(p <0.001)*, number of living children *(p <0.001)*, number of pregnancy (p <0.001), age of the first child (p=0.08), unintended pregnancy *(p = 0. 016)*, inter spousal communication *(p <0.001)*, husband's positive opinion *{p <0.001)* and positive attitude towards LAPMs *(p =0.046)*. Health service related factors that were found to have a statistically significant association with the use of LAPMs were source of knowledge *(p =0)*, perception of satisfactory services *(p <0.001)*, receiving FP from government *(p <0.001)*, who is the counsellor *{p <0.001)*, number of FP counselling *{p =0.016)*, ever husband counselled *(p =0.003)*, number of follow up *(p <0.001)*, satisfy with the FP services of the Public Health Midwives (PHM) *(p =0.040)* and counselled by PHM *(p =0.013***).***

Conclusion and Recommendation: Prevalence of LAPMs was comparatively low. Age category of respondent and husband, duration of marriage , family type, number of living children , age of first child, fertility intention and history of un intended pregnancy are important client related factors to consider in providing LAPMs promotional activities. Improvement of inter spousal communication, husband's positive opinion and attitude through proper family planning counselling may have a beneficial effect on LAPM use. Most of the health service related associated factors with the use of LAPM can be positively improved by public health modifications and policy level actions. FP service provisions in the field and by PHM should be further strengthened**.**

Keywords: Long Acting and Permanent family planning methods, eligible couple, factors associated.

0173.Mallawaarachchi, B.C.
Disruptive behavior disorders among adolescents aged 11 to 17 years in the Galle district : Validation of a study instrument and assessment of prevalence and risk factors.
MD Community Medicine – 2016   **D 4069**

Adolescent Disruptive Behavior Disorders (DBD) is the collective terminology given to a spectrum of behavioral disorders Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). ADHD is characterized by deficit in attention, concentration, activity level and impulse control. ADHD is often co-morbid with ODD and CD. ODD is characterized as presence of behavior that is hostile, disobedient and negativistic. CD is the most problematic type of DBD characterized by behaviors that violate major societal norms and rules which is harmful to the family and the society. Very few prevalence studies had been carried out in Sri Lanka on behavioral problems and their risk factors among adolescent. Moreover, none had used a specific tool for identification of DBD. Therefore, there was a need to further explore adolescent DBD in terms of prevalence and risk factors. The objectives of this study were to determine the prevalence of DBD among Sinhalese adolescents aged II to 17 years by using a specific instrument translated and validated in to Sinhala language and to identify risk factors for adolescent DBD among this population.

Method: This study was carried out in two phases.

Phase I included selection of Parent/ Teacher Disruptive Behavior Rating Scale (P/T DBD Rating Scale) developed by Pelham and colleagues (1992), translation of the instrument to Sinhala language and validation of P/T DBD Rating Scale Sinhala. The P/T DBD Rating Scale -Sinhala is a symptom check list based on International criteria of ICD-lO and DSM-IV, diagnosing sub-types of DBD with four sub-scales. The unique feature of P/T DBD Rating scale was that it has an inbuilt symptom count system to identify adolescents with and without DBD immediately after the administration. The cut offs for the symptom counts used in this study was according to international standards laid down by ICD-10 and DSMIV. The other important feature of this instrument is that it can be administered to both Principal Care Giver (PCG) and teacher of adolescent.

Construct of the P/T DBD Rating Scale-Sinhala was explored by doing factor analysis using principal component with varimax rotation.

The criterion validity of the P/T DBD Rating Scale-Sinhala was assessed using the clinical diagnosis made by a Consultant Psychiatrist as gold standard. The criterion validity of P/T DBD Rating Scale-Sinhala was assessed by administering the instrument to both PCG and teacher of the adolescent.

Phase II determined the prevalence of DBD among Sinhalese adolescents aged 11 to 17 years living in Galle District and identified risk factors of DBD.

A cross sectional descriptive study was conducted in a sample of 1378 Sinhalese adolescents aged 11 to 17 years in Galle District, Sri Lanka. A stratified cluster sampling technique with probability proportionate to size of the population was used to select the study sample. A total of 70 clusters were included in the study with a cluster size of 20. The respondent of the study instruments was PCG of the eligible adolescent. DBD status was determined by using international symptom counts cutoffs.

A case control study was carried out to identify risk factors of DBD. An adolescent identified as having DBD by symptom counts of P/T DBD Rating Scale-Sinhala during descriptive study was further confirmed as a case by subjecting to a clinical assessment for pervasiveness, functional impairment and distress. The adolescent identified as not having DBD next to a case was subjected to the same clinical assessment and confirmed as a control. Unmatched 115 cases and 115 controls were enrolled for the cases control component of the study.

Result

Phase I

Factor analysis obtained a four factor model in which items of ADHD-Hyperactivity/Impulsivity and ODD loaded together. Items of ADHD Inattention loaded exclusively in to a separate factor. Items of CD loaded in to two factors reflecting two hidden factors: moderate violation of rules and severe violation of rules.

The sensitivity and specificity of PCG reported P/T DBD Rating Scale-Sinhala were 93.6% and 90.1% respectively while the sensitivity and specificity of teacher reported P/T DBD Rating Scale -Sinhala were 76.5% and 84.3% respectively. The internal consistency was measured for each sub-scale by calculating Cronbach alpha. Cronbach alpha for total scale, ADHD- Hyperactivity/ Impulsivity, ADHD-Inattention, ODD and CD, were 0.90, 0.76, 0.74 and 0.64 respectively. Test- retest reliability of P/T DBD Rating Scale -Sinhala was measured by applying Wilcoxon

Signed Rank test. No statistically significant difference (p=>0.05) was observed between the pairs, confirming no change during time lapse. Thus P/T DBD Rating Scale-Sinhala is having good Test- retest reliability as an assessment tool to identify DBD among Sinhalese adolescents aged 11 to 17 years.

Phase II

Response rate of the descriptive study was 98.7%. The mean age of the study sample was 13.5 years +1.7 years. The prevalence of DBD among Sinhalese adolescents aged 11 to 17 years living in Galle District was 8.56% (95% Cl: 7.1710.13). Gender specific prevalence of DBD among study population showed that the prevalence among male was significantly higher [13.74% (95% Cl: 11.28-16.5)] than among female [3.77% (95% Cl: 2.55- 5.36)]. Prevalence of DBD among Sinhalese adolescents aged 11 to 14 years living in Galle District was 7.9% (95% Cl: 6.27-9.81) and among those aged 15 to 17 years living in Galle District was 9.8% (95% Cl: 7.36-12.7).The observed difference was not statistically significant (p=>0.05).

Response rate of case control component was 100%. Bivariate and multiple logistic regression analysis were conducted to identify risk factors of adolescent DBD. Logistic regression analysis identified male gender (OR=5.3; 95% Cl: 2.5-11.3, p=.02) and adolescent subjected to bullying, teasing and harassment at school and other places (OR=10.4; 95% Cl: 3.3-22.9, p=.04) as adolescent individual related risk factors for adolescent DBD.

Logistic regression analysis identified authoritarian parenting style of PCG (OR=30.2; 95% Cl: 6.7-136.5,p=.02) and verbal and emotional aggression of parent as a form of marital conflicts (OR=44.7; 95% Cl: 14.3-139.5,p=.001) as parent and parenting related risk factors for adolescent DBD.

Of several variables related to influence of internet and electronic media equipment as risk factors for adolescent DBD, only ownership of a computer by the adolescent was identified as a significant risk factor (OR=15.6; 95% Cl: 5.5-43.9, p=0.008). Out of protective factors of adolescent DBD positive emotional support to the adolescent was significant in the multivariate analysis (OR=0.092; 95% Cl: 0.04 0.2, p=003).

Conclusions and recommendations

P/T DBD Rating Scale-Sinhala is a valid reliable study instrument to identify DBD among Sinhalese adolescent aged 11 to 17 years. Adolescent DBD is as an

emerging mental health issue among adolescents in this age group. Several risk factors were identified: adolescent focused, parent and parenting focused and school and social focused. Collaborative and specific community level measures should be taken to improve mental health of adolescents. A special emphasis should be taken to promote good parenting practices among PCGs of adolescents aged 11 to 17 years to improve behavioral wellbeing of adolescents.

Keywords: Disruptive Behavior Disorders, adolescents, risk factors, P/T DBD Rating Scale- Sinhala

0174. Mambulage, R.U.
Headache among school going adolescents aged 13 to 15 years in a district in Sri Lanka: prevalence, correlates, quality of life, effects on school performance and help seeking behavior.
MD Community Medicine – 2017   **D 4678**

Background: Globally, headache among adolescents has been identified as a public health problem. Scarcity of evidence among adolescents in Sri Lanka has hindered appreciation of the magnitude of the problem.

Objective: To determine the prevalence of headaches and to assess school performance and quality of life (QoL) associated with headaches among adolescents aged 13 to 15 years in the district of Colombo and to determine correlates of migraine and/or Tension Type Headache (TTH) and pattern of help seeking behaviour.

Methods: Adolescent HARDSHIP questionnaire was validated as a self administered tool to detect headache and to assess QoL while Migraine Specific QoL Questionnaire was validated to assess QoL among migraineurs using a triangulation of criterion, construct and concurrent validity and reliability. A crosssectional study among 13-15 years (n=920) selected by a multistage cluster sampling from public schools of Colombo District determined the period prevalence of any headache, migraine and TTH and QoL associated with headache. School performance was assessed through recorded term test marks. A crosssectional analytical study between diagnosed migraine and/or TTH (n=237) and those with no lifetime headache (n=230) determined the correlates of migraine and/or TTH. Data were through self-administered questionnaire from adolescents, interviewer-administered questionnaire from parents and anthropometry and vision

through measurements. Identification of correlates was by multivariate analysis. Focused group discussions assessed the pattern of help seeking behavior

Results: Adolescent HARDSHIP Questionnaire-Sinhala was sensitive (75.6%100%) and specific (88.1%-100%) to detect headache and its types. Construct validity of the MSQ-A Sinhala model in CFA showed a marginally good fit. Both tools showed adequate reliability. Crude prevalence of any headache during life time among aged 13-15 years was 77.2% (95%CI:74.4%-79.9%) while one-year, one-month, one-week and one-day prevalence were 71.5% (95%CI:68.4-74.4),48.6% (95%CI:45.3-51.9), 39.5%(95%CI:36.5-43.0) and 21% (95%CI 18.423.8), respectively. All except one-day prevalence was significantly higher among females. One-year prevalence of migraine was 20.6% (95%CI: 18.0-23.4) while it was 23% (95%CI:20.3-25.9) for TTH. Assessing QoL showed that among those with any headache in the previous month, 30.8% (n=135) had lost full school days and 12.1% (n=53) had left the school early. Males and migrainures showed poorer QoL associated with headache. . Migraineurs showed worst impact. Academic performance among those with headache showed that females performed significantly better compared to males.

Correlates of migraine and or TTH were non- Sinhalese (adjusted OR= 6.0), residing in their own home (adjusted OR=7.9), with both parents (adjusted OR=2.1), not born by normal vaginal delivery (adjusted OR=2), physical exercise <60 minutes per week day (adjusted OR=3.3), playing video/computer games> one hour per weekend day (adjusted OR=5.3). obesity/overweight (adjusted OR=79.9), motion sickness (adjusted OR=2.4), mental health problems (abnormal conduct score of Strength and difficulties Questionnaire (adjusted OR=7.3) moderate/high scores of Depression, Anxiety and stress scale-21 (depression-adjusted OR=5.0), stress-adjusted OR=4.6, anxiety-adjusted OR=2.6) and stressful life events related to academic work (adjusted OR=5.6). Several gaps existed in receiving and providing help for the adolescents with headaches

Conclusion and Recommendations: Prevalence of headache was high among adolescent's cents in Colombo district warranting a screening programme recommended to be incorporated to the existing school health programme.

A comprehensive preventive intervention should be designed and implemented to prevent primary headaches among adolescents in schools by making use of the modifiable factors identified.

Keywords: Primary headaches, standardized prevalence, migraineurs, stress.

0175.Marasinghe, M.A.P.
Screen time : Pattern and , its association with caregivers practices and behavioral problems among preschool children of 3-5 years in the Medical officer of health area Kegalle.
MSc. Community Medicine – 2017   D 4489

Introduction

"Screen time" refers to the time spent with any screen including television, desktop and laptop computers, tablets and smartphones. High exposure to screen time has been associated with physical and mental health risks. No study has been done in Sri Lanka to assess screen time and associated factors among preschool children.

Objectives

The study was aimed to assess the pattern of screen time and association of screen time with caregiver practices and behavioral problems among preschool children of three to five years in the MOH area Kegalle.

Methods

A community based cross sectional study was conducted among 510 caregivers, selected by two stage cluster sampling in 2017. An interviewer administered questionnaire assessed the pattern of screen media use of preschool children and caregiver practices. Sinhala validated parental component of Strengths and Difficulty Questionnaire was used to assess behavioral problems. Association of screen time with caregiver practices and behavioral problems were investigated using Chi-Square test. Association was considered as significant when the p value is less than 0.05.

Results

Overall, 466 caregivers participated with a response rate of 91.3%. Over 99% of preschool children had at least one type of screen device in their households. Television (96.1%) was the most popular screen media device. The average daily viewing time for television was 64.03 minutes per day (SD= ±_5\J5) in a weekday and 67.59 (SD= + 56.14) in a weekend day.

The prevalence of screen time was 84.7% for weekdays and 85.5% in weekend days. High screen time (>1 hour/day) and normal screen time (< 1 hour/day) was 32% (27.9- 36.34) and 52.7% (48.25-57.36) respectively.

Age, gender, ethnicity, religion, sector, having siblings, family structure and income were not associated with screen media use (p>0.05) of preschool children. Mother being the caregiver (p=0.009), educational level O/L or below (OR=1.775; Cl = 1.18- 2.68, p=0.006) and unemployment (OR=1.775; CI=1.18-2.68, p=0.001) were associated with high screen time.

The care giver practices of enforcing rules on the duration of screen media use (OR= 1.56; 95% Cl =1.04- 2.36; p= 0.0032), time of screen viewing (p=0.02), on days of the week (p=0.005), and on the type of program (p=0.048) were significantly associated with children using screen media for more than one hour. Rewarding good behaviors (OR=7.04; 0=4.39-11.29, p=0.0001) and co-viewing (OR= 1.544; CI= 1.01-2.34; p= 0.041) were significantly associated with screen time.

Being positive or borderline for conductive behaviors (OR= 3.24; CI= 2.11-4.94; P=0.0001) and pro-social behaviors were associated with high screen time (OR- 2.184; CI= 1.43-3.33).

Conclusion and recommendations

Prevalence of screen media use is high among preschool children. Several caregiver practices are associated with high screen time. Awareness programs need to be conducted for caregivers on screen media use of preschoolers. Further research is necessary to identify prevention and intervention strategies.

Keywords: Screen time, Television, Preschool children, Caregiver practices, Behavioral problems

0176.Mohideen, S.
Psychosocial problems and associated factors among women of reproductive age (15 years to 49 years) in Vavuniya Medical Officer of health area.
MSc. Community Medicine – 2016   D 3990

Background

Psychosocial problems have become a major health concern for women worldwide. Despite it being a leading cause of health-related disability in reproductive age groups and its long-lasting effects throughout life, the mental health needs of

reproductive age (15-49 years) women are still neglected and marginalized. In this context, the present study was conducted to describe the psychosocial problems and factors associated with it among the reproductive age women (15-49 years) in conflict affected Medical Officer of Health area of Vavuniya.

Methods

A descriptive cross-sectional study was conducted among 507 reproductive age women, in Vavuniya MOH area. A two stage cluster sampling method was applied to select eligible participants. An interviewer administered questionnaire including General Health Questionnaire -30 was used to collect data and a chi-square test was performed in order to find the statistical associations.

Results

A majority of women were in 30-34years age category and were Tamils (85.5%). Moreover, 10.7% of the female study participants were heading their households. Overall prevalence of psychological distress among these women was 29.2%. This study found that 5% of the participants were suffering from gender based physical abuse by their close family members, with 33.5% suffering from anxiety and 3.2% suffering from relationship problems. The study further revealed that family income and level of education ($p<0.001$) had a statistically significant association with psychological distress. 27.2% of the respondents reported that they were displaced due to conflict.

Further, Individual factors such as traumatic life events (forced displacement ($p<0.001$) and loss of property during war ($p<0.001$)) shows a significant association with psychological distress. While factors such as age, ethnicity, civil status, and employment status did not show any statistically significant association with psychological distress. However, family factors such as inadequate family support had a significant association with psychological distress ($p<0.001$). Likewise, social factors such as social class ($p<0.005$), social support ($p<0.03$), type of residence ($p<0.03$) and access to healthcare ($p<0.001$) also showed a statistically significant association with psychological distress.

Conclusion and recommendation

The overall prevalence of psychosocial problems among women of reproductive age is high. Therefore, it is necessary to increase psychosocial promotional activities such as coping mechanisms and mind fullness based interventions among reproductive age women.

Keywords: mental illness, psychosocial, forced displacement, reproductive age

0177.Munasingha, H.M.
Epidemiological profile of Varicella, cost of illness and felt need of a vaccine in the Colombo District.
MD Community Medicine – 2015   D 3698

Introduction and Objective

Varicella is a vaccine preventable, communicable disease caused by Varicella virus. Limited information is available on the burden of Varicella in Sri Lanka. This study was carried out with the objectives of describing epidemiological profile of Varicella, cost of illness and the felt need of a vaccine in the Colombo district.

Methodology

This study comprised of 4 components was carried out in 2012-2013. A longitudinal 12 months follow up study with a sample of 25, 260 was carried out to estimate the incidence of Varicella. Study population was selected using multi stage random sampling of 6313 households in 60 GN areas in 6 selected MOH areas in the Colombo district. Sero prevalence study was carried out in the same study setting by using multistage random sampling with probability proportionate to size. Sample size was 1230. Commercial IgG ELISA kit was used to assess sero status.Cost of illness was assessed in two components; non hospitalized, 181 cases detected in component I and 51 patients hospitalized in Infectious Diseases Hospital in a two month period. Health system cost was assessed parallel to the household cost of hospitalized patients for which the bed head ticket was the source document. Per patient per day cost was calculated through "Scenario building" method using a non medial checklist.

A sub sample of 240 study persons in age 30 - 60 years was randomly selected from study component I to describe the felt need of a vaccine.Interviewer administered structured questionnaires were used to collect data in all study components. Both

quantitative and qualitative analyses were performed to present results. In the analyses quantitative data analysis, statistical software version 20 was used.

Results

During the one year follow up, 187 Varicella cases were reported, giving an incidence density rate of 75.3 / 10,000 person years (95% Cl 65.2 - 86.8). Calculated cumulative Incidence was 74.78 per 10,000 (95% Cl 64.0 - 86.0). Overall sero prevalence of Varicella was 54.21% [95% Cl 51.46% - 56.96%]. Age specific sero prevalence had increased from 9.78% in age 1- 4 years to 76.27% in 60 years or above.

Total average household cost of illness of non hospitalized, per Varicella case was Rs 1, 325.00. Total average household cost of illness of hospitalized, per Varicella patient was Rs 2, 277.00. Health system cost for an uncomplicated per Varicella patient per average 4 day stay cost was Rs 5,142. 96.

Indirect household cost of both non hospitalized and hospitalized costs are higher than the direct household costs of both categories.

All study participants of the household opinion survey had expressed the need of a vaccine for preventing Varicella and prefer to receive it through the National Immunization Programme.

Conclusion

Revealed incidence 75.3 / 10,000 person years (95% Cl 65.2 - 86.8) of Varicella and sero prevalence of infection are high in the Colombo district. Sero prevalence (54.21% [95% Cl 51.46% - 56.96%) of Varicella infection increases with age. Cost of illness per patient in hospitalized (household and health system cost), is higher than a case in non hospitalized (household cost). Community has expressed the need of a vaccine to prevent the disease.

Recommendation - Given the epidemiological profile and cost of illness data support, recommend revitalized Varicella prevention activities including vaccination.

Keywords: Varicella, Varicella epidemiology, Cost of illness, Vaccine

0178.Munaz, M.M.M.

Knowledge, attitude and practices of field public health midwives on adverse events following immunization and associated factors in the Eastern Province of Sri Lanka.

MSc. Community Medicine - 2017   **D 4498**

Background

Despite the remarkable public health success of immunization, there is a growing concern on AEFI and vaccine safety among public. This necessitates the strengthening of vaccine safety surveillance system of every country in order to sustain the public confidence on vaccination programs. Healthcare professionals' awareness, attitude and practices on AEFI is a less explored subject. In Sri Lanka, PHMM play a pivotal role in the national immunization program including surveillance of AEFI. Being the main service provider, PHMM routinely encounter incidents of AEFI as first contact health care person. Further, prevention, detection, reporting and management of AEFI largely depend on the competency, knowledge, attitudes and the practices of the PHMM. The incidence of AEFI are underreported from the Eastern Province.

Objectives

To describe the knowledge, attitudes and practices of field public health midwives on adverse events following immunization (AEFI) and associated factors in the Eastern province of Sri Lanka.

Methods

A descriptive cross sectional study was conducted with an estimated sample of 462 field PHMM attached to MOH offices in the Eastern Province. A stratified cluster sample was used. Each MOH area was considered as one cluster and clusters were selected randomly until get a proportionate sample from the four RDHS areas. A validated, pretested, self- administered questionnaire with mainly close-ended and few open-ended questions, were used as the tool. An unweighted scores were given to knowledge, attitudes and practice components separately. Data was analysed using SPSS version 21. ANOVA, chi-square and Pearson correlation were used for the association. Two sided 0.05 significance level was used.

Results

The response rate was 98.9%. The mean age of the PHMM was 36.9 (SD 7.57). The knowledge in prevention, reporting, documentation and management of AEFI was good whereas knowledge on detection of AEFI was poor. The mean knowledge score was 66.7% (SD 9.9). The overall attitudes and practices of PHMM on AEFI were also good. The mean attitudes score was 78.4% (SD12.7) and the mean score for practices was 86.4% (SD 12.7) The mean knowledge and attitude scores had significant inter-regional differences. The area of the PHMM, ethnicity, availability of immunization handbook and staff supervision were significantly associated with the knowledge level. The area of the PHMM, ethnicity, residence, period of current workplace experience, basic training on AEFI and staff supervision were significantly associated with the attitude of the PHMM towards AEFI. None of these characteristics had association with the practices.

Conclusions and recommendation

Overall knowledge of the PHMM was good. However there were gaps in certain components of knowledge on AEFI which necessitates strengthening of in-service training and supervision. Overall attitude and practices were good.

Keywords : Adverse Events Following Immunization, Public Health Midwife, Easter

0179.Muzrif, M.M.M.

Prevalence and correlates of gender based violence in pregnant women and outcome of pregnancy in abused women in Estate Sectors of Badulla district. MD Community Medicine – 2015   **D 3957**

Introduction and objectives

Tea estates in Sri Lanka have been the mainstay of the Sri Lankan economy since the late eighteenth century and at present around one million people live in estate sector of Sri Lanka. This is the first large scale study in estate sectors of Sri Lanka related to GBV.

The present study was undertaken with the objectives of determining the prevalence and correlates of GBV of antenatal women and to describe the outcome of pregnancy in abused women compared to non-abused in estate sectors of Badulla District in Sri Lanka

Methodology

The study consisted of four stages: A community based cross-sectional study, a case control study, a cohort study and a qualitative study.

The descriptive cross sectional study was conducted among 800 women recruited using multistage cluster sampling to determine the prevalence of GBV in estates. WHO, Women's health and Life Events Questionnaire was modified and used to detect GBV in this study.

A case control study was carried out among 278 cases and controls. The data needed for this stage of the study was collected with the stage one. Univariate analysis and conditional Logistic regression were performed to assess the correlates.

A prospective cohort study was carried out to describe pregnancy outcome in abused women compared to non-abused. A sample of exposed (n=77) and nonexposed (n=77) antenatal women were followed up until delivery to study pregnancy outcomes. Adjusted relative risks were calculated using stratification (Hosmer and Lemeshow combined) method.

A qualitative study was conducted to describe the services available for abused women, victim's views and caregiver's views on abuse in estate sectors

Results

The prevalence of intimate partner (IP) physical violence (PV) was 41.6% (95% CL38.2- 45.0) and 31.1% (95% CI:27.9-34.3) respectively experienced this in the past year. In the present study, prevalence of IP sexual violence (SV) was 10.4% (95% Cl: 8.3-12.5) while 8.8% (95% Cl: 6.8-10.8) women experienced this in the past year. IP psychological violence was reported by 47.9% of the participants. PV and SV by non partners was reported by 17.0% (95% Cl: 14.4-19.6) and 6.1 (95% Cl: 4.4-7.8) respectively.

Partners alcohol consumption (OR 7.48, 95% Cl: 3.52-15.91), partner fought with other man (OR 6.60, 95% Cl 2.75-15.86) and low household income (OR 2.06, 95% Cl: 1.10- 3.90) were identified as significant correlations after adjusting for confounders.

Antenatal women who were exposed to CIPPSV were 1.92 (95% Cl: 1.13-3.27) times more likely to get a LBW baby compared to non-exposed after adjusting for prematurity, maternal Anaemia and pre-pregnancy BMI.

Almost all forms of physical abuse are common in estates while minor abuses like slapping by partner are considered as normal. Alcohol usage is a common problem where women have been abused. Women's subordinate status and attitudes of men plays a major role in high prevalence of GBV in estates. Lack of reliable and accessible shelter within the estate was felt by many women.

PHMs are playing a major part in GBV services. PHMs have adopted a set of their own creative strategies to detect and manage GBV victims through maternal and child care services. PHIs, MOHs, women and child protection officer of police, welfare officers of estates, women and child development officer of divisional secretariat office, counseling officers at PGH Badulla and "thalaivars" of estates are the other important people who serve abused women within their capacity. Lack of shelter for victims and counseling services are noticed throughout the estate.

Conclusion

The study concluded that the prevalence of IP and non-partner violence among antenatal women in estates of Badulla district was high. Further, partner's alcohol consumption, partner fight with other men and low income were the significant correlates of GBV. Women exposed to abuse were more likely to get a LBW than non-abused. PHMs are the important caregivers who serve for abused women in estate.

Recommendation

An effective intervention programme in estate sectors, which includes awareness rising among estate men and women, active case detection, offering health and other supportive services including shelter and capacity building of primary care workers is recommended.

Keywords: GBV, Estate sector, Correlates of GBV, Pregnancy outcome, GBV services

0180.Nadeesha, P.B.I.
The prevalence of overweight and obesity and some associated factors among 18-69 years old adults in the Dehiwala medical officer of health area.
MD Community Medicine - 2019   D 4703

Introduction

The prevalence of obesity and overweight is increasing all over the world at an alarming rate leading to an epidemic. Preventive measures should be applied timely

in order to prevent and control non-communicable diseases and to improve the quality of life of the people.

Objective

To describe the prevalence of overweight and obesity, knowledge on healthy diet and physical activities, dietary behaviors and practices of physical activities and associated factors among 18 -69 years old population in the Dehiwala Medical Officer of Health area.

Methods

A descriptive cross-sectional study was done among 489 adults of 18 to 69 years in Dehiwala MOH area. The study sample was selected by multistage cluster sampling. Weight and height were measured, and Body Mass Index was calculated. Data on sociodemographic characteristics, knowledge on healthy diet and physical activities, dietary behaviours and physical activity practices were collected by interviewer administered questionnaire. The continuous variables were described as means and standard deviations. Frequencies and percentages were used to describe the categorical variables. The associations between the overweight and obesity with some factors were analyzed using chi square test and then associations were considered as statistically significant if the p value is < 0.05.

Results

Prevalence of overweight was 25.8 % and obesity was 23.1 % among the study sample. Participants who had a good knowledge on diet was 42.5% and PA was 41.5 %. All study participants consumed starchy food daily. But only 6.3% of participants consumed fruits and 12.7% consumed nuts and oil seeds except for coconut oil or coconut milk. 61.7% of participants consumed vegetable less than the recommended amount in a day. Statistically significant associations was demonstrated between overweight and obesity with monthly family income ($p<0.001$), education level ($p=0.001$), and house quality ($p=0.001$) and dietary intake of grains ($p<0.001$), fruits ($p=0.015$), vegetables ($p=0.001$), fish ($p=0.001$), milk and milk products ($p<0.001$), nuts and oil seeds ($p<0.001$) per day. There is no statistically significant association between knowledge on a healthy diet ($p=0.283$) and PA ($p=0.118$) and overweight and obesity.

In addition to them overweight and obesity statistically significantly associated with PA level at work ($p=0.036$), PA at travelling (0.016) and recreational activity level ($p=0.015$).

Conclusion and recommendations

The prevalence of overweight and obesity is high among study participants. As awareness on healthy diet and PA is not adequate it is necessary to disseminate community food based dietary guide with implementation of targeted interventions to prevent overweight and obesity.

Keywords; Overweight, Obesity, Dietary behaviour. Physical activity Knowledge

181. Navodani, K.A.T.
Quality of domiciliary postnatal care provided by the public health midwives and quality of life of postpartum mothers in the RDHS division , Kalutara. MD Community Medicine – 2015   **D 3689**

Introduction

Postnatal (PN) period extends from delivery up to 42 days. In Sri Lanka, there is an island wide domiciliary postnatal care (DPNC) delivery system. Public Health Midwives (PHMM) have the key responsibility in provision of DPNC at the implementation level. Postpartum quality of life (PQOL) is determined by many factors, including physical, mental, social and spiritual well being.

Objective of the study

The study was designed to assess quality of DPNC (QDPNC) provided by the PHMM and QOL and its associated factors among postpartum mothers in the RDHS division, Kalutara.

Methods

The study had three components. Component 1: To develop and validate instruments to assess QDPNC provided by the PHMM, Component 2: To assess QDPNC in the RDHS division, Kalutara and Component 3: To assess QOL and its associated factors among postpartum mothers in the RDHS division, Kalutara. Four instruments were developed and validated to assess QDPNC. The instruments are QDPNCAT-01 to assess QDPNC received by postpartum mothers according to their perception and practices, QDPNCAT-02 to assess their satisfaction, QDPNCAT-03 and QDPNCAT-04 to assess respectively the knowledge and skills of the PHMM.

Community based descriptive cross sectional study design was used to assess QDPNC received and QOL of postpartum mothers. QDPNC was assessed at 8-12 weeks after delivery on a sample of 1112 postpartum mothers, selected from 120 clusters using probability proportionate to size (PPS) technique. Eligible mothers were recruited through the Monthly Expected Dates of Delivery Register of the PHMM. For knowledge and skills assessment of PHMM, 272 PHMM and 112 PHMM were selected respectively.

PQOL of postpartum mothers was assessed at 4-6 weeks of delivery at postnatal clinics using the validated WHOQOL-BREF. The same sample of mothers with an additional 16 (1128) participated.

Results

Perceived QDPNC revealed a satisfactory level of perception of postpartum mothers with a mean and median of 50.88 (95 % CI=50.38-51.39) and 52.0 respectively. 'Postpartum visits and easy contacting' and 'Examination of mother and newborn' domains obtained more than 80% of allocated marks. 'Health education and promotion' domain obtained lowest mean scores (57 %). Lower mean scores were obtained for 'Measuring temperature' 'Examination of calves' and 'Observation of vaginal pad' of postpartum mother; 'Measuring temperature', 'Checking for hearing' and 'Examination of vertebra' of newborn. 'Provision of health education materials', educating on 'Postpartum exercises' 'Postpartum danger signs' and 'neonatal danger signs' also had low mean scores.

Exclusive breast feeding at 8-12 weeks, attending PN clinic and weighing of the baby at one month was good (more than 90 %). Use of micro-nutrients was satisfactory (88 %) and practice of a postpartum family planning (FP) was 65.6%. Use of condoms (30.4%) was the most popular FP method followed by IUD (26.7%) and DMPA injection (22.9 %). Regular practice of postpartum exercises was very low (5.3 %). More than 25% of mothers had not informed the PHMM on postpartum and neonatal complications. Practice of postpartum FP and postpartum exercises had strong statistically significant associations with perceived QDPNC (p0.00l).

Satisfaction of postpartum mothers was good with mean and median scores of 77.9% and 78.0% respectively. 'Postpartum home visits and easy contacting' and 'Courtesy of the health provider' domains obtained higher mean scores of 78.7 % and 82.2 % respectively. The lowest mean score of 71.8 % was obtained for 'Health

education and Health promotion' domain. Satisfaction of postpartum mothers had strong statistically significant association with the perceived QDPNC (p0.00l).

Knowledge of PHMM was not satisfactory with mean score of 53.2% (SD±10.09). Lowest mean scores were obtained by the MCQs on 'Normal/abnormal conditions of the newborn' (1.89, SD±1.38), and 'postpartum family planning' (1.43, SD±1.01). The questions on 'Postpartum exercises' (3.68, SD±2.50) and 'Neonatal jaundice' (3.16, SD±1.85) have obtained the lowest mean scores. Skills of the PHMM were satisfactory in relation to 'Examination skills' domain (72 %) and 'Technical expertise' domain (68.7%). 'Health education and Communication domain had the lowest mean score of 58%.The level of skills had statistically significant association with the level of knowledge and the level of education of PHMM (p<0.001).

PQOL was satisfactory with a mean score of 75.46 (SD±12.7). Age, employment status, total monthly family income and the social class had statistically significant association with PQOL (p<0.05). Pregnancy planning, social support, abused state, presence of major life events, level of satisfaction on DPNC and presence of postpartum complications were strongly statistically significantly associated with PQOL (p<0.001).

Conclusions and recommendations

Even though the overall QDPNC is satisfactory, many gaps were identified in this study. Health education activities of the PHMM were not satisfactory and needs to be improved with close supervision, training and guidance. Necessary interventions are recommended to improve practice of postpartum exercises and postpartum FP. Capacity building of the PHMM should be done through in-service training. New strategy is required for detecting and reporting of postpartum and neonatal morbidities which shows major under reporting.

Key words: Postnatal period, domiciliary postnatal care, Public Health Midwives, QOL of postpartum mother, quality of domiciliary postnatal care.

0182.Nawaratne, S.D.

Proportion, knowledge, attitudes and correlates of advanced maternal age, among pregnant women attending to antenatal clinics conducted by the Colombo Municipal Council.

MSc. Community Medicine – 2016   **D 4009**

Background

Advanced maternal age shows an increasing trend at present. In many literatures it has shown to significantly increase the risk of maternal and fetal morbidity and mortality. Reasons for childbearing in the later part of the reproductive years can be diverse and can be influenced by various factors. The aim of this study was find the proportion of women in advanced maternal age and to assess the knowledge, attitudes and correlates of advanced maternal age among pregnant women.

Method

A descriptive cross-sectional study was carried out among pregnant women attending to antenatal clinics conducted by the Colombo Municipal Council. Multistage systematic sampling technique was used to select the representative sample of 427 subjects. A pretested interviewer administered questionnaire was used to collect data from the study units. Data entry and analysis was done using the computer Software Package for Social Sciences (SPSS) 20.0 version. From the total sample, the proportion of advanced maternal age was calculated. Frequency distribution of characteristics of the study participants, knowledge and attitudes were presented. The statistical association of correlates was evaluated using the Chi square test and a p value of 0.05 was used to assess the significance.

Results

The proportion of women in advanced maternal age in the study was 14.4%. The commonest source of pregnancy related information was gained from the Public Health midwife. Only 20.3% of the participants were having a 'good' level of knowledge on advanced maternal age while a majority of participants had 'poor' knowledge (37.4 %). Overall positive attitude was observed among the majority (67.1%) of the respondents, while 22.5% had negative attitudes toward advanced maternal age. Failure of family planning methods (p<0.001), preexisting medical conditions (p<0.001), antenatal morbidities (p<0.001), and having a history of cesarean sections (p<0.001) were significantly associated with advanced age

(p<0.05). A significant association was seen between overall level of knowledge and those who delayed their marriage after 30 years of age (p=0.006).

Conclusions and Recommendations

The overall level of knowledge among the participants regarding advanced maternal age was inadequate. However, a positive attitude on advanced age seemed to prevail in the sample. By improving awareness and basic knowledge on advanced maternal age through public health interventions targeting the females of the reproductive age group, this high-risk pregnancy could be reduced to some extent.

0183.Nazeer, I.
   Cyberbullying among grade 12 students in the Colombo education zone :
   Prevalence, patterns, associated factors, perceived effects & coping strategies.
   MSc. Community Medicine - 2016   D 3991

Background

Bullying among school children has been identified as a significant problem affecting the wellbeing of children. Cyberbullying is another dimension of bullying that is becoming more prevalent and can be more perverse than traditional bullying. Any kind of aggression perpetrated through technology- through e-mail, a chat room, instant messaging, a website (including blogs), text messaging, or videos or pictures posted on websites or sent through cell phones can be called cyberbullying. While the exponential growth in the use of mobile phones and technological devices to access the Internet provides adolescents with many opportunities to communicate and learn, it comes with certain risks such as being a victim of cyberbullying.

Objectives

The objective of this study was to determine the prevalence and patterns of cyberbullying, associated factors, perceived effects and coping strategies of victims of cyberbullying among Grade 12 students in the Colombo education zone.

Methods

A cross sectional analytical study among a sample of 825 Grade 12 students in the Colombo education zone was carried out. Multistage cluster sampling was used for selecting the participants. The study was conducted in the Information Technology (IT) labs of the selected schools using a self-administered, web based questionnaire.

The prevalence of lifetime cyberbully victimization in the study population was found to be 17.6% with 30-day victimization at 4.4%. Prevalence of lifetime cyberbullying offending was found to be 12.4% with 30day offending at 5.6%. A majority (72.9%) of the study population said they have witnessed others being bullied.

Lifetime victims of cyberbullying were more likely (OR 4.2,95%CI 2.8-6.1) to be lifetime victims of traditional bullying. Boys were nearly three times more likely to be victims of cyberbullying in the last 30 days (OR-3.3, 95% CI-1.5-7.4). Patterns of Internet usage were significantly different in many aspects between girls and boys. High Internet usage was found to increase the likelihood of being bullied online in their lifetime. Children who had parents who had better or equal skills at using the Internet than them were less likely to be bullied online. Risky online behaviours such as befriending/ communicating with unknown persons, sharing personal information on public forums and ignoring age restrictions was found to increase the likelihood of being bullied online in their lifetime and in the last 30 days. Both lifetime and 30-day victimization were also more likely among those who accessed the Internet mainly for social networking, had more than one account on a single social media network and were never supervised by their parents while online. Anger, feeling hurt and embarrassment were the commonest perceived effects of cyberbullying with 5.9% wanting to end their life. The commonest method of bullying was by posting mean or hurtful comments online. Facebook was the commonest medium through which bullying took place. The cyberbully, was most often someone who was known to the victim.

On seeing someone being cyberbullied 35.7% of students always tried to help the victim Reporting of incidents was found to be low (26.9%). Most of the time reporting was to a friend (64.1%). Teachers were approached the least (2.8%) in terms of reporting incidents. Of the study participants 87.9% felt there was a need for a reporting system for cyberbullying.

Conclusions and recommendations

Cyberbullying victimization was associated with high Internet usage and engaging in risk' online behaviours. High parental knowledge and supervision of Internet use reduces the likelihood of children being cyberbullied. Children need to be taught safe and respectful Internet behaviours, while diversifying their Internet usage. The supervisory role of parent should be enhanced by addressing the knowledge and

skill gap in terms of computer literacy between them and their children. Schools need to create a supportive environment that promotes reporting of incidents.

Keywords: Cyberbullying, Prevalence, associated factors, perceived effects, coping strategies

184. Nazeer, N.
Treatment compliance and its associated factors among adult asthmatic patients attending medical clinic in Base Hospital Homagama.
MSc. Community Medicine - 2016   **D 4007**

Introduction: Asthma affects an estimated 300 million people worldwide. Low rates of compliance with medication pose a major challenge to effective management of the disease. The high medical and social costs of poor compliance and the apparent lack of effective methods for dealing with it has stimulated interest in this complex issue.

Objective: To determine treatment compliance and its associated factors among adult asthmatic patients attending medical clinic in Base Hospital Homagama.

Methods: A descriptive cross sectional study was conducted among 374 adult asthmatic patients 18 years and above. Systematic sampling method was applied. An interviewer administered questionnaire and a checklist was used to collect data. Data was analyzed using statistical package for social sciences (SPSS version 20). Chi square test was performed to assess associations.

Results: The mean age of the respondents was 52.3 years with a Standard Deviation of 11.3 years and comprised mainly of females (56%). Good treatment compliance was demonstrated in 65% of patients. A great proportion had poor inhaler technique (76.7 %.).Younger age, being female and higher educational and income levels were significantly associated with good compliance (p<0.05).Perception of susceptibility, belief on severe consequences and believing therapy is effective and beneficial were positively attributed to compliance (p<0.05).Erroneous beliefs of diminished effectiveness and fear of dependence with long term treatment, believing asthma was not controllable contributed to poor compliance (p<0.05). Forgetfulness (35.2%) and presence of other chronic disease(s) (45.1%) were evident among considerable proportions and adversely affected compliance. Majority attended regular monthly clinics (78%) and 55.5% were on DPIs, both of which were significantly associated with compliance (p<0.05). Compliance was

highest in those who used combined inhalers (78%). Clinic waiting time of less than an hour, instructions on inhaler technique received in the form of a demonstration and practicing under the guidance of an expert enhanced compliance significantly (p<0.05).

Conclusion and recommendations: Patients' perceptions regarding disease and treatment play a major role in determining treatment compliance. Provision of clear rationale for treatment, consonant with patients' perception of their illness and addressing concerns with regards to erroneous beliefs needs to be addressed. Regular assessment of patients' inhaler technique and physical demonstration is recommended.

Keywords: Treatment compliance, Asthma, Adult asthmatic patients, Medical clinic

185. **Nilaweera, W.R.L.**
Prevalence, associated factors and management of long standing growth faltering, among children aged 15-60 months attending primary health services in the Medical Officer of health area Moratuwa.
MSc. Community Medicine – 2018   D 4824

Introduction

Child under nutrition increases the morbidity and mortality. However, the long term negative consequences of child under nutrition on cognitive development, productivity in adulthood and other social impacts are commonly being unnoticed. The transmission of the impact to the next generation by those adults who are malnourished, necessitate stepping forward ending this silent killer.

Growth faltering is inadequate gain of weight, of a child whose growth curve has been growing parallel to the standard growth curves. This slight downward deviation of age specific weight curve from the standards, enables early identification of a possible growth problem by health care worker and the care giver, before any physical signs of under nutrition are evident. Appropriate interventions at this stage can prevent child deteriorating in to serious under nutrition status. Longstanding growth faltering encompasses those continued the faltering growth for minimum of three months. Growth monitoring and promotion program in Sri Lanka delivers services through well-established primary care

system with continuous monitoring, in- service training of staff and supply of necessary equipment's.

Objective

The study was conducted to assess the prevalence, associated factors and management by primary healthcare services, of long standing growth faltering, in children 15-60 months attending primary health services in the Moratuwa Medical Officer of Health area.

Methodology

A cross sectional study was conducted selecting 260 children aged 15 to 60 months who attended Child Welfare Clinics or field weighing posts in the Moratuwa Medical Officer of Health area. Equal proportion (50%) was selected from child welfare clinics and field weighing posts. The number selected from each center was proportionate to the average attendance. From each center, every other child who fulfilled the eligibility criteria was recruited to the study. Selection was done until the allocated number for the center was completed. Children with chronic diseases were excluded.

The principal investigator collected data through a pre-tested interviewer administered questionnaire which consisted of question to ascertain the socio demographic data of child and caregiver, factors affecting growth faltering and knowledge of mother/caregiver on growth faltering and dietary practices to be adopted. Information on the growth faltering and management was ascertained from Child Health Development Record via a checklist.

Data was analyzed using the Statistical Package for Social Sciences (version 20). Frequency distribution of categorical data and risk assessment using Odds Ratio with 95% confidence interval together with statistical significance using Chi square test was done to determine the associations.

Results

Longstanding growth faltering was present in 48.8% (95% Cl: 43.5-54.4) of the children. Female sex, (OR=1.798 95% Cl: 1.1-2.9; p=0.019) education levels below qualifying GCE Advance Level exam of mother and father, (OR= 2.0; 95% Cl: 1.13.7; p=0.012 and OR =1.9; 95% Cl: 1.055- 3.527; p =0.031 respectively) inadequate quantity per main meals, (OR 3.154, 95% Cl 1.875- 5.304; p= 0.000) not maintaining minimum of two and half hour period between meals, (OR=1.983, 95% Cl: 1.162-3.384; p=0.011) and reduced food intake during illness (OR =2.3,

95% Cl: 1.4-3.9; p=0.001) were significantly associated at 5% significance level. However, there was no significant association with maternal unemployment, nonfixed income or nonpermanent job of the farther or monthly family income below poverty line. Only 43.3% (n= 55) of the caregivers knew that child's growth was faltered and only 18.9% (n= 24) correctly knew dietary measures to be adopted. Monthly weighing was done in 65.4% (n= 83) but referral to Medical Officer of Health and Nutrition clinic according to the guidelines were poor. Only 21.3% (n= 27) of growth faltering was correctly diagnosed and documented in the Child Health and Development Record by the Medical Officer of Health.

Conclusions and Recommendations

Nearly half of the children 15 to 60 months' old and attending clinics or weighing posts in Moratuwa Medical Officer of Health area had longstanding growth faltering. In a majority, current episode of growth faltering had initiated before the age of two years. Children with growth faltering should be managed adhering to the national guidelines and with good nutrition counseling. Lack of caregiver awareness suggests reviewing current health education, and awareness programs. The healthcare staff including medical officers should be exposed to periodic in service training to improve the technical competencies in diagnosing and managing growth faltering.

Keywords: long standing growth faltering, children 15-60 months, prevalence, associated factors and management primary healthcare services

0186.Niranjala, A.M.S.
Victimization to workplace violence and its correlates among healthcare workers and measures adopted by the healthcare institutions to prevent workplace violence in the district of Galle.
MD Community Medicine – 2015   **D 3690**

Introduction:

The magnitude and the correlates of workplace violence in health sector have not been studied in Sri Lanka.

Objectives:

To determine the proportion victimized to workplace violence among selected healthcare worker categories and to describe their correlates for being victims, to

describe the measures adopted by workers and health institutions to prevent workplace violence in the Galle District.

Methods:

The 'Workplace Violence in the Health Sector- Country Case Studies Research Instrument' was adapted and validated to the Sri Lankan setting and was used in three cross-sectional descriptive studies to determine the proportions of medical officers (MO), nursing officers (NO) and public health midwives (PHM) victimized to workplace violence in the preceding year and the circumstances and consequences. Three comparative analyses between victimized and non-victimized health workers identified in the descriptive studies were performed to identify correlates for being a victim. All MO (n=549), a sample (n=1112) of the eligible NO proportionate to the number attached in each institutions and all field PHMs (n=309) in Galle district participated. The assessment of the preventive measures adopted by the healthcare institutions in Galle district was done using an observational checklist. Descriptive analyses were used in presenting proportions victimized and the details of the incidents while bivariate and multivariate analyses identified correlates.

Results:

The adapted instruments were confirmed as valid and reliable (Cohen's kappa > 0.76). The proportion victimized to any violence in workplace, at least once during a year, among MO, NO and PHM were 37%, (95% Cl: 33.0-41.0%), 45.7% (95% Cl: 42.8- 48.6%) and 47.2% (95% Cl: 41.7-52.8), respectively. The commonest form was psychological workplace violence (MO-31.9%, 95% Cl: 27.9-35.8%, NO- 40.9%, 95% Cl: 38.0-43.82%, PHM -41.1%, 95% Cl: 35.6-46.6%). The least experienced form of victimization was sexual workplace violence (MO-4.0%, 95% Cl: 2.4-5.7, NO-5.9%, 95% Cl: 4.5-7.3, PHM-5.5%, 95% Cl: 3.0-8.0). Strangers and fellow workers had perpetrated most violence and work absenteeism was a common consequence of workplace violence. Having evidence of job stress was a significant organizational level correlate of physical workplace violence among medical officers (OR= 4.84, 95% Cl: 1.88-26.62) and among nursing officers (OR=34.9, 95% Cl: 6.2-196.1). Among the community level correlates, working in an area known for occurrence of crime among PHM (OR=6.17, 95% Cl: 2.2417.02) was the only significant community level correlate of physical work place violence.

Psychological workplace violence was significantly high among female nursing officers (OR=. 3.8, 95% Cl: 2.2-6.5), medical officers (OR=5.52, 95% Cl: 2.17-14.07) and among PHM less than 40 years of age (OR=6.21, 95% Cl: 2.51-15.36). Work experience less than ten years (MO-OR=19, 95% Cl: 4.1-88.5, NO-OR=2, 95% 0:1.6- 3.1, PHM-OR=2, 95% 0:1.0-5.0), being victims of domestic violence (MO-OR=4, 95% Cl: 1.72-107.7, NO-OR=5, *95%* CI:.5-10.5, PHM-OR=3, 95% 0:1.0-10.8) and victims of other types violence(MO-OR=47, 95% Cl: 8.6-260.2, NO-OR=2, 95% CI:2.2-4.7, PHM-OR=3, 95% 0:1.12-9.15) and having changed workplace due to difficulty in working with co-workers (M0-0R=5, 95% Cl: 1.5718.2 , N0-0R=4, 95% 0:2.0-7.7, PHM-0R=7, 95% 0:1.6-27.0)were the other individual level significant correlates common to all staff categories.

Evidence of having 'job stress' (MO-OR=24, 95% Cl: 7.7-76.49, N0-0R=3, 95% 0:1.9-5.5, PHM-OR=35, 95% Cl: 6.2-196.1), perceived long waiting time to receive the services (NO-OR=3.3, 95% Cl: 1.8-6.2) and perceiving that staff to cater for the patient load as inadequate (N0-0R=1.9, 95% Cl: 1.2-3.2) were significant organizational level correlates of psychological workplace violence. None of the institutes had defined procedures in dealing with victims or perpetrators of workplace violence nor a system of notification specifically designed for workplace violence in place.

Conclusions and recommendations:

Proportions victimized to workplace violence among all three staff categories in Galle district were high highlighting the need to advocate for prevention using the study findings. The range of modifiable correlates for physical and psychological workplace violence identified should be addressed in the preventive programme. Measures adopted by the institutions to prevent violence at workplace were poor and need attention. Researchers are needed to fill the evidence gaps highlighted.

Keywords: Healthcare workers, workplace violence, health sector, correlates of violence

0187.Nishshanka, N.M.C.L.

Transfer of knowledge on antenatal care from public health midwives to primi mothers and the factors associated, in selected three Medical Officer of health areas in Anuradhapura district.

MSc. Community Medicine – 2014   **D 3685**

Introduction

Antenatal care knowledge transferring from Public Health Midwives to primi mothers is very important to ensure a good maternal health and safe delivery. It is also a decisive factor for the health of mother and baby in their entire lives.

Objectives

To describe transfer of knowledge on antenatal care from Public Health Midwives to primi mothers and the factors associated, in selected three MOH areas in Anuradhapura district.

Methods

A community based descriptive cross sectional study done in three selected Medical Officer of Health areas namely; Nuwaragampalatha East (NPE), Nuwaraganpalatha Central(NPC) and Kekirawa in Anuradhapura district in relation to transfer of knowledge on antenatal care from Public Health Midwives to primi mothers and the factors associated. There were two study populations, namely; primi mothers (n=402) and Public Health Midwives (n=52). The study instruments used were an interviewer administered questionnaire to collect data from primi mothers and a self-administered questionnaire for PHMM's. Selected sub sample of Public Health Midwives (n=18) were assessed using a nonparticipatory observational checklist to identify the knowledge transferring process. Data analysis were done using SPSS 17 soft ware package.

Results

A majority of the primi mothers (55.5 %) were in the 15-24 year age category and were Sinhalese (93.5%). Almost 47% of primi mothers had passed GCE Ordinary Level examination and most had attended 4-5 antenatal clinic (48%) visits.

Most of the Public Health Midwives (40.4 %) were in the 41-50 year age category and all were Sinhalese. Almost a quarter of the PHMs had 2-5 years of experience (23.1%) in the field. There were 21% who had more than 21 years of service in the field.

Approximately half (49%) of primi mothers had a good knowledge on antenatal care gained through Public Health Midwives. However, 51% had a poor knowledge on antenatal care states inadequacy of knowledge transferring.

High scores for antenatal care knowledge among primi mothers were obtained for the following sections, namely; hygiene, nutritional status, immunization and supplementation, awareness on emergency care and plan of delivery. However, lower scores were obtained for medical conditions complicating pregnancy, awareness on basic investigations, physical & mental status.

Primi mothers of age more than 25 years and who were educated above GCE A/L was significantly associated with having a good knowledge on antenatal care (p<0.05). However, number of clinic attendance was not significantly associated with the level of knowledge on antenatal care (P>0.05).

Almost half of the primi mothers (49.5%) had revealed that they acquired antenatal care knowledge from PHMM. Among the primi mothers; language, resource availability, time and attitude were not barriers, only the economy was a barrier (70%) to obtained knowledge from Public Health Midwives. The main barriers among Public Health Midwives in knowledge transferring were that they did not have enough resources to gain knowledge on antenatal care and enough time to deliver knowledge on antenatal care.

In non-participatory observation of Public Health Midwives with primi mothers on knowledge transferring process revealed, they performed well in; introducing themselves to the mothers (77%), receptiveness (89%), assessing the needs (77%), knowledge and skills of the primi mothers on the topic to be discussed (55%), used simple language (90%) and used IEC materials (88%). However, they performed poor in: stressing the importance of the topic to be discussed, control of voice and giving simple examples.

Conclusion

Knowledge on antenatal care was relatively good among primi mothers and only economy was a barrier in knowledge transferring. Among Public Health Midwives, resource availability and time factor were barriers in transferring knowledge on antenatal care.

Keywords: Primi Mother, Public Health Midwife, Knowledge Transferring, Antenatal Care

0188.Nupehewa, I.S.

Awareness & utilization of the child health development record as a tool for children care information & monitoring of health status by caregivers of children between 12 months to 2 years of age in the   Battaramulla MOH area. MSc. Community Medicine – 2017   D 4478

Child Health Development Record (CHDR) has been a useful tool in the Child Health Programme in Sri Lanka since 1994. Assessing the overall awareness and utilization of the caregivers with regards to the CHDR will help to improve future revisions and benefit the child health programme.

Objective

The main aim of the study is to describe the awareness & utilization of Child Health Development Record as a tool for childcare information and monitoring of health status by caregivers of children between 12 months to 2 years of age.

Method

The study had two components; (1) Community based descriptive cross-sectional Study, (2) Qualitative study with focus group discussions (FGD). An interviewer administered questionnaire and a separate guide were used for the two components. Systematic sampling was used to select a sample of 403. The data was analysed by using Statistical Software for Social Sciences (SPSS), Version 21.

Results

The response rate was 100%. The mother was the main caregiver (83.6%). Majority of caregivers (95.3%) had a good level of awareness on new-born & child care, monitoring of growth, etc and 66.3% were aware on measurements marked in the CHDR. About 81.1% of caregivers used the CHDR as an information source for complementary feeding, monitoring growth and development. Caregivers level of education and awareness on reading the yellow pages were statistically significant (X^2= 29.61, df=l, P=0.000). In the FGD all the participants perceived the importance of improving the quality of the CHDR further to make it more user friendly.

Conclusion and Recommendation

Majority of the caregivers had good levels of awareness on the information included in CHDR. Caregivers utilized the CHDR as an information & monitoring tool for complementary feeding, monitor growth and development in different stages of the child. Health authorities need to improve the reader friendliness of the CHDR as an

information source and thereby improve utilization of the CHDR, for better health outcomes of their children. Also, the CHDR should include more information on complementary feeding, immunization, and childcare.

Keywords: Child Health Development Record, Caregiver, Complementary feeding, Growth , Parents

0189.Peiris, T.D.P.
Mental health problems and associated factors among grade five school children preparing for scholarship examination in schools in medical officer of health area of Moratuwa.
MSc. Community Medicine – 2014   D 3694

Background: Mental health disorders among children are common however, go undetected and thus untreated. Grade five scholarship examination has been considered as having adverse effect on mental health on children though little evidence is available. This study was carried out to describe selected Mental Health Problems and associated factors among grade five students preparing for the above examination.

Methods: A school based descriptive cross sectional study was carried out in a sample of 557 children in Grade five preparing for the scholarship examination using multi stage cluster sampling method from 12 schools in Moratuwa MOH area. Multi informant Strength & Difficulties Questionnaire (SDQ) and computerized algorithm were used to assess and interpret the mental health status. Socio-demographic and other related variables were obtained from parents using self-administered questionnaire. Academic performance was assessed by scholarship examination results (total marks) obtained from the result sheets issued by the Department of Examinations to each school.

Results: Study showed a prevalence of 48.1% of SDQ-measured "probable" and "possible" taken together as "likely" "any psychiatric disorder" and 45.6% of "oppositional/conducts disorder". SDQ-measured "likely" "emotional" and "attention deficit hyperactivity disorder (ADHD)/ hyperkinetic disorder" prevalence was 9.2% and 4.8% respectively. Males showed a significant higher prevalence among "likely" category in "any psychiatric disorder" (p=0.024) and "oppositional/conduct disorder" (p=0.026). Significant difference (p=0.001) of median scholarship marks were observed among "unlikely", "possible" and

"probable" categories of having "any psychiatric disease". Possibility of passing the scholarship examination in "unlikely" category was higher among both males (p=0.017) and females (p=0.002). Median scholarship marks of children with SDQ-predicted psychiatric disorder categories were "unlikely" 126, "possible" 102, and "probable" 83 and showed a significant difference (p<0.001). The possibility of having "any psychiatric illness" was significantly lower when father being a professional (p=0.002) and parents educational level is high. The possibility of having a psychiatric illness was significantly higher when parents had an attitude of the need to pass the examination in order to be successful in future (p<0.05) and when children were frequently advised or reprimanded regarding studies (p<0.001). Significant (p<0.001) correlations exist between Total Difficulties Scores (TDS) of parent(r=0.341), teacher (r=0.334) and child(r=0.216) with scholarship marks.

Conclusions & Recommendations: A higher prevalence of SDQ-measured probable and possible any psychiatric disorder and conduct/oppositional disorder were shown among grade five children preparing for the Grade five scholarship examination. This prevalence is higher compared to available local and international literature. Academic performance is adversely affected by mental health status.

Further studies on mental health need to be carried out with clinical confirmation and the knowledge gained can be utilized for the upliftment of the mental health of school children.

Keywords: Child mental health, Child psychiatric disease, Grade five scholarship examination, SDQ

0190.Peiris, T.D.P.
Risk factors, immediate triggering factors and critical neonatal outcome predictors of preterm births in government hospitals of Colombo district and development of a risk prediction model.
MD Community Medicine – 2018   **D 4677**

Background: Preterm birth is a global and local challenge as the major contributor to neonatal and child mortality. Health., economical and psychological burden due to . preterm birth are public health concerns. Even with a low neonatal mortality rate, Sri Lanka toils to care for preterm babies. However, quality data on factors

contributing to preterm babies are not readily available to formulate preventive strategies.

Objective: To determine the risk factors, immediate triggering factors and critical outcome predictors of preterm births, development of risk prediction model and to assess the coverage of essential interventions for preterm babies in government hospitals of Colombo District

Methods: Two unmatched case-control studies were conducted to identify risk factors of preterm births (cases=374, controls=374) and contributory factors of critical neonatal outcomes (cases=227, controls=283). A case-crossover study (n=231) to identify triggering factors of preterm births and two descriptive studies to assess the coverage of recommended essential newborn care and interventions for preterm babies were carried out in the government hospitals in Colombo District.

A preterm prediction score (PPS) was developed and validated on a sample collected later in the same settings and the feasibility of PPS was assessed in the field.

Results: The population comprised of; 15 (4%) extremely, 34 (9.1%) very, 44 (11.8%) moderate, and 281 (75.1%) late preterm babies. Key risk factors of preterm births in the multivariate analysis included: multiple pregnancy (aOR=10.57, 95%CI:3.48-32.08), bleeding/spotting during pregnancy (aOR=3.51, 95%CI:1.77-6.98), past preterm birth (aOR=2.83, 95%CI: 1.09-7.36), recent stressful life event (aOR=2.62, 95%CI 1.43- 4.81), higher gravidity (aOR=2.58,95%CI: 1.35-4.90), unsatisfied own health (aOR=2.54,95%CI: 1.52-4.22),pregnancy induced hypertension (aOR=2.25, 95%C1:1.16-4.38), absence of dental assessment (aOR=2.16, 95%C1:1.23-3.81), unsatisfactory oral hygiene (aOR=2.01, 95%C1:1.33-3.04), longer standing during 3rd trimester (aOR=1.91, 95%CI: 1.242.94) and cooking using firewood (aOR=1.51, 95%CI: 1.01 —2.25). No recent sexual intercourse (aOR =0.46, 95%CI: 0.26 -0.81) was a protective factor.

The immediate triggering factors for preterm labour were disturbed sleep (aOR= 6.601, 95%C1: 2.90-15.02) and travelling by three-wheeler (aOR =8.26, 95%CI: 3.37-20.22).

The risk factors for critical neonatal outcomes included; first minute abnormal APGAR (aOR=15.05, 95%CI: 5.44-41.60), birth weight <2000g (aOR=6.01,

95%CI:3.64-9.93),blee ding/spotting during pregnancy (aOR=3.08, 95%CI:1.64.78), stressful life event during pregnancy (aOR=3.00; 95%CI;1.97-4.56), PPROM (aOR=2.50, 95%CI:1.48- 4.20), frequent sexual intercourse (aOR=2.20, 95%CI: 1.36-3.56), multiple previous abortions (aOR=1.85, 95%CI: 1.24-2.75), husband consuming alcohol (aOR=1.77, 95%CI: 1.17-2.66) and longer standing during the first trimester (aOR=1.62, 95%CI; 1.09-2.42). Protective factors were; pre-delivery magnesium sulfate (aOR=0.15, 95%CJ:0.05-0.46) and treated poor oral hygiene (aOR=0.27, 95%CI: 0.10-0.72).

PSS had an acceptable level of sensitivity (71%), specificity (68%), PPV (69%), NPV (70%), LR-positive (2.22), LR negative (0.43) and a good predictive ability (AUC=0.746). The development of critical neonatal outcome prediction score had to be withheld due to poor content and consensual validity.

Coverage of recommended preterm interventions was satisfactory except for the use of magnesium sulfate and kangaroo mother care.

Although coverage of essential newborn care was satisfactory, a low coverage was found for maternal abdomen delivery, delayed cord clamping, temperature measurement educating about vitamin K, breastfeeding counselling and delayed weighing. The PPS was a feasible tool as acceptability was high among mothers and midwives. It needs further evaluation before implementing at field level.

Conclusions and Recommendations: All contributory factors of preterm births should be made aware to the general public and relevant stakeholders. Preventive strategies for preterm births and critical neonatal outcomes should be formulated. Findings on preterm births, CNNO and triggering factors could be used at all levels to educate public and health professionals. Improvement in the essential newborn care and essential interventions on preterm babies is imperative.

Keywords: Preterm birth, risk factor, triggering factor, neonatal outcome, newborn care

191. Perera, A.G.I.S.
Utilization of primary health care services and associated factors among elderly people in the Kesbewa MOH area.
MSc. Community Medicine – 2019   **D 4827**

Introduction/ Background

Main role of primary health care is to provide continuous and comprehensive healthcare to public in equitable manner, Utilization of primary care facilities is different among elderly population due to various reasons despite of free health care provision to public by the Sri Lankan government.

Objectives: To assess the knowledge, utilization, perceived satisfaction on primary healthcare services and factors associated with utilization among elderly population in Kesbewa Medical Officer of Health area.

Methods: A descriptive cross-sectional study was conducted in Kesbewa MOH area. A sample of 510 elders aged 60 years and above, having utilized government PHC within past 6 months were recruited using multi stage sampling technique. An interviewer administered questionnaire was used as the data collection tool. Data was analysed using "IBM SPSS Statistics, version 21.0". Chi square test was performed to assess associations.

Results: The study had a response rate of 99.6% with 508 participants. Majority were females and 54.3% were in the 66-70-year age group. Nearly 66% live with children and 86% have low income. More than half (n=298) had utilized PHC 4-5 times during the past six months and 274 had visited within the past one month. Commonest reason for usage was acute illness (69.7%). Waiting time above 2 hours was reported in clinics (52.3%). Out of pocket expenditures was high for medications (70%) and laboratory investigations (59.4%). Only 60 patients (11.8%) were transferred to secondary or tertiary care and hospital ambulance was frequently used method (n=34, 56.7%). Of the transferred patients, majority (80%) were transferred for advance treatment. Respondents have good knowledge on diseases treated (55.3%), categories of health workers (46.4%) and poor on opening hours (n= 117, 23%). Majority were satisfied with accessibility(n=448), cleanliness(n=442), adequacy of space(n=360,), manageable crowd(n=352) and minimally satisfied with information about the health issue 18.9%), referral to specialist (15.7%) and adequacy of laboratory facilities (7.1%). Age, religion, ethnicity and family income was statistically significant wit^ utilization (p<0.05).

Association of knowledge on PHC location, working hours, extended services, available facilities were statistically significantly associated with utilization (p<0.05). Satisfaction on accessibility, adequacy of space, respect given by staff, time given per patient consultation, diagnosis of illnesses, treatment outcome and referral to specialist care were statistically significantly associated with utilization (p<0.05).

Conclusions: Improving the basic facilities in the primary health care institutions and raising the public awareness on available services could increase the utilization of PHC by elderly. It is recommended due consideration be given to address the identified gaps by responsible policy makers and health care professionals.

Keywords- Primary Health Care, Elderly population, Utilization

0192.Perera, P.A.S.S.
Prevalence & associated factors of perceived stress related to commuting for work among non-executive employees in large scale information communication & technology companies in Colombo metropolitan area.
MSc. Community Medicine – 2018   D 4692

Introduction/ Background: Commuting for work is a daily encounter which has reached to an extent of causing detrimental effects on human health, causing physiological and psychological manifestations. Due to unavailability of studies in Sri Lanka, it's important to identify the prevalence of perceived stress related to work commuting and related factors in the field of public health.

Objective: To assess the prevalence & associated factors of perceived stress related to commuting for work among non-executive ICT employees in large-scale ICT companies in Colombo Metropolitan area.

Methods: A cross sectional descriptive study with an analytical component was conducted in employees of ICT companies of Colombo Metropolitan area, from February 2018 to January 2019. Non-executive employees were selected with an inclusion criterion of having an entry level qualification of IT related Diploma, Higher Diploma or Degree with exclusion of administrative level employees and employees on leave. The calculated sample size was 422. Random sampling was done in two stages. Data was collected using a pre-tested self- administered questionnaire by the Principal Investigator with the help of two trained research assistants and was analyzed by using SPSS 23. Associations were assessed using Chi square test and was considered as significant at p<0.05.

Results: The response-rate was 98.1% with 414 participants. Prevalence of the perceived stress relating to work commuting was found to be 73.9% (69.5-77.9). The factors found to have a significant association between perceived stress related to commuting for work were, marital status (p=0.003) having children (p=0.007), having dependents (p=0.004), education level (p=0.011), category of working hours (p=0.001), duration in IT field (p=0.048), self-rated job satisfaction (p<0.001) and health status (p=0.003), commuting time (p=0.004), heavy traffic congestion (p<0.001), poor public transportation (p=0.018) & increased travelling expenses (p<0.001).

Conclusions and Recommendations: Majority of them were having perceived stress related to work commuting. Sociodemographic factors like marital status, dependents in the family and education level, working-hour category, duration in the IT field affects the stress perception. Self-rated health & job status, commuting time, traffic congestion, public transportation and cost of traveling were identified associated factors. Strategies to reduce perceived commuting stress should be adopted with encouraging future research.

Keywords: Perceived stress, commuting stress, Commuting, ICT employees, Colombo Metropolitan area

0193.Perera, P.C.S.
Modern information and communication technology behaviour, its underlying motives, relationship with psychosocial wellbeing and factors associated with problem use / addiction among modern ICT users in the young working population of Gampaha district, Sri Lanka.
MD Community Medicine – 2017   **D 4324**

Background: Modern information and communication technology (ICT) comprising internet and mobile phone has become an integral part of daily life, shaping the behaviour of people including addiction/problematic use. This may emerge as a threat to the psychosocial wellbeing especially of young working adults.

Objectives: To describe the modern ICT behaviour, its underlying motives, relationship with psychosocial wellbeing and factors associated with problem use/addiction among modern ICT users in the young working population of Gampaha district.

Methods: The study consisted of three components. *Component one* was a validation study to translate, culturally adapt and validate Young's Internet Addiction Test (IAT) and Mobile Phone Problem Usage Scale (MPPUS) to assess addiction/problem use, and to newly design and validate Psychosocial Wellbeing Questionnaire (PWQ) to assess psychosocial wellbeing of young working adults in Sri Lanka. Development and cultural adaptation were done by experts using modified Delphi technique. Validity of IAT, MPPUS and PWQ were assessed using judgmental (face, consensual and content) and construct validity (exploratory and confirmatory factor analysis, and theoretical construct testing) using samples of 320, 450 and 750, respectively. *Component two* was a community based cross sectional study conducted in the district of Gampaha among 1104 working adults aged 18-34 years who had been using both internet and mobile phone over 6 months, recruited using a three stage cluster sampling method. Following informed verbal consent, self-administered questionnaires collected data on demographic and socio-economic characteristics, modern ICT behaviour (duration and frequency of use, intention, connectivity, safe use practices and uncontrolled behaviour), and psychosocial wellbeing. Associations were assessed using prevalence odds ratio (OR) and 95% confidence intervals (Cl). Logistic regression analysis was carried out to adjust for potential confounders. *Component three* was a qualitative study to identify their underlying motives of modern ICT behaviour. Fifteen in-depth interviews were conducted until data saturation and narrated using thematic analysis.

Results: The 18 item IAT-SL, 25 item MPPUS-SL and 30 item PWQ were obtained. Good model fit was demonstrated for IAT-SL (RMSEA=0.07, CFI=0.97, NNFI=0.96, SRMR=0.062, GFI=0.86), MPPUS-SL (RMSEA=0.06, CFI=0.96, NNFI=0.95, SRMR=0.06, GFI=0.86) and PWQ ((RMSEA=0.061, CFI=-0.96, NNFI=0.96, SRMR=0.061, GFI=0.86). Internal consistency and test retest reliability of all three tools were satisfactory   The main findings on internet related behaviour were: less than 5 years of use (n=657, 59.5%); initiated at 15-24 age (n=952, 86.2%); use after working hours (n=600, 55%); for communication purpose (n=872, 79%); predominantly with friends (n=624, 59.3%) and communication via social media as the most preferred method (n=882, 79.9%); and accessed via mobile phone (n=553, 50.6%). Mean duration of use was 2.1 hours (SD=2.2) on weekdays and 1.7 hours (SD=1.9) on weekends.

The main findings of mobile phone related behaviour were: 6-10 year of use (n=592, 53.6%); 6-10 calls per day (n=439, 40.0%); less than 6 daily SMS (n=511, 47.2%); voice calls as the first preference of intention (n=906, 83%); accessed internet (n=986, 89.7%); and owns smart phone (77%, n=844).

Internet addiction was 16.1 % (n= 178). After adjusting for confounders, factors associated with it were: being unmarried (OR=1.76, 95% 0=1.18-2.61); problematic mobile phone use (OR=5.76, 95% 0=3.89-8.55); use for more than 5 years (OR=1.55, 95% 0=1.05-2.29); more than one hour per weekend (OR=3.01, 95% 0=2.04-4.44); creating new friendships through internet (OR=2.37, 95% 0=1.49-3.76); and being less agreeable (OR=1.79, 95% 0=1.20-2.67); unhappy with oneself (OR=5.25, 95% 0=2.46-11.23) and impulsive (OR=1.75, 95% 0=1.19-2.59).

Problematic use of mobile phone was 18.5% (n=204). After adjusting for confounders, factors associated with such use were: internet addiction (OR=5.8, 95%, 0=4.0-8.4); anxiety when talking with someone (OR=1.72, 95% 0=1.132.62); low agreeableness (OR=1.42, 95% CI= 0.99-2.02); experience of a recent stressful event (OR=1.50, 95% CI=0.95-2.36); and taking more than 15 call per day (OR=1.81, 95% 0=1.20-2.74) and sending more than 15 SMS per day (OR=2.41, 95% 0=1.57-3.71).

Poor psychosocial wellbeing was seen in 13.9% (n=153). It was significantly associated with internet addiction (adjusted OR=1.65, 95% 0=1.03-2.66) and problematic mobile phone use (adjusted OR=1.81, 95% 0=1.14-2.86) after controlling for confounders of poor psychosocial wellbeing. Underlying motives of use varied for internet and mobile phone.

Conclusions: IAT-SL, MPPUS-SL and PWQ are valid and reliable tools to be used among young working adults in Sri Lanka. Internet addiction or problematic mobile phone use was less than 20% among participants and it was significantly associated with poor psycho-social wellbeing. Motives such as connectedness, social identity, social interaction, relaxation and obtaining knowledge were underlined motives of modern ICT behavior of participants.

Recommendations: Policies on healthy worker concept should address relationship shown between poor psychosocial wellbeing and both internet and problematic mobile phone use by establishing programs at work places for

preventing young workers modifying their behaviour to the extent of dependency on modern ICT.

Keywords: internet addiction, mobile phone problem use, psychosocial wellbeing

0194.Perera, T.A.U.A.P.
Prevalence, associated factors and an intervention to reduce risky sexual behaviours among undergraduate students in the State Universities of the Western Province in Sri Lanka.
MD Community Medicine – 2016   **D 3976**

Introduction: There were more than 105.000 youths studying in universities in Sri Lanka in 2011. For most of these youths, university life represents a shift towards greater independence from home and school settings, an opportunity to form new' friendships, social mixing and may provide chances to experience many risk behaviors.

Objectives: To determine the prevalence and associated factors of risky sexual behaviors (RSB) and assess effectiveness of an intervention to reduce RSB among undergraduates in the state universities of the Western Province.

Methods:

Component one: A descriptive cross sectional study was conducted among 1575 second and third year undergraduates using stratified cluster sampling of the University of Colombo, Sri Jayewardenepura, Kelaniya and Moratuwa. Pre-tested self-administered questionnaire was administered to assess socio-demographic factors, knowledge and attitudes on reproductive health (RH) and behavioral information. RSB was defined as having one or more from the following, i.e. having more than one sexual partner, using alcohol with sexual activities and failure to take action to prevent sexually transmitted infections (STI) or unwanted pregnancies and not using condoms in last sexual activity. Prevalence and 95% Confidence Interval (Cl) of RSB was calculated. Associated factors were determined by applying multiple logistic regression and results were expressed as adjusted odds ratios (aOR).

Component two: Focus group discussions were conducted among second and third year undergraduates to explore perceptions and attitudes regarding sexual and RH rights. Data were analyzed thematically. Component three: A health educational

intervention was developed with reference to a curriculum by Centre for Disease Control, adjusted locally with extensive review of local literature and expert's opinion. It consisted of two health educational sessions aimed at reduction of RSB. Two universities were randomly selected for the randomized controlled trial. Ten clusters were selected randomly from each selected university. Intervention team received two health educational sessions with a gap of one week while control group did not receive any. Effectiveness was measured after three months of intervention comparing post interventional rates between the intervention and control groups after controlling baseline imbalances with logistic regression. Primary outcome was reduction of RSBs. Secondary outcomes were improvement of overall knowledge and overall attitudes.

Results:

Component one: Prevalence of RSB was 12.4% (95% Cl 11.8-13.1) in previous one year and for previous three months' period it was 12.1%(95% Cl 11.5-12.7).

Sex specific prevalence of RSB in the three months' period was 19.1% (95 %CI: 16.1-22.2) and 7.2% (95% Cl: 5.5-8.9) for males and females respectively. Attended night clubs more than once in last month (aOR= 3.61 95% Cl: 1.31-9.97) alcohol consumption within last three months (aOR=2.59, 95% Cl: 1.82-3.70), good knowledge on condoms (aOR=2.91, 95% Cl: 2.00-4.24) and those who thought religion was very important to their lives (aOR= 0.67, 95% Cl: 0.48-0.95) were significantly associated with RSB. Less than 20% of undergraduates had overall good knowledge on RH while 30.5% had desirable attitudes.

Component two: Perceptions among undergraduates were agreeable. Several aspects of education, law and media were identified related to protections and violations of rights. Suggestions were made for improvement of sexual and RH rights including strengthening of education and proper implementation of law.

Component three: The intervention was not significantly effective for the reduction of RSB after three months follow up (aOR=0.80: 95% Cl 0.28- 2.31). However it showed significant improvement of knowledge (aOR=l 1.75: 95%CI 7.04- 19.63) and desirable attitudes towards RH (aOR=6.13; 95% Cl 3.64- 10.32).

Conclusions and recommendations: Prevalence of RSB was high among undergraduates. Alcohol consumption within last three months, attended night clubs more than once in last month and good knowledge on condoms were

positively associated with RSB. Those who considered religion was important to their lives had negative association with RSB. The intervention did not show a statistically significant effect for reduction of RSB followed after three months' duration. It was effective for improvement of good knowledge and desirable attitudes on reproductive health. Undergraduates perceived sexual and RH rights as having freedom to engage in sexual activities as adults with both partners' willingness. It is recommended that necessary measures should be taken to reduce other risk behaviors and promote religious activities to reduce RSB.

Keywords: attitudes, knowledge, randomization, reproductive health, rights, risky sexual behaviors, undergraduates

0195.Prabha Kumari, A.M.U.
Prevalence of undernutrition and associated factors among children aged one to five years in Siyambalanduwa MOH area.
MSc. Community Medicine – 2016   D 4223

Introduction: High prevalence of child undernutrition is a well-known issue in rural areas. The objective of this study was to describe the prevalence and associated factors among children aged 1-5 years in Siyambalanduwa MOH area in Moneragala District.

Methods: A community based cross-sectional study was conducted among 421 child-mother pairs in Siyambalanduwa MOH area using two stage cluster sampling method with a cluster size of 36. Children of mothers who cannot communicate in Sinhala were excluded. Data were collected by pretested interviewer administered questionnaire and conducting anthropometric measurements according to WHO guidelines. Statistical analysis was done using SPSS 20. The chi- square test was used, and P<0.05 was considered for statistically significant.

Results: Overall 41% of children aged 1-5 years were undernourished in Siyambalanduwa MOH area. Among the study subjects 24% were underweight, 25.7% were stunted, 16.4% were wasted, 9.2% were both underweight & stunted, 6.8% were both, underweight & wasted, 0.5% were both, stunted & wasted and 9.9% were underweight & stunted & wasted. Only the low total monthly income (P<0.001) and low birth weight (P<0.001) were significantly associated with child undernutrition. Among parents or caregivers 18.6% had good knowledge, 35.6% had favorable attitudes and 12.6% had good practices related to child nutrition.

None of the above three factors were significantly associated with child undernutrition.

Conclusions and recommendations: Prevalence of undernutrition among children aged 1-5 years is high and urgent efforts to reduce undernutrition should be a priority. Future studies should focus on assessing how to reduce the burden with low cost appropriate interventions.

Keywords: Undernutrition, Children aged 1-5 years, Siyambalanduwa

0196.Pragasan, G.
Prevalence, correlates and attitudes towards teetotalism and nonsmoking status among male students of Technical College, Batticaloa.
MSc. Community Medicine – 2016 **D 3988**

Introduction: Alcohol consumption and smoking among college students are major public health concerns globally. Alcohol consumption and smoking are the major contributory factors for non- communicable diseases (NCD). The objective of this study is to assess the prevalence, correlates and attitudes towards teetotalism and nonsmoking status among male students of technical college, Batticaloa.

Methods: Descriptive cross-sectional study was carried out male students at Technical college Batticaloa during June to December 2016. Stratified random sampling was used to select 422 students. Data were collected using selfadministrated questionnaire. Odds ratio, chi square test and binary logistic regression were used to assess the correlated factors with teetotalism and nonsmoking status.

Results: The response rate was 92.2% (n=389). The prevalence of lifetime teetotalism and lifetime nonsmoking status were 65.8% and 77.9% respectively. The prevalence of teetotalism was higher among students who studied advanced level (adjusted odd ratio 8.1), having nondrinking friends (OR 6.9), aged equal or less than 25 years (OR 6.2), having non-drinking father (OR 2.6), received alcohol related health message at home (OR 2.5), and living in rural area (OR 2.1). Employment status and ethnicity were found not significant (P>0.05).

For nonsmoking status, having advanced level education (OR 8.5), nonsmoking habit of friends (OR 5.7), aged equal or less than 25 years (OR 5.6), received smoking-related health message at home (OR 3.0), having nonsmoking of father

(OR 3.0), and living in rural area (OR 2.6) were found significant. Brother's smoking habit and employment status were found not significant.

Attitudes of students were mostly positive towards teetotalism and nonsmoking status. Around 55% of students belief that introduction of graphical warning in alcohol bottle will increase the awareness of hazards of alcohol consumption.

Conclusions and Recommendations: Consideration of these correlated factors are essential when designing a programme to control alcohol consumption and smoking. Introduction of graphical warning in alcohol bottle might help to reduce of alcohol consumption.

Key words: teetotalism, nonsmoking status, prevalence

0197.Rajapaksha, R.M.N.U.
Management of mass casualty incidents following disasters: A capacity assessment of the Medical Officers at Teaching Hospital Kurunegala.
MSc. Community Medicine – 2016   **D 3994**

Introduction: A disaster is a serious disruption of the functioning of a society leading to negative consequences, which exceeds the ability of the affected population to cope using available resources. The foremost concern of any disaster is to minimize the human suffering where the health sector has to play a critical role. The medical officers are the ones who play a major role by directly involving MCls as the decision makers and first respondents of patient management. Exploring the capacity of the responders have great significant in managing mass casualty incidents. Key determinants of individual capacity are the knowledge, attitude, experience, and training. The main objective of this study was to assess the individual capacity of the Medical officers at Teaching Hospital Kurunegala, to manage mass casualty incidents following disasters by exploring knowledge, attitudes, experiences, and the status of the formal training received.

The assessed capacity was reviewed against the desired goals and conclusion was made on the desirability.

Methodology : An institutional based descriptive cross-sectional survey was carried out at Teaching Hospital Kurunegala. The study period was from March 2016 to January 2017. The assessment was conducted among all grade medical officers, who were permanently attached to the institution, having more than one year working experience in the health sector. Those who were on maternity leave,

or released for training programs during the period of data collection were excluded. A self-administered pre-tested questionnaire with open and closed questions was used. Data was entered and analyzed using SPSS version 20. **Request:** Response rate was 89.87% (n=346). Out of them, 28.9 % (n=100) had good knowledge, and 27.5% (n-95) had good attitude towards the better management mass casualty incidents. In the study group, 38.2% (n=132) had prior experiences, and 25.7% (n=89) had undergone formal training. Participation for a drill/simulation was only 6.9% (n=24). Among them, 46.8% (n=162) had desired goal for the management of mass casualty incidents.

There was a statistically significant (p < .05) association between the knowledge and the working places at the institution. Those at first respondent units were more likely to have good knowledge than those at other units. And also, there was a statistically significant (p < .05) association between the good attitude, and higher age. There were statistically highly significant (p < .001) associations between knowledge, and attitude, prior training, and desired goals.

There was no statistically significant association between experience and the demographic characteristics or knowledge, attitude, or desired goals of the study population. Participants with prior experience were significantly more likely to have had prior training (p<.05).

There were statistically highly significant (p <.001) associations between the desired goals and knowledge, attitude, and prior training.

Conclusions and Recommendation : There is a clear need for improvement of the overall individual level capacity in the aspects of knowledge, attitudes, experiences and training by conducting knowledge improvement programs, awareness program on attitudinal change and conducting formal sustainable training sessions to develop the capacity among medical officers at Teaching Hospital Kurunegala to achieve desired goals to manage mass casualty incidents.

Keywords: Disaster, Individual capacity, Mass Causality Incidents, Goals

0198.Rajapakshe, O.B.W.

Prevalence of depression, correlates, quality of life and health seeking behavior among Sri Lankan Sinhalese elders 60-74 years living in urban areas of the district of Colombo.

MD Community Medicine- 2016 D 4060

Introduction: Among the mental illnesses, depression is identified as one of the major mental health issues in the world, which leads to disability. This is linked with population aging which is common to Sri Lanka also. Therefore, this study is carried out with the intention of determining the prevalence and identifying correlates of depression among the Sri Lankan Sinhalese elders aged 60-74 years living in the urban areas of the district of Colombo, to assess their quality of life and health seeking behaviour and to map out the mental health care services in the district using Arc GIS which can be utilized by the elders.

Methodology: As the component 1, a cross sectional descriptive study was carried out to determine the prevalence of depression among the Sri Lankan Sinhalese elders 60-74 years living in urban areas of the district of Colombo. The study was conducted as a community based survey using GDS-S 15, among 1340 elders from 134 urban Grama Niladhari divisions in the district. Simultaneously among the same study sample, a cross sectional analytical study was carried out to identify the correlates of depression as component 2. As the component 3, a cross sectional analytical study was carried out to compare the quality of life among the elders with and without depression using WHOQOLBREF. Component 4 was a qualitative study on health seeking behaviour among the elders with depressive symptoms. As the fifth component, a GIS mapping was carried out of the government sector health care institutions providing mental health services in the district of Colombo which can be utilized by the elders.

Results: The overall response rate was 95.75%. The prevalence of depression was 13.9%. The prevalence of mild depression was 11.2% while prevalence of moderate to severe depression was 2.7%. After controlling for confounding, sixteen variables were identified as significant correlates of depression.

In subsequent order, they were alcohol use (OR=28.32, CI=8.28 - 96.91), sex of the participant (OR=22.81, 0=6.67- 78.01), physical abuse by others (OR=3.90, 0=1.08-14.02), verbal abuse by others (OR=3.43, 0=1.72-6.87), frequency of leisure activities(OR=3.20, Cl =1.72-5.98), financial burden (OR=2.88,

0=1.824.56), partner relationship (0R=2.71,0=1.52- 4.82), marital status (OR=2.58, CI= 1.53-4.34), presence of a steady income to respondent or spouse (OR =2.19, CI=1.39-3.46), perceived social support (OR=2.16, 01=1.39-3.34),income <SLR20,000 (0R= 2.14,01=1.34-3.40), engage in leisure activities^ OR=2.13, CI= 1.14-3.99), ability to perform IADLs (OR= 1.86,01=1.24-2.78),employment status(OR=1.82, 01=1.00-3.30), experience of major life events (OR=1.59 ,01=1.04-2.43) and presence of chronic disease (OR=1.58 , Cl =1.03 - 2.40). In the quality of life assessment, the physical domain (t=4.043, p<0.001), psychological domain (t=4.194, p<0.001), social domain (t= 4.159, p<0.001), overall quality of life (t=2.819, p=0.006) and overall satisfaction with health (t= 2.832, p=0.005) were significantly associated with depression.

During the in-depth interviews on health seeking behaviour for depression among the respondents, the economic and other social determinants were prominent with lesser effect from social stigma. The service related deficits in resources as well as in communication were also identified as barriers in health seeking and maintaining compliance.

The GIS mapping of mental health care facilities in the district revealed that only BH Awissawella is having inward care as well as a consultant psychiatrist for the Eastern parts of the district. At the same time, deficits in physical accessibility were also identified especially towards Eastern parts of the district.

Conclusions and recommendations: The study revealed that nearly 14.0% of the Sinhalese elders 60-74years living in urban areas are having some form of depression. Certain modifiable associated factors of depression, poor quality of life in depression, the factors affecting poor health seeking and certain features of mental health services maldistribution were identified through the research. Therefore, it is strongly recommended that awareness and skills development programmes should be in cooperated in to under graduate, postgraduate as well as in service training programmes for doctors. The stakeholders in decision making should be sensitized on the emerging mental health issues in the elderly. At the same time, a strong social marketing campaign is needed to increase the awareness on prevailing mental health issues and available services for the mass community. Also a social security system is needed to improve the financial status and quality of life among the elders.

Keywords: elder depression, correlates, quality of life, health seeking, GIS

0199.Rajasinghe, S.V.
Sport competition related anxiety, its associated factors and coping strategies used among school athletes in Colombo education zone.
MSc. Community Medicine – 2016   **D 3982**

Background: Sports competition related anxiety is a major psychological issue seen among athletes purely due to the competitive nature of sports. School athletes are more at its risk as they have to manage not only sports but also their academic aspects.

Objective : To estimate the prevalence of sport competition related anxiety, its associated factors and coping strategies used among school athletes in the Colombo Educational Zone

Methods : A school-based cross-sectional study was conducted among 330 athletes (age: 16.2 ± 1.6 years) in Type I AB government schools of Colombo educational zone in the district of Colombo. Sampling of athletes was done in two stages using simple random sampling method. Data were obtained using a self-administered questionnaire including Sport Competition Anxiety Test for adults (SCAT-A) with the cut-off value of 24 to assess high level of sport competition related anxiety.

Results : Majority of the sample were males (54.8%) with the response rate of 96.5%. Prevalence of high sport competition related anxiety among athletes was 19.4%. Sports done at individual level, fear of failure, poor support received from others (coach, friends and parents), experience of past defeat and fear of negative social evaluation were significantly associated ($p<0.05$) with high level of sport competition related anxiety.

A wide variety of positive coping strategies were used by athletes including listening to music (42.4%), goal setting (37.3%), positive self-talk (31.5%), meditation (28.5%) and breathing exercises (20.9%). When close to a competition, negative coping strategies such as getting angry (15.8%) and quarrelling (11.5%) with others, consuming more sweets (42.7%) and energy drinks (42.7%) were seen among athletes. Furthermore, the majority failed to get good sleep (54.3%) while 21% neglected their school work around competitions.

Only a few (9.7%) received some kind of psychological assistance related to their sport while the majority (79.4%) had the idea that psychological help is for weak people.

Conclusions and recommendations: About one fifth of school athletes showed high level of sport competition related anxiety due to several reasons. Early screening of such vulnerable school athletes, incorporation of psychological element into every physical training session and establishment of accessible facilities for psychological help are recommended.

Keywords: School athletes, competition anxiety, coping

0200.Ramachandra, R.B.B.S.
Effectiveness of a nutrition counselling intervention for pregnant women on increasing gestational weight gain in the Kalutara district.
MD Community Medicine – 2016   D 4066

Sri Lanka being a middle-income country performs outstanding in health-related indicators to be in par with developed world. Continuous political commitment together with dedication of health professionals still has been unable *to* reach the desired level in nutritional indicators. Higher prevalence of low birth weight has been identified as the core reason for the difficulty in upgrading nutrition since it acts as a risk factor to all other nutritional indicators. Possibility of improving birth weight of baby by improving maternal nutrition without being an economical burden to the country is worthy of studying.

The objective of the study was to evaluate the effectiveness of a nutritional counselling intervention for pregnant women on increasing gestational weight gain, in the Kalutara district

The study consisted of two components, a descriptive cross sectional study and an intervention study. Both studies were conducted in Kalutara district considering public health midwives (PHM) area as clusters. The descriptive study (n=769) was conducted with the objective of identifying diet and other lifestyle factors for pregnancy weight gain. The interventional study was a cluster randomized community trial (n= 270 per arm) conducted in two phases.

The 1st phase was a nutritional counselling training to intervention group PHMM and the 2nd phase was intervening to change diet and few selected lifestyle factors of pregnant mother through PHMM. Pregnant mothers were recruited to the study before 12 weeks of gestation and followed up until the delivery to assess the birth outcome. During the pregnancy, PHMM were intervening strikethrough the pregnant mother and her family with nutritional counselling.

The descriptive study found that mother's awareness on the BMI status and the recommended weight gain according to the BMI was inadequate. The adherence to weight gain recommendation was very low (18%) and large proportion of mothers (40%) did not achieve the required weight gain. At the same time, the dietary diversity was poor with questionable food acquisition behavior. Even though many mothers reported increase consumption of meal (portion size and frequency) with advancing gestational age, one third of the sample still did not reach the required energy and three macronutrients during pregnancy.

The training was identified as an effective tool in training primary health care workers on nutritional counselling with significant difference in pre and post training counseling skills (t=17.48, df=26, p=0.000). At the same time the counselling intervention was successful in improving pregnancy weight gain (mean difference in weight gain 1.6kg, p =), birth weight (mean difference 122g), length and head circumference of the baby. Counseling through PHM was successful in improving family support received by pregnant mother, improving dietary diversity and food acquisition behavior of pregnant mothers,

Nutritional counselling of pregnant mothers and their family members was an effective intervention in improving weight gain of pregnant mothers. At the same time, it was effective in changing the care given for pregnant mother by the family members. Further it was effective enough in improving pregnancy outcomes such as birth weight and length of the baby. The nutritional counseling training was able to make a significant difference in counseling skills among PHM. Training of primary health care workers was one of the effective investments at improving birth weight of babies. This can be easily incorporated in to the existing health care system but may need identifying a monitoring mechanism on implementation of family counseling at community level.

Keywords: Gestational weight gain, Nutrition counselling, weight gain in pregnancy, birth weight

0201.Rambukwella, H.W.S.R.
Prevalence of alcohol consumption and associated social factors among female estate labourers in Medical Officer of Health area Kothmale.
MSc. Community Medicine – 2014   **D 3687**

Introduction: Alcohol consumption among females is not common in sociocultural background of Sri Lanka. However, in certain communities including the estate sector, alcohol consumption among females is reported to be high. Although, accurate estimates are not available for Sri Lankan estate sector, it is very likely that the health, economic and social cost of alcohol is enormous especially, when females are engaged in alcohol consumption.

Objectives: The objective was to determine the prevalence of alcohol consumption, pattern of alcohol consumption and associated social factors among female estate labourers in Medical officer of Health area, Kothmale.

Methodology: A community based cross sectional study was carried out in a sample of 368 adult (>18 years) female estate labourers. Sample was collected using multistage random sampling technique. Five out often estates in the MOH area were selected randomly and from each selected estate three subdivisions were selected randomly including a total of 15 subdivisions. Study sample was selected using probability proportionate random sampling using pay sheet of each subdivision as the sampling frame. An interviewer administered questionnaire was used to collect data. Data analysis was carried out using the appropriate statistical methods in the Statistical Package for Social Sciences (SPSS) version 20.0.

Results: The response rate was 95.1%. Prevalence of alcohol consumption among estate sector females (ever drinkers) was 31.25% (95% Cl, 26.51% - 35.99%).

Prevalence of current drinkers, former drinkers and quitters were 16.8% (95% Cl, 13.0% - 20.6%), 8.4 % (95% Cl, 5.6% - 11.2%) and 6.0 % (3.6% - 8.4%) respectively. Most consumed alcoholic beverage was arrack (74.8%) followed by beer (43.5%) and toddy (28.7%). Higher proportion of ever drinkers (25%, n=29) had a frequency of consuming alcohol 2 to 3 times a week and high percentage of ever drinkers (65.2%, n=70) consumed one to two drinks per day. Home of the drinker was the most preferred place of drinking (57.4%, n=66) and husband was the commonest companion (53%, n=61). Most of the ever drinkers used to drink after work (80%, n=92). Commonest reason stated for consuming alcohol was to relieve work stress (84.3%, n=97) followed by drinking of husband (47.8%, n=55)

and cold environment (45.2%, n=52). Alcohol consumption was significantly positively associated with increased age (p<0.0001), low level of education (p<0.0001), Tamil ethnicity (p<0.05) a belonging to Hindu religion (p<0.0001). Consumption of more than one type of alcoholic beverage was significantly associated with increased age (p=0.014) and high family income (p =0.00 Increased frequency of alcohol consumption was significantly associated with high family income (p=0.004). Higher proportion of ever drinkers (64.3%, n=79) were having family related problems. Also, work related problems (49.6%, n=57) and neighbourhood related problems (43.5%, n=! were common among the ever drinkers.

Conclusions and recommendations: Prevalence of alcohol consumption among female estate labourers in MOH area Kothmale 31.25% and it is higher than for the rest of the country. There is a need to strengthen exist preventive programmes, introduce and implement new preventive measures considering unique characteristics in pattern of drinking in this community.

Keywords : Alcohol, Estate, Female, Prevalence, Patterns

0202.Ranasinghe, A.W.I.P.
Sexual dysfunctions: Prevalence and associated factors among adults aged 21 to 60 years in the Kegalle district.
MD Community Medicine – 2016   D 4011

Introduction: Sexual dysfunctions are a group of disorders which hinder a person's ability to respond sexually, engage in sexual intercourse or to experience sexual pleasure. There had been no local community-based studies conducted with adequate methodological rigor to determine the prevalence and associated factors of sexual dysfunctions.

Objectives: To determine the prevalence and describe factors associated with sexual dysfunctions among men and women aged 21 to 60 years in the Kegalle District.

Methods: This was a community based cross-sectional study. Two samples of men (n=916) and women (n=922) were selected using probability proportional to size, multistage cluster sampling procedure. Two separate web based online questionnaires based on ICD-10 and DSM-5 diagnostic criteria were developed. In parallel two separate web based data bases were created for online data entry.

Questionnaires were pre-tested and administered by trained, pre-intern medical graduates of the same sex as that of the respondents.

Stata version 12 was used for data analysis. The prevalence estimations of overall and specific sexual dysfunctions were age standardized using population structure of Kegalle District, taking into account cluster sampling. Univariate and multivariate analysis were performed to describe factors associated with sexual dysfunctions using design based F test. Odds Ratios (ORs) with 95% Confidence Intervals (CIs) were calculated after age standardization and taking into account cluster sampling. Probability value based on Fisher's exact test was calculated where it was relevant. P value <0.05 was considered as significant. Qualitative study was conducted to explore perceived consequences and treatment seeking behaviour. Semi-structured in-depth interviews with affected individuals and key informants (service providers) were conducted. Results were based on thematic analysis.

Results: Based on ICD-10 diagnostic criteria, the prevalence of overall sexual dysfunctions among men and women were 54.0% (95%CI=50.1-57.9%) and 44.7% (95%CI=40.7-48.6%) respectively. Based on DSM-5 diagnostic criteria, the prevalence of overall sexual dysfunctions among men and women were 7.3% (95%CI=5.6-9.6%) and 7.5% (95%CI=5.6-10.1%) respectively.

Factors associated with overall male and female sexual dysfunctions were compatible with the factors described in global literature such as age over 40 years and chronic medical conditions. Erectile dysfunction/disorder was significantly associated with age over 40 years, diabetes mellitus, hyperlipidaemia and obstructive pulmonary disease irrespective of the diagnostic criteria used. Smoking was significantly associated with erectile disorder when the diagnosis was based on DSM-5.

Perceived consequences of female sexual dysfunctions were psychological distress, violence, marital separation and suicidal attempts. Lack of self-esteem, selfinferiority and psychological distress were the common perceived consequences of male sexual dysfunctions. Children of affected individuals, being neglected was evident. Both men and women with sexual dysfunctions who sought treatment, had done so from general practitioners most commonly. Fear and unease about divulging information about sexual dysfunctions and fear of social

discrimination were the two commonly identified barriers for seeking treatment among respondents of both sexes.

Conclusion and recommendations: Prevalence of sexual dysfunctions among adults were high when the diagnosis was based on ICD-10 criteria but not so according to DSM-5 criteria. Verbal and physical violence, psychological distress, suicidal attempts and lack of self-esteem were common consequences of sexual dysfunction among men and women. General practitioner was the most commonly approached service provider for sexual dysfunctions.

The health system should be geared to address the health needs of people with sexual dysfunctions as five to ten percent of individuals and probably 10-20 percent of couples aged 21-60 years are affected.

Keywords: Sexual dysfunctions, prevalence and associated factors

0203.Ranasinghe, P.D.
Prevalence of household work related musculoskeletal disorders and correlates of the disorder in low back region, among 20-50-year-old housewives in the Colombo district.
MD Community Medicine – 2015   D 4062

Background: Household work is a significant cause of musculoskeletal problems particularly in the South Asian setting where the work is labour intensive and mostly manually performed. The prevalence of household work related musculoskeletal problems or their correlates have not been assessed in Sri Lanka.

Objectives: To determine the prevalence of household work related musculoskeletal disorders (HWMSD) and correlates of the disorder in the low back region among 20-50-year-old housewives in the Colombo District

Methods: The present study developed and validated two novel study instruments: a questionnaire to identify household work related musculoskeletal disorders (HWMSDQ) and a tool to assess physical exposures contributing to HWMSD in the low back region (PEC-LBHWMSD). Development of tools was based on review of literature, qualitative observations and expert opinion. Both tools were validated among a sample of 250 housewives. Criterion validity of HWMSDQ to identify HWMSD in nine anatomical regions; the neck, shoulder, elbow, wrist/hand, upper back, low back, hip/thigh, knee and ankles/feet was assessed against the diagnosis of a rheumatologist as the gold standard. PEC-LBHWMSD

was assessed for its construct validity using the Principal Component Analysis. Reliability was assessed using test-retest method.

A descriptive cross-sectional study among a sample of 1102 eligible housewives aged 20-50 years in Colombo district selected using multi stage cluster sampling was conducted to estimate the prevalence of HWMSD in nine regions of the body. Correlates of HWMSD in the low back region were conceptualized to be in three categories: physical exposures related to household work, psychosocial factors and individual level factors related to household work. An analytical cross-sectional study with bivariate and multivariate analyses using those with and without HWMSD of the low back region determined the correlates of the disorder in the low back region among housewives.

Results: Psychometric properties of the HWMSDQ showed high sensitivity and specificity (sensitivity >80%, specificity >89% for all regions). Test-retest reliability by Cohen's Kappa was above 0.8 for each region. The nine factor model obtained through Principal

Component Analysis confirmed that PEC-LBHWMSD was a valid tool to identify physical exposures as correlates of HWMSD in low back. A Cronbach's Alpha of 0.789, for tool in its entirety and test-retest reliability by correlation coefficient for all domains being above 0.7 indicate high reliability.

Prevalence of HWMSD among housewives in Colombo district was high (62%, 95% Cl: 58.9%-65%). The highest prevalence was reported for low back region (36%, 95%CI: 33.1%- 39%). Handling weight (OR=1.5, 95% Cl: 1.1-2.2), awkward posture for household work (OR: 2.2, 95% Cl: 1.5-3.1), working more than eight hours for housework (OR=2.3, 95%CI=1.6- 3.3) were physical exposures significant as correlates of HWMSD in low back. Psychosocial factors identified as significant correlates of HWMSD in low back were; psychological distress (OR: 1.8, 95% Cl: 1.3-2.6) and not having rest breaks (OR-1.8, 95%C1: 1.1-3.3). Not having good opinion on family income (OR-1.8,1.2-2.5), previous employment (OR-1.9,1.3-2.7), having a child aged less than 5 years (OR-1.7,1.12.6), married for 10 or more years (OR-2.0,1.3-3.0), poor self-rated general health status (OR-3.7-2.5-5.4), having long term illness (OR-1.8, 1.1-2.8) and living in a house owned by someone other than the husband or the housewife (OR-0.7,0 50.9) were identified as significant individual level correlates of HWMSD in low back.

Conclusion and Recommendations: The HWMSDQ is a valid and reliable tool to identify the HWMSD and PEC-LBHWMSD is a valid tool to assess physical exposures contributing to HWMSD in the low back region. Prevalence of HWMSD was high among housewives. Study identified several modifiable and a few non modifiable physical exposures, psychosocial factors and individual level factors as significant correlates of HWMSD in low back. It is recommended that preventive interventions to be designed and implemented to address the HWMSD among housewives.

The modifiable correlates are recommended to be addressed in primary prevention strategies and the non-modifiable correlates are recommended to be used to identify the high risk groups to be targeted in the preventive interventions.

Keywords: Household work related musculoskeletal disorders, Housewives, HWMSDQ, PEC-LBHWMSD

0204.Ranasinghe, R.A.S.U.
Use of digital devices among school going adolescents in Kurunegala Municipal Council area and its association with their academic performance and sleep.
MSc. Community Medicine – 2016   D 4000

Introduction: digital devices (D/D) more, due to their exploratory nature. The aim of this study was to identify the patterns and factors for using D/D and to assess the association between D/D use with academic performance and sleep, among 13-14 year olds in Type 1AB schools in Kurunegala Municipal Council (MC) area. **Methodology**: A cross sectional descriptive study was done among 671,13-14 years old students, using a self- administered questionnaire. Sample was selected using cluster sampling probability proportionate to size, from Type 1AB schools in Kurunegala MC area. Chi- square test was used for the analysis of associations. **Results :** Majority of the sample, were males (58.7%), using D/D (73.3 %) and using computers (49.7%). Most were using D/D for <2 hours per day (56.8%) between 2pm - 6 pm on weekdays (62.9%) and weekends (33.5%). Among users who used D/D for <2 hours/day, 31.5% had used them for education. Among those, using D/Ds for >2 hours/day, majority (33.5%) had involved in video games. Study participants were using D/D "as a hobby" and due to "less opportunities to play outside". Among the total, there was no association between the D/D use and

academic performance. Sex (OR=2.1, 95%CI=1.5-3.0) and extracurricular activities (OR=1.6, 95%CI=l.l-2.2) were significantly associated with D/D use. Among those who used D/D for <2hrs/day, D/D use was significantly associated with high academic performance (OR=2.6, 95% 0=1.69-4.03). Use of digital devices was neither associated with duration of sleep nor daytime tiredness.

Conclusions: Highest use of digital devices was among males and for <2 hours/day and preferred time was between 2 pm to 6pm. Most popular device was computer. Common purposes for D/D use among who use <2 hours/day and among >2hours/day were for education and video games respectively. There were no significant associations between the D/D use and sleep but had positive associations with academic performance and with extracurricular activities when analyzed among the users for <2 hours/day.

Recommendations: Use of D/D can be recommended for <2 hours per day to minimize harmful effects. Efforts to reduce overuse of D/D by adolescents should be developed after in depth research.

Keywords: Digital Device, Adolescents, Sleep, Computer, Smart Phone, extracurricular activities

0205.Ranatunga, I.D.J.C.
Proportion of unplanned pregnancies, their associated factors and health outcomes of women delivering at Colombo North Teaching Hospital- Ragama. MSc. Community Medicine – 2018   D 4497

Background: Unplanned pregnancy is a significant public health issue in both low and middle income and high income countries. Burden of unplanned pregnancy is reflected in women opting for pregnancy terminations in spite of the presence of well-established family planning services. Solid data on unplanned pregnancies are needed to address the issue in Sri Lankan contexts.

Objectives: To describe the proportion of unplanned pregnancies, their associated factors and health outcomes of women delivering at Colombo North Teaching Hospital-Ragama (CNTH).

Methods: A cross sectional study was carried out among 505 consecutive pregnant women who were admitted for the confinement at CNTH. A pre-tested structured interviewer-administered questionnaire used to collect data on antenatal women and intentionality measured by self- administered culturally adapted Sinhalese

translation of six item London Measure of Unplanned pregnancy (LMUP). Maternal and newborn health outcomes were ascertained in each post-partum women prior to discharge. Data were analyzed with Mann-Whitney U test, KruskalWallis test.

Results: Response rate was 97.8%. Study reported 17.2% unplanned pregnancies, 12.7% ambivalent and 70.1% planned pregnancies.

Women who were not married (OR 17.13 95%CI 2.09-140.5), educated up to the passing of GCE ordinary level (OR 2.33 95% Cl 1.56-3.47), monthly household income below Rs.40, 000 (OR 1.82 95% Cl 1.23-2.68), initiated sex before 20 years of age(OR 2.74 95% Cl 1.81- 4.13), being a teenager (OR 4.06 95% Cl 2.16-7.65) and inadequate knowledge on emergency contraceptives (OR 1.52 95%CI 1.032.24) were associated with unplanned pregnancy. Less planned pregnancies were also significantly associated with inadequate pre-pregnancy preparation (p<0.001), antenatal care (p<0.001), anemia (p=0.004), low mood for last two weeks (p<0.001), presence of gender based violence (p<0.001), poor relationship satisfaction (p<0.001). No difference found in neonatal outcomes.

Conclusions: A sizeable proportion of pregnancies are unplanned and modifiable associated factors were teenage pregnancies, non-marital relationships and inadequate knowledge on emergency contraceptives. Maternal anaemia, low mood and Gender based violence were found to be health outcomes of unplanned pregnancy.

Keywords: Unplanned pregnancy, maternal and newborn health outcomes.

0206.Ranatunga, R.J.K.D.R.L.
Maternal and offspring outcomes of pre-gestational over-weight and obese women delivering at Colombo North Teaching Hospital-Ragama.
MSc. Community Medicine- 2016   **D 4001**

Background: The worldwide prevalence of overweight and obesity has risen over the past few decades and women are currently more vulnerable than ever to enter pregnancy either overweight or obese. This growing problem is having negative impact on maternal and offspring morbidity, mortality as well as significantly increasing passing obesity to the next generation. In order to break this viscous cycle more knowledge should be gained to assess the maternal and especially fetal outcomes of overweight and obese women. Therefore, objective of this study was

to assess the maternal and offspring outcomes and the association of pre-gestational BMI with neonatal birth weight and abdominal circumference

Method: A hospital based descriptive cross sectional study and a case control study was conducted at Colombo North Teaching Hospital - Ragama. Consecutive sampling method was used to select 535 pre-gestational overweight and obese women for the first component and for the second component, 155 macrosomic babies as cases and 155 babies < 3.5Kg birth weight were recruited. Data was collected by an interviewer administered questionnaire. Chi square test and odds ratio was used to assess statistical significance of associated factors. A P value less than 0.05 was considered as statistically significant.

Results: In the study sample, majority (47%) of the pre-gestational overweight and obese mothers had gestational diabetes mellitus, postpartum hemorrhage was 35.3%, failure in lactation initiation was 63.4% Caregiver strain was significantly associated with age (p<0.001), educational status (p=0.003) and majority (57.4%) of the babies delivered were admitted to special care baby unit. Maternal pre-gestational overweight and obesity had significant association with operative deliveries (p<0.001), fetal macrosomia (p<0.001), neonatal abdominal growth (p< 0.001).

Conclusions: There are number of factors associated with pre-gestational overweight and obesity and maternal and offspring outcomes. Further researches on this problem are needed in Sri Lanka to analyze the situation.

Keywords: Pre-gestational Overweight and Obesity, Macrosomia, Neonatal Abdominal

0207.Ranwanee, N.K.A.
Perceived self-efficacy in managing chronic diseases among elderly patients attending medical Clinic at Base Hospital Mulleriyawa.
MSc. Community Medicine - 2017 **D 4473**

Introduction: Non-communicable diseases and elderly population are on the rise worldwide. This has created a huge burden to health systems, economies and the society. Sri Lanka is no exception. This indicate the need for risk factor prevention and control through effective behavioral change programmes. Self-efficacy is posited as fundamental to achieve behavior change of individuals to fill the present

gap. This study aims to assess the PSE in managing chronic diseases to provide an insight in to how confident the elderly in self-managing their diseases.

Methods: A descriptive cross-sectional study was done to assess the perceived self efficacy and its associations in managing chronic diseases among elderly patients attending medical clinic at BH Mulleriyawa. By systematic sampling method, 461 eligible patients diagnosed with five major chronic disease were selected. Interviewer administered chronic disease self- efficacy questionnaire was used to collect data. Response rate was 92% (n=424). Mean PSE score was calculated by adding scores of all domains and chi-squared test was applied to find associations of categorical data.

Results: The study population had a mean PSE score of 3.64 (SD±.6.076) out of 5. Sociodemographic variables that were found to have a statistically significant association with PSE were age category ($p = 0.004$), education level ($p = 0.007$) income level ($p = 0.015$) and Impairment of vision ($p = 0.002$) and mobility ($p = 0.017$) as well. Existence of comorbidities among elderly ($p = 0.021$) was associated statistically significantly with PSE. In the disease control status, statistically significant associations were found between the PSE and blood pressure control ($p = 0.04$) and total blood cholesterol control ($p = 0.04$). However, not with blood sugar control ($p = 0.639$) and with recent hospitalizations due to chronic illness ($p = 0.204$).

Even though elderly patients' overall PSE level was well above the average, their risk factor control for chronic diseases was not satisfactory.

Age category, education level, income level, impairments in vision, mobility and existence of multiple comorbidities are important factors to consider in providing self-management advice for chronic diseases. Improvement of self-efficacy may have a beneficial effect on disease control factors such as blood pressure and total cholesterol levels. Further research studies are needed to longitudinally to assess the temporality of perceived self-efficacy and its determinants.

Keywords: Perceived self-efficacy, chronic diseases, Elderly

0208.Rathnayake, S.B.A.S.M.
Mental health literacy: knowledge and beliefs of depression among engineering undergraduates of University of Peradeniya and associated factors.
MSc. Community Medicine – 2016   **D 3992**

Background: Depression, the most common mental health problem, accounts for second highest global burden of the disease due to the high rates of suicidal attempts, reduced productivity of the workforce and other socio-economic problems. The knowledge and beliefs of mental health literacy on depression is especially important for early detection, timely utilization treatment facilities as well as disease prevention. The present research was conducted to assess the knowledge and beliefs of depression among the engineering undergraduates at the University of Peradeniya and study the selected associated factors.

Methods: This was a descriptive cross sectional study conducted among 1631 undergraduates of the faculty of engineering, University of Peradeniya in 2016. Data collection was conducted using a self administered vignette based tri-lingual paper-based questionnaire consisting of their knowledge and beliefs on mental health literacy on depression and their socio-economic and educational details. Data entering and analysis war conducted using Microsoft Excel, SPSS-20 and MATLAB 7. Scoring system for assessment of knowledge and belief assessment was developed. Percentage scores for knowledge and beliefs on recognition, prevention and management were presented with median and inter quartile range (IQR). The odds ratios with confidence intervals were used to analyze associated factors.

Results: The median overall percentage score for knowledge of the depression among engineering undergraduates of university of Peradeniya was 23.4(IQR;11.737.0) while the medians of recognition, management and prevention were 29.4 (IQR;5.9-51.0), 20.6 (IQR;17.6-36.8) and 8.6 (IQR;0.0-37.1 Respectively. The median percentage score of the overall beliefs of the depression was 24.7(IQR ; 12.4- 37.8) while the medians for recognition, management and prevention were 29.4 (IQR;7.8-54.9), 22.1 (IQR;17.6-38.2) and 5.7 (IQR;0.0-31.4) respectively. Knowledge was significantly higher among females compare to the males

(N=1462, OR = 1.51, 95% Cl: 1.16-1.94, p=0.002), Sinhalese compared to nonSinhalese (N=1570, OR = 3.11, 95% Cl: 1.94-5.02, p=0.001) and Buddhists compared to non-Buddhists (N=1525, OR = 3.05, 95% Cl: 1.89-4.92, p=0.001). Beliefs were significantly higher among females compared to males (N=1462, OR = 1.63, 95% Cl: 1.25-2.10, p=0.001), Sinhalese compared to non-Sinhalese (N=1570, OR = 3.05, 95% Cl: 1.87-4.97, p=0.001), Buddhists compared nonBuddhists (N=1525, OR =2.93, 95% Cl: 1.80-4.78, p=0.001) and undergraduates with higher monthly income over Rs 40,000 rupees compared others (N=1525, OR = 1.36, 95% Cl: 1.07-1.74, p=0.01).

Of the study sample, a majority 78.1% (n=1271) were having substandard level of knowledge which was less than cut off level for adequate knowledge of 40%. Of the study sample, a majority 79% (n=1286) were having substandard level of beliefs which was less than cut off level for adequate knowledge of 40%.

Conclusions: Present study shows the inadequacy of the knowledge and beliefs on mental health literacy on depression among engineering undergraduates of the University of Peradeniya. Study recommends implementation of interventions to increase mental health literacy among this group at national and institutional levels taking associated factors into account.

Keywords:The mental health literacy; depression literacy; engineering undergraduates; knowledge; beliefs; recognition; management; prevention.

0209.Ratnayake, R.M.H.E.
Prevalence of exclusive breastfeeding and barriers for its continuation up to six months, among mothers in selected Medical Officer of health areas in Kandy district.
MSc. Community Medicine – 2016   D 4004

Background: Exclusive breastfeeding (EBF) up to six months is the recommendation for Sri Lanka since 2005 as recommended by World Health Organization. A number of barriers towards continuation of EBF do exist.

Objectives: To assess the prevalence of exclusive breastfeeding and barriers for its continuation up to 6 months, among mothers in selected MOH areas in Kandy District.

Methods: A clinic based descriptive cross-sectional study was conducted in selected Medical Officer of Health areas in Kandy District. Mothers with infants

aged six months, attending the child welfare clinics were included in the study. Multistage cluster sampling technique was used and probability proportional to size sampling technique was applied. A total of 354 mothers participated in the study. Data were collected by an interviewer administered questionnaire and analyzed using SPSS version 20.

Results: Prevalence of EBF at six months was 50.8% while the mean duration of EBF was 5.2 (95% □=5.1-5.3, SD=0.9) months. Maternal age (p=0.02) had significant association towards discontinuation of EBF while, being occupied in government or private sector (p<0.001, OR=4.3, 95%CI=2.1-8.5) and being the first child in the family (p=0.007, OR=1.8, 95%CI=1.1-2.8) were significant risk factors for early discontinuation of EBF. Mother's poor knowledge on what is meant by EBF (P=<0.001, OR=2.9, 95% CI=1.9-4.5), mother's poor knowledge on expressed breast milk (p=0.03, OR=1.6, 95% 0=1.02-2.4), mother's poor attitude towards EBF(p=0.03, OR=1.6, 95% 0=1.02-2.6),difficulty in getting health care worker's help (p=0.02, OR=3.9, 95% 0=1.1-14.5), poor family support (p=0.04, OR=1.7, 95% 0=1.01-2.9), family members negative attitudes regarding breastfeeding (p=0.02, OR=1.6, 95% 0=1.1-2.4) and obtaining maternity leave for less than six months (p=0.008) were identified as significant risk factors for early cessation of EBF. Unsupportive environment in public places was not found to be a risk factor for early cessation of EBF.

Conclusion and Recommendations: The rate of exclusive breastfeeding up to six months was not satisfactory while there were barriers identified in health care system, family and work places. Further public health assistance is needed regarding these problems as well changes in legislation in favor of EBF in all sectors should be addressed.

 Keywords: Exclusive breastfeeding, Barriers, Prevalence, Mothers

0210.Rupasinghe, M.C.S.
Climate change adaptation and mitigation at individual level: Knowledge, attitudes and associations among school teachers in Kalutara district. MSc. Community Medicine – 2017   D 4602

Introduction: Climate change is the biggest global health threat of the 21st century. *Its impacts scatter* through every strata of the society placing the marginalized clusters such as refugees, women, children etc. at highest vulnerability scale and

call for action at all levels. Adaptation enhances the resilience, whereas mitigation minimizes the anthropogenic forces of climate change. Therefore, climate change adaptation and mitigation at individual level is crucial initiative for a climate resilient sustainable development.

Objectives: To describe the knowledge, attitudes and factors associated with climate change adaptation and mitigation at individual level among school teachers in Kalutara District.

Methods: A descriptive study was done among 618 school teachers in three educational zones of Kalutara district using random cluster sampling. Cluster units were defined as Type l AB and Type 1C schools and 25 clusters were selected from 106 cluster units randomly. Self- administered questionnaire was developed and validated. It contained six sections of questions including twenty-five equally weighted questions to assess knowledge and ten statements to assess attitudes. Data was analyzed using SPSS version.20. Categorical variables were described using frequency tables and charts, and continuous variables were presented using measures of central tendency and dispersion. Chi square test was performed to analyze factors associated with knowledge on climate change adaptation and mitigation and a P value of <0.05 was considered as statistically significant.

Results: The response rate was 98.8% [n=618] and the mean age of the study population was 43.6 years [SD=7.769]. More than 95% of the study population [96.45%, n=596] agreed that the global warming is happening and more than 85% of them [87.4%, n=540] knew about climate change. It was revealed that 23% of the study population had poor knowledge [<50 score in overall knowledge score] in climate change adaptation and mitigation at individual level. Satisfactory knowledge [50-75] was observed among 54.7% [n=338] of the participants and *22.3%* [n=138] showed good knowledge [>75], Favorable attitudes were observed among more than 65% of participants for all the statements on climate change adaptation and mitigation. Average family income [p<0.0001, df=2] and highest education qualification [p0.000l, df=6] showed significant positive association whereas age [p0.000l, df=2] had a significant negative association with good knowledge. Working duration [p0.000l, df=8] and involvement in the school environmental society activities [p0.000l, df=2] had a significant positive association with good knowledge while current grade [p0.000l, df=4] had a

significant negative association. Level of knowledge had no significant variation among male and female teachers.

Conclusions and recommendations: Overall knowledge on was poor among more than 20% of the teachers highlighting the need for school and community based awareness programs to be implemented to address the issue. TV programs, newspaper articles and infographics could be useful as advocacy tools. In addition to that teachers' training curriculums revisions, knowledge sharing forums would be beneficial to fill the knowledge gap between different strata of teachers.

Further qualitative studies are recommended to describe multidimensional factors associated with individual level climate change adaptation and mitigation activities to implement targeted intervention.

Keywords: climate change; climate change adaptation and mitigation; knowledge

0211.Samarakoon, Y.M.
Risk factors and risk prediction of colorectal cancer among adults in the districts of Colombo and Gampaha.
MD Community Medicine – 2016   **D 3977**

Introduction

Colorectal cancer is the fourth leading cancer among men and sixth leading cancer among women, in Sri Lanka. Use of a simple risk prediction tool, will offer Sri Lanka a mechanism to identify the high risk individuals and refer them for colonoscopy examination to detect colorectal cancer in order to reduce morbidity and mortality.

Objectives

To determine risk factors, develop and validate a risk prediction model for colorectal cancer and to estimate the 'at risk' prevalence for developing colorectal cancer among adults in the districts of Colombo and Gampaha.

Methods Component 1

An unmatched case control study was conducted to assess the risk factors, using an interviewer administered questionnaire, among 65 histologically confirmed new colorectal cancer cases, 130 hospital and 130 community controls, aged 30 years or more residing in the districts of Colombo or Gampaha. Risks were evaluated using

bivariate and multivariate logistic regression in comparison with hospital and community control groups, separately.

Component 2

A risk prediction model to estimate the risk of an adult developing colorectal cancer, was developed based on the logistic regression model and expert opinion and was further refined with Receiver Operator Characteristic curve performance. Assessment of the criterion validity and reliability of the model was performed using a case control design utilizing 65 colorectal cancer new cases and 65 hospital controls aged 30 years or more using an interviewer administered questionnaire.

Component 3

A community based cross sectional descriptive study was conducted among a representative sample of 811 adults aged 30 years and above, resident in the districts of Colombo and Gampaha, using a multistage cluster sampling technique to assess the 'at risk' prevalence of developing colorectal cancer using an interviewer administered questionnaire. Prevalence of 'at risk' was based on validated cut off score while prevalence of risk in subcategories of 'moderate' and 'high risk' were based on cut off values agreed upon by the experts.

Results

Component 1

Age 50 years or more (OR=2.6, 95% 0=1.1 to 5.9), frequent consumption of deep fried food for the period of last 20 years and beyond (OR=2.4, 95% 0=1.2 to 5.4), frequent consumption of red meat for the period of last 20 years and beyond (OR=3.1, 95% 0=1.3 to 7.4), diagnosis of colorectal cancer among first degree relatives at the age of 60 years or less (OR=4.9, 95% 0=1.7 to 14.2), diagnosis of other cancers (breast, endometrial, ovary) among first degree relatives at the age of 60 years or less (OR=3.0, 95% 0=1.1 to 7.8) and presence of medically confirmed hypertension for more than ten years (OR=3.3, 95% 0=1.3 to 8.6) were the risk factors retained in the final logistic regression model in comparison with hospital controls while frequent consumption of deep fried food for the period of 20 years and beyond (OR=4.2, 95% 0=1.7 to 10.1), being an ever smoker (OR=3.2, 95% 0=1.1 to 9.3), being a current or former drinker (OR=5.4, 95% 0=1.1 to 27.8), presence of medically confirmed hypertension for more than ten years (0R=5.1, 95% 0=1.7 to 15.6) and having an education level up to G.C.E. 0/L completed or

more (OR=3.5, 95% 0=1.5 to 8.3) were the risk factors retained in the final logistic regression model in comparison with community controls.

Component 2

The developed and validated model consists of eight predictors with an Area Under the Curve of 0.849 (95% 0=0.8 to 0.9, p<0.001). The model demonstrated a sensitivity of 76.9% (95%CI=66.7 to 87.1), specificity of 83.1% (95% 0=74.0 to 92.2%), positive predictive value of 82.0% (95% 0=72.3% to 91.6%) and negative predictive value of 79.3% (95% 0=68.5% to 88.0%) with positive and negative likelihood ratios of 4.6 (95% 0=2.6 to 7.9%) and 0.3 (95% 0=0.2 to 0.4) and a Kappa coefficient of 0.88 with respect to test re-test reliability.

Component 3

The prevalence of at risk was 20.0% (95% 0=17.2 to 22.7). The high risk prevalence was 1.9% *(95%* 0=1.1 to 2.8%) while the moderate risk was 18.1% (95% 0=15.5 to 20.8).

Conclusions and recommendations

The model developed to predict the risk of colorectal cancer among adults aged 30 years and above was proven to be valid, reliable, acceptable and easy to be use and thus recommended as a screening instrument to be applied to detect those 'at risk' of colorectal cancer who should be referred for colonoscopy examination.

Key words: Colorectal cancer, risk factors, risk prediction model, adults

0212. Samarutilake, G.D.N.
Frailty in elderly: Prevalence, correlates and perceived needs to prevent frailty among the elders living in Colombo district.
MD Community Medicine – 2016   **D 4064**

Introduction: Population in Sri Lanka is rapidly ageing and the adverse impact of ageing on healthcare expenditure is enormous. Heavy utilization of healthcare services by the elders is inevitable owing to the old age vulnerability to adverse health events. Frailty is defined as a high risk state for adverse health outcomes in the elders. Though there are many instruments developed to assess frailty in elderly, none of these instruments have been recommended to use as a standard instrument to assess frailty. Only a few frailty assessment instruments have been assessed for the validity and reliability prior to use. Comprehensive Geriatric Assessment (CGA) is commonly used in clinical settings in selected patients owing to higher

time consumption. Some frailty instruments (Fried criteria) need to be assessed by trained personals preferably in clinical settings. Other subjective instruments are basically meant for the screening purposes and none of these frailty instruments were recommended to use to assess frailty among the community living elders.

Objectives: This study was carried out to develop and validate a frailty assessment instrument (FAI) for the assessment of frailty among the community living elders, to estimate the prevalence using the validated FAI and to assess correlates of frailty; and to assess perceived needs of the elders to prevent frailty among the community living elders in Colombo district.

Methodology: The study was conducted in three components. Component one was to develop and validate the FAI to assess frailty in elderly by using qualitative and quantitative mixed methodology. Literature surveys, in depth interviews and focus group discussions were carried out to develop definition and the conceptual basis for frailty. Item were generated to represent the functions in physical, psychological and social domains in relation to the concept of frailty. A forty item FAI was developed and subjected to exploratory factor analysis to identify latent factors and to reduce items within each sub domains. Each item was measured using a 5 point Likert scale and scores were allocated for each point from 1 to 5 where the higher scores indicate the higher likelihood of being frail. Same item was assessed for the functional decline during the year preceding with 'yes' or 'no' options and one score was added to the Likert scale if a decline in the function is detected. FAI was subjected to exploratory factor analysis (EFA) to reduce items and to identify the factor structure; and subjected to confirmatory factor analysis (CFA) to assess the construct validity. Convergent and divergent validity of the FAI was assessed with Short Form (SF 36), Barthel index and Lawton Broody instrumental activities of daily living. Intra and inter rater reliability was assessed using test re- test method and the intra class reliability Chronbach's Alpha.

For the component 2, Cross sectional descriptive and analytical study was conducted among 1620 community living elders in Colombo district selected by multistage cluster sampling methodology. Newly developed correlates of frailty questionnaire and FAI were administered to the elders by trained data collectors. Qualitative research was conducted to extract needs of the elders to prevent frailty in Sri Lanka. Initially a random sample of ten elders and four medical experts and three other experts from disciplines related to the elderly care were selected into

the study and snow bowled to enroll subjects. Six focus group discussions and 28 participants were subjected to in depth interviews to collect data on perceived needs of the elders for the prevention of frailty.

Results: Frailty was operationally defined as "age associated impairment in human functions, with or without the evidences of decline over the preceding year; in the physical domain of the human functions with the involvement of at least one domain of psychological or social functions.

Exploratory factor analysis (EFA) yielded 10 factor solution following the serial deletion of six items. Eight factors converging to the latent factor frailty was identified as the best fitting model with improved model fit indices in CFA. Convergent, divergent and discriminant validity was assessed with the short form (SF 36), activities of daily living (ADL), instrumental activities of daily living (IADL), with a group of young adults.

Finally, a 21 item instrument was derived from 34 item FAI and items in the physical domain were grouped in general health (02 items), physical functions (04 items), special functions (02 items), nutrition (03 items); items in the physical domain were grouped as group I (03 items) and Group II (02) items and social functions were grouped in to group I (02 items) and group II (03 items). An item was counted as frail if the total score for the items is 4 or more. Domain frailty was diagnosed if one item from each group is counted as frail. An elder was considered frail if frailty is diagnosed in physical domain and frailty in one other domain.

Prevalence of frailty in Colombo district was 14.9% (95%CI:13.2%- 16.6%). Prevalence of frailty were higher in males (17.7%, 95%CI:15.0% - 20.4%) and elders below the age of 75 years (11.3%, 95%CI: 9.4% - 13.2%) than females (12.4%, 95%CI: 10.2% - 14.6%) and elders aged 75 years or more (21.6%, 95%CI: 18.2% - 25.0%). Age, gender, marital status, education, past medical history, physical activities, nutrition, Body Mass Index (BMI), activities of daily living (ADL) and instrumental activities of daily living (IADL), memory, living index, environment index, economic status, depression, duration of non communicable diseases (NCDs), number of drugs using, social contacts, social support and consumption of medical facilities during the preceding six months are significantly associated with frailty status at 5% level. However, number of drugs using (OR-O.86, 95%CI:0.77-0.95), admissions to hospitals (OR-4.86, 95%CI:2.92-8.08),

age (OR-1.06, 95%CI:1.0 -1.09), IADL (OR-1.13, 95%CI: 1.09-1.18), unsatisfactory environment (OR - 3.46, 95%CI: 2.17-5.51) and economic dependency (OR-7.09, 95%CI:2.87—17.51) were significant correlates at 5% level in logistic regression models.

Total of 32 participants were subjected to in depth interviews and thematic analysis was carried out to identify the needs and care services required. Economic status, health issues, nutrition, life style, psychological health issues, living arrangements, family support and social support were emerged as themes and economic independency was the priority need.

Cessation of high risk behaviors, moderate physical activities, calm and peaceful living environment are required to prevent frailty. Sri Lankan elders prefer family association and their regular care giver to be a family member. Prompt treatments to the ill health conditions and nutritional supplementation.

Themes focused on care services needs were; the programmes aiming reduction of care giver burden, poverty alleviation, specialized free health care services, transport services and opportunities to maintain productive life or social security system.

Conclusions and Recommendations: FAI is a valid instrument to assess frailty in community living elders. Prospective cohort studies are recommended to evaluate cut off scores of the FAI. Prevalence rates are relatively high and early interventions to prevent frailty are recommended. By far the needs of the Sri Lankan elders are equal to those of the other parts of the world and necessary initiatives should be taken without delay as the Sri Lankan population is rapidly ageing.

0213.Senanayake, M.G.B.
Prevalence of chronic stress, its social determinants and association with selected mental disorders among adults in the district of Colombo.
MD Community Medicine -2015   D 3715

Introduction

While acute stress is increasingly becoming part of life, 'chronic stress' has remained a relatively unfamiliar entity. In the absence of a valid tool for measurement, prevalence of chronic stress among Sri Lankan adults and its role as

an independent risk factor for mental disorders is unknown. Further, studying social determinants of chronic stress may shed light on its prevention.

Objectives

To describe the prevalence of *chronic stress using a newly* developed tool and to describe the social determinants of chronic stress and its association with depression and Obsessive Compulsive Disorder (OCD) among adults in the district of Colombo

Methods

A validation study was conducted to develop a new tool, "Chronic Stress Measurement Scale" (CSMS) to assess chronic stress in the Sri Lankan context and to validate it in a sample of 350 adults using principal component analysis. Steps included defining the construct, item generation, content analysis of items, item reduction and identification of response categories. Construct validity was further performed for CSMS.

Another validation study was conducted to translate "Obsessive Compulsive Inventory-Revised" (OCI-R) to local language (OCl-R-Sinhala) to assess OCD and its criterion validity against the clinical diagnosis of OCD.

A cross-sectional, community-based study was conducted in the district of Colombo among 2410 adults aged over 18 years, selected using stratified, cluster sampling with probability-proportionate-to-size of its actual population. Following informed written consent, trained arts (psychology) graduates administered the newly validated CSMS and OCI-R-S, and already available CESD (Center for Epidemiological Studies- Depression). Social determinants of chronic stress were assessed via interviewer- administered questionnaires. Bivariate analysis followed by logistic regression analysis was carried out to identify the independent social determinants for chronic stress adjusted for confounding effect in the logistic regression model. This was further complemented by obtaining in-depth knowledge on these determinants in a qualitative study.

Results

Principle component analysis demonstrated 48 items being factorable in the development of CSMS as a 9-factor model: excessive demand, familial matters, excessive work, personal matters, chronic worrying, inter-personal tension, dissatisfaction with duties, societal responsibilities and lack of social recognition.

CSMS showed satisfactory validity and reliability (Cronbach's alpha: 0.69 -0.84; test re-test coefficient: 0.66-0.91). OCI-R-S demonstrated its reliability and validity against its criterion (clinical diagnosis): 84.4% sensitivity; 85.6% specificity; 0.73 Kappa; and 0.87 Cronbach alpha. Response rate was 96.5%. The prevalence of high- level chronic stress among adults was 17.4% (95% Cl: 15.9%-18.9%). Being a resident in highly urban: CMC and urban: non- CMC areas, being non-Buddhist, age <40 years, high social status, residential insecurity, living alone, in-debt, performing shift duty, insecure employment, presence of chronic disease/s, substance abuse to cope stress, poor partner relationships, abuse by partner/self, parental death/separation during childhood and childhood traumatic experience were the social determinants of high-level chronic stress independent of confounding effects. Social responsibility, social status, cultural norms, social insecurity, social isolation and self/social discrimination were also qualitatively identified as social determinants of chronic stress. The social determinants varied in relation to work, home and personal traits when considered at different levels of urbanization (highly urban, urban and rural). The prevalence of current depression was 15.7% (95% Cl: 14.2%-17.2%) while that of OCD was 3.5% (95% Cl: 2.77%-4.23%). High-level chronic stress as an independent risk factor for depression (adjusted OR: 10; 95% Cl: 7.8-12.9) and for OCD (adjusted OR: 18.2; 95% Cl: 10.7-30.7) was significant.

Nearly one in 6 adults showed high level of chronic stress, indicating an emerging public health problem in the district of Colombo. Owing to social determinants of chronic stress varying at area level, surveillance and mental health promotional activities should target vulnerable groups at multiple levels. CSMS as a low-cost, valid and reliable tool should be introduced at community level for early identification of chronic stress in adults, and thereby prevent its sequel. Findings further encourage health planners to take policy decisions to enhance psychosocial well-being of the society.

Keywords: chronic stress, social determinants, prevalence, mental disorders, adults

0214. Senanayake, S.J.
Health status, quality of life and household cost of chronic kidney disease patients in Anuradhapura district.
MD Community Medicine – 2016   D 4014

Introduction: Among the mental illnesses, depression is identified as one of the major mental health issues in the world, which leads to disability. This is linked with population aging which is common to Sri Lanka also.

Therefore, this study is carried out with the intention of determining the prevalence and identifying correlates of depression among the Sri Lankan Sinhalese elders aged 60-74 years living in the urban areas of the district of Colombo, to assess their quality of life and health seeking behaviour and to map out the mental health care services in the district using Arc GIS which can be utilized by the elders.

Methodology: As the component 1, a cross sectional descriptive study was carried out to determine the prevalence of depression among the Sri Lankan Sinhalese elders 60-74 years living in urban areas of the district of Colombo. The study was conducted as a community based survey using GDS-S 15, among 1340 elders from 134 urban Grama Niladhari divisions in the district. Simultaneously among the same study sample, a cross sectional analytical study was carried out to identify the correlates of depression as component 2. As the component 3, a cross sectional analytical study was carried out to compare the quality of life among the elders with and without depression using WHOQOLBREF. Component 4 was a qualitative study on health seeking behaviour among the elders with depressive symptoms. As the fifth component, a GIS mapping was carried out of the government sector health care institutions providing mental health services in the district of Colombo which can be utilized by the elders.

Results: The overall response rate was 95.75%. The prevalence of depression was 13.9%. The prevalence of mild depression was 11.2% while prevalence of moderate to severe depression was 2.7%. After controlling for confounding, sixteen variables were identified as significant correlates of depression. In subsequent order, they were alcohol use (OR=28.32, CI=8.28 - 96.91), sex of the participant (OR=22.81, 0=6.67- 78.01), physical abuse by others (OR=3.90, 0=1.08-14.02), verbal abuse by others (OR=3.43, 0=1.72-6.87), frequency of leisure activities(OR=3.20, Cl =1.72-5.98), financial burden (OR=2.88, 0=1.82-4.56), partner relationship (0R=2.71,0=1.52- 4.82), marital status (OR=2.58, CI= 1.53-

4.34), presence of a steady income to respondent or spouse (OR =2.19, CI=1.393.46), perceived social support (OR=2.16, 01=1.39-**3.34),inco**me <SLR20,000 (0R= 2.14,01=1.34-3.40), engage in leisure activities^ OR=2.13, CI= 1.14-3.99), ability to perform IADLs (OR= 1.86,01=1.24- 2.78),employment status(OR=1.82, 01=1.00-3.30), experience of major life events (OR=1.59 ,01=1.04-2.43) and presence of chronic disease (OR=1.58 , Cl =1.03 -2.40).In the quality of life assessment, the physical domain (t=4.043, p<0.001), psychological domain (t=4.194, p<0.001), social domain (t= 4.159, p<0.001), overall quality of life (t=2.819, p=0.006) and overall satisfaction with health (t= 2.832, p=0.005) were significantly associated with depression. During the in-depth interviews on health seeking behaviour for depression among the respondents, the economic and other social determinants were prominent with lesser effect from social stigma. The service related deficits in resources as well as in communication were also identified as barriers in health seeking and maintaining compliance. The GIS mapping of mental health care facilities in the district revealed that only BH Awissawella is having inward care as well as a consultant psychiatrist for the Eastern parts of the district. At the same time, deficits in physical accessibility were also identified especially towards Eastern parts of the district.

Conclusions and recommendations

The study revealed that nearly 14.0% of the Sinhalese elders 60-74years living in urban areas are having some form of depression. Certain modifiable associated factors of depression, poor quality of life in depression, the factors affecting poor health seeking and certain features of mental health services maldistribution were identified through the research. Therefore, it is strongly recommended that awareness and skills development programmes should be in cooperated in to under graduate, postgraduate as well as in service training programmes for doctors. The stakeholders in decision making should be sensitized on the emerging mental health issues in the elderly. At the same time, a strong social marketing campaign is needed to increase the awareness on prevailing mental health issues and available services for the mass community.

Also a social security system is needed to improve the financial status and quality of life among the elders.

Keywords : elder depression, correlates, quality of life, health seeking, GIS

0215.Senaratne, Y.
Prevalence of unhealthy weight control behaviour, associated factors and the relationship with perceived mental wellbeing among 15-year-old adolescents of urban schools in the district of Colombo.
MSc. Community Medicine – 2017   **D 4499**

Introduction: Adolescents are engaged in a variety of weight control measures, some of which are unhealthy leading to poor long-term health outcomes. Mental wellbeing is believed to get affected the most. Data are sparse in Sri Lanka on the burden and associated factors of unhealthy weight control behaviour among adolescents.

Objectives: To describe the prevalence of unhealthy weight control behaviour, factors associated with such behaviour and its relationship with perceived mental wellbeing among 15-year-old adolescents of urban schools in the district of Colombo

Methods: A school-based cross-sectional study was conducted among 540 adolescents recruited from type 1AB government schools in the district of Colombo. The study included 15-year-old grade ten students, who were not ill during the week prior to the study. The sample was selected using a multistage cluster sampling (class as a cluster). A structured self-administered questionnaire assessed the unhealthy weight control behaviour and factors associated with it. Ryff' s psychological wellbeing scale validated for Sri Lanka was used to assess the mental wellbeing. Factors associated with unhealthy weight control were assessed using chi square test and prevalence odds ratio (prev. OR) and 95% confidence interval. Several factors were associated with unhealthy weight control behaviour. In both boys and girls, being overweight/obese compared to normal/thin in boys (67.2% OR: 1.8; 95% Cl: 1.2,2.7) were significantly associated with unhealthy weight control behaviour. No such association family characteristics, and knowledge on healthy dietary habits. In relation to attitudes on body, having misperception of weight status (30.2% versus 50.8%; prev. OR: 2.4; 95% Cl: 1.3, 3.4) in boys, in contrast to dissatisfaction with body image (12.0% versus 39.4%; prev. OR: 4.7; 95% Cl: 2.5, 9.1) among girls were significantly associated with unhealthy weight control. No relationship was identified between perceived mental wellbeing of adolescents and unhealthy weight control behaviour.

Conclusion & Recommendations: More than 1/4* of the adolescents engaged in unhealthy weight control behaviour. Factors associated with it were mainly related to attitudes on body composition and poor knowledge on unhealthy weight control methods. School-based health programs are recommended to counter-act their positive attitudes on unhealthy weight control methods, and to improve knowledge on healthiness of methods used.

Keywords: unhealthy weight control, urban schools, body image and weight perception, mental wellbeing

0216.Seneviratne, A.R.De A.
Prevalence, associated factors and care practices adopted by caregivers of children aged three to five years with wheezing illnesses living in underserved settlements of the Colombo Municipal Council area.
MSc. Community Medicine - 2015   D 4220

Introduction: A rising trend in Sri Lanka for asthma and wheezing illness is observed with higher morbidity in younger children and a paucity of related research. 'Under-served settlements' (USS) of Colombo Municipal Council (CMC) have poor living environments conducive to childhood wheezing. Practices of caregivers play a role in prevention and management of wheezing illnesses.
Objective: To describe prevalence, associated factors and care practices adopted by caregivers of children aged three to five years with wheezing illnesses living in underserved settlements of Colombo Municipal Council area.

Methods: A community-based, cross-sectional study was conducted on 460 child caregiver pairs using two-stage cluster sampling among residents of selected USS of CMC. An interviewer-administered questionnaire, observation checklist and data extraction form were used in data collection. A physician's diagnosis of wheezing/whistling of the chest in their lifetime and a physician's diagnosis of wheezing/whistling within the past twelve months were considered as 'ever wheezing illness' and 'current-wheezing illness' respectively.

Results: Mean age was 3.98 years (SD=±0.64years). A majority were males (51.3%) and Tamils (39.8%). Prevalence of 'ever wheezing illness' and 'current wheezing illness' were 38% (95%CI; 33.6%-42.5%) and 21.3% (95%CI; 17.6-25.0), respectively.

A family history of food allergy (p=0.044), maternal (p<0.001) and paternal (p<0.001) asthma, sleeping on hardboard/bare floor (p=0.047), use of bed nets (p=0.045), playing with soft toys in sleeping area (p=0.001), tendency of mould formation (p=0.001), use of mosquito coils (p<0.001), use of 'unclean' cooking fuel (p=0.027), unsatisfactory ventilation in cooking area (p=0.050), father's smoking (p=0.038) and living within 150m of a place of work/industry (p=0.010) were significantly associated with 'current wheezing illness'.

Practice of wet mopping (73.1%) of floors to prevent wheezing was satisfactory. Restrictions were imposed on 'ever wheezing illness' children by caregivers. A majority accessed healthcare from state-sector hospitals for the last wheezing episode (61.7%) and for severe (76%) and mild wheezing illness (44%).

Conclusions: High magnitude of wheezing illnesses among young children in USS of CMC needs attention of healthcare authorities. Education of caregivers to modify living environment, improve housekeeping to prevent wheezing, and refrain from inappropriate restrictions is needed.

Keywords: ever-wheezing illnesses, current-wheezing illness, preschool children

0217.Seneviratne, W.K.V.S.
Health-related quality of life, association of treatment success with health related quality of life, household cost and quality adjusted life years saved during treatment among new pulmonary tuberculosis patients in Colombo district.
MD Community Medicine – 2018   **D 4668**

Introduction: Tuberculosis continues to be a major public health problem throughout the world including Sri Lanka. The personal burden of illness cannot be described fully by clinical or laboratory indices and therefore, psychological factors, functional impairment, difficulty in fulfilling personal and family responsibilities, pain, physical weaknesses and financial strain should also be encompassed.

Objectives: To assess health-related quality of life, association of treatment success with health-related quality of life at the initiation of treatment and to assess household cost and quality adjusted life years saved during treatment among new pulmonary tuberculosis patients in the Colombo district and to compare health related quality of life and household cost of new pulmonary tuberculosis patients

practicing daily directly observed treatment undertaken at a health facility and weekly home based directly observed treatment undertaken at home by a family member with weekly visits at the health facility in the Colombo district.

Methods: The study consists of three components. Component I of the study included selection and cultural adaptation of functional assessment of chronic illness therapy- tuberculosis (FACIT-TB) tool to assess health-related quality of life (HRQOL) of pulmonary tuberculosis (PTB) patients in Sri Lankan setting. It was validated through the method of triangulation and the validation study to perform confirmatory factor analysis (CFA) and the reliability assessment was done on a sample of 225 new PTB patients in the Kandy district. Component II included a descriptive cross-sectional study carried out in the central chest clinic (CCC) Colombo district among 552 new PTB patients >18 years to assess HRQOL, quality-adjusted life years (QALYs) and household cost at three patient encounters; at the initiation of treatment, at the end of two month treatment period and at the end of six month treatment period. The FACIT- TB was used to assess HRQOL and the utilities for calculation of QALYs were assessed by using locally validated EQ-5D -3L tool. Component III of the study was a cross- sectional comparative study to compare HRQOL and household cost of new PTB patients practicing daily Directly observed treatment (DOT) and weekly DOT in the Colombo district.

Results: The FACIT-TB was found to be valid and reliable in assessing HRQOL of PTB patients in the Sri Lankan setting. The model fit indices of confirmatory factor analysis revealed: Root Mean Square Error of Approximation =0.05, Standardized Root Mean Square Residual=0.07, Comparative Fit Index=0.94 and Non -Normal Fit Index=0.94 suggesting reasonable good fit between the FACITTB model and the observed data.

A total of 552 patients were enrolled in the study with 100% response rate. The mean age was 49.1 ± 16.2 years and 68.5 % were males. A majority were bacteriologically confirmed PTB [n=403 (73.0%)] patients. A total of 485 and 465 PTB patients completed the interview at the end of the two-month intensive phase and six month treatment period respectively with a final dropout rate of 15.7%. The TB treatment had a significantly (p=0.000) positive impact on the overall HRQOL and all sub-scale scores of PTB patients during the treatment period. When adjusted for the effects of confounding, overall HRQOL at the initiation of treatment [adjusted OR =1.075 (Cl: 1.049-1.102), p=0.000] was shown to increase the

likelihood of treatment success in PTB patients. The PTB patients gained 0.05 +0.07 QALYs during the six- month treatment period. The total household cost for treatment of a PTB patient was SLR 12332.94. The household cost of management of a PTB patient during the intensive phase was SLR 11295.80 and the household cost of management of a PTB patient during the continuous phase was SLR 1037.14. The direct cost constituted 43.5 % of the total cost while seeking clinic care and 52.5 % of the total cost while seeking DOT services during the intensive phase of treatment. The direct cost constituted 63.1% of the total cost during the continuous phase of the treatment and the transport cost constituted the major proportion of direct cost in all these instances.

Patients practicing weekly DOT had a significantly higher (p=0.000) transport cost. It was found that majority of patients [n=66, (55.7%)] practicing daily DOT were within less than one km distance to the DOT center. There was no significant difference in HRQOL in patients practicing daily DOT and weekly DOT. **Conclusion and recommendations**: The FACIT-TB is a valid and reliable tool to assess HRQOL of PTB patients in Sri Lankan setting. The anti-TB treatment has a positive impact on HRQOL of PTB patients. The PTB patients gained 0.05 +0.07 QALYs during the six - month treatment period. The total household cost of a PTB patient while seeking treatment was SLR 12332.94. There was no significant difference of HRQOL in patients on daily DOT and weekly DOT. The PTB patients on daily DOT had lower transport cost as the DOT centers were within walking distance.

Keywords: Pulmonary tuberculosis/ FACIT-TB/ Health-related quality of life/ Quality- adjusted life years/ household cost

0218.Shiyam, A.
Physical activity patterns, its environmental association and perceived barriers among school teachers in Kattankudy educational division.
MSc. Community Medicine – 2018   D 4707

Introduction: It is a well-known fact that prevalence of physical inactivity is rising in global level in all stages of life with significant association for increased noncommunicable disease burden.

Objectives: To describe the physical activity (PA) patterns, its environmental associations and perceived barriers for physical activity among school teachers in Kattankudy educational division.

Methods: A cross sectional descriptive study was conducted among 392 government school teachers in Kattankudy Educational Division, who was selected using a multistage cluster sampling method. A validated self-administrated questionnaire including "International Physical Activity Questionnaire (IPAQ)" -

Long version and "Physical and and social activity level, social and physical environmental factors, perceived barriers to PA
and other relevant data. The metabolic equivalent task (MET) in minutes per week was calculated to determine total PA and it was categorized in to sufficient an insufficient group. Data was analyzed using Statistical Software for Social Sciences (SPSS version 21.0). Obtained data was analyzed using descriptive statistics of mean, median, standard deviation, range, frequencies and percentages and inferential statistics of chi-square and a non-parametric test (Mann- whitney U) test. Significant level (p)was set at 0.05.

Results: The mean age of the sample population was 36.9 years (± SD 8.9). Majority of the study participants were female (81%), age more than 40 years (62%), Muslim (80%), married (85%), having at least two children (51%), monthly income. 20,000 to 40,000 Sri Lankan rupees, having a permanent job (92%), trained teachers (50%), residing in urban area (76%), and sitting more than 2 hours per day (68%). Nineteen percent of the participants had at least one chronic disease. It was found that each participant on average spends 3005.7 (SD+2706.7) MET-minutes total energy per week. The main contributor to the energy expenditure was engaging in home cleaning and gardening [1516.9 (SD+1618.9) MET-minutes per week]. People engaging in job, transport, leisure related activity was less. More energy was spent immoderate activity [2069.0 (SD±2173.7) MET-minutes per week] percentage of low, and high PA level was 15%, 48% and 37% respectively. Majority (85%) of the p; had sufficient level of PA. Majority of the houses belonged to low density (88%) < use diversity showed that most of the facilities were away from the participants Overall physical and social environment was less favorable to engaging PA. "I b time (no time)", "I need to rest and relax in my spare time (need rest)" "I've got you to look after (children)" expressed as more perceived barriers for engaging in PA. I PA level was significantly associated among young and not

having chronic disease Physical environment and perceived barriers were not significant with sufficient level of PA.

Conclusions and Recommendations: Despite the non- conducive environment, Kattankudy government school teachers had sufficient level of PA. Young teacher who not having chronic disease did not meet the sufficient level of PA. None of the perceived barriers to engaging PA. A separate intervention program has to be increase awareness on participating PA to young teachers. Policy makers has to b to consider the favorable environment to engaging PA when doing town planning in future.

Keywords:Physical activity, teachers, physical and social environment, perceived Barriers

0219. Sivaganesh, S.
Leprosy in Jaffna district: Case load, sociocultural factors , stigma and economic costs.
MD Community Medicine – 2016   **D 4013**

Introduction: Despite the achievement of national elimination target in Sri Lanka, leprosy continues to be a challenging issue in the Jaffna District with some endemic areas for several decades. Though there were improvements over the years in new case detection; issues related to social stigma and socio-economic conditions contributed to fluctuations in leprosy control in recent years. This study was designed to find out the caseload and issues regarding leprosy in the Jaffna District including its risk factors and problems faced by patients and their families.

Objectives: To determine the case load, outcome and risk factors of leprosy, and to describe the stigma faced by the affected patients, families and communities and economic cost of leprosy to the patients and their families in the Jaffna District.

Methodology: This study was conducted as four components using data collected for one year from 07.07.2015.

Component 1: Consisted of three parts (cross-sectional studies) which were community screening, caseload measurement and outcome measurement. In community screening, 4354 persons were screened from 1552 households in 27 different selected localities and 88 suspected cases were referred and followed up with the help of the area Medical Officer of Health (MOH). For caseload

measurement, data was collected from all new patients (41) diagnosed during study period using data extraction sheet. To measure the outcome, past five-year data was extracted from records of 183 patients maintained at RDHS office using a data extraction sheet.

Component 2: Consisted of two parts (cross-sectional studies) which were validation of two stigma tools and measurement of stigma. In the validation. English versions of the Internalized Stigma of Mental Illness (1SMI) and the Explanatory Model Interview Catalogue (EMIC) were translated to Tamil using standard methods. Internal consistency of both were demonstrated by Cronbach alpha using 60 patients who had been diagnosed during 2009-2013 were interviewed for ISM I and 100 persons for EMIC. The patients (above 12 years old), their family members above 12 years of age and the neighbours (above 12 years old) were recruited consecutively until the required number was achieved. The Test-retest reliability was demonstrated in 38 patients for ISMI and 53 persons for EMIC respectively. Both measurements were repeated in 10-14 days gap. Correlation coefficient was calculated to demonstrate Test-retest reliability.

For the measurement of internal stigma, all 109 patients who visited the dermatology clinic, TH, Jaffna during the study period were interviewed using the validated ISMI. For the measurement of stigma of others, 328 family members, 351 health staff and 402 neighbours were interviewed using the validated EMIC.Semi structured in-depth interviews were conducted with 32 persons using interviewer guides; written notes were made during the interviews which were audio recorded.

Component 3: Case- control study was conducted to determine the socio-cultural risk factors of leprosy with 97 cases and 291 controls by systematic random sampling using pre tested interviewer administrated questionnaires.

Component 4: Cross sectional descriptive study was conducted to describe the economic costs of the disease with 109 patients using a pre-tested interviewer administrated questionnaire.

Ethical clearance u-as obtained from the ethical review committee. Faculty of Medicine. University of Jaffna. Simple descriptive statistics. Chi Square test. Cronbaclrs alpha coefficient of reliability. Pearson's Correlation coefficient, bivariate analysis and Multivariate analysis were used to describe the results.

Results: Component 1: In the target population (7792), 88 (2.0%) suspected and 5 new leprosy cases (rate of 6.4/10000 of target population) were detected. Out of 41 newly detected cases (NCDR-6.96/100000), all monitoring indicators were higher than national average (54%MB cases. 12% child cases, 15% G2D and 46.3% female cases). MOF1 Chankanai had significantly higher caseload. Over the past 5 years, treatment completion rate varied between 83.3% in **2010 and 100% in 2012** and defaulter rate was 7.1%. Male patients defaulted more. MB patients had a significantly higher defaulter rate than PB patients (p value=0.025).

Component 2: Cronbach's Alpha of ISMI was 0.930 and of EMIC was 0.814. Repeatability of ISMI was 0.97 and of EMIC was 0.87. The mean score measured by ISMI of the leprosy patients was 2.43 (SD ±0.77). Mean score measured by EMIC of the family members was 10.25 (SD ±6.24). of the neighbours/community was 14.66 (SD ±7.31), and of the Health staff was 15.4 (SD ±6.0). The qualitative study showed a significant level of stigma among all types of participants.

Component 3: Most of the respondents were aged >15 years, Sri Lankan Tamil (99.2%) and Hindu (84.0%). Among the studied variables, most socio demographic factors, all house and environmental factors and most of the behavioural factors had statistically significant relationship with leprosy in bivariate analysis. Amongst those, crowded household, no access of drinking water within 30 minutes' walk from home, environment with jungle/shrub, exposure to jungle/shrub, exposure to leprosy patient, exposure to fishing, visits to leprosy affected area and unavailability of safe water source had statistically significant in the logistic regression final model.

Component 4: Among the study participants, only three had spent money from their pocket for medical care. For transport, they spent Rs. 110/- on average per visit and Rs. 150/- for purchasing food or drink (71 out of 109 participants). Due to leprosy 28 persons stopped their regular work; on average they lost Rs.500 per day due to leprosy. Out of the 64 (62.9%) accompanying persons 23 (35.9%) had to he absents from their work (15 out of 23) or school (8 out of 23) and only 15 lost their monetary income. Average total loss for a PB patient for clinic visits (maximum) was Rs.6840.00 and total loss for an MB patient for clinic visits (maximum) was Rs. 13680.00. Total I *loss for*.-I *PB patient s family* (if the patient lost the job) in 1

year was Rs. 189340.00 and of an MB patient's family (if the patient lost the job) in 1 year was Rs. 191620.00.

Conclusions: House visits for screening was effective in detecting new cases. Though NCDR was lower than national level, other monitoring indicators were high, indicating the gaps in implementing control activities. The Tamil version of ISMI and EMIC were consistent to measure stigma. Among the statistically significant risk factors of socio-demographic factors, house- environmental factors and behavioural factors, only crowded household, no access of drinking water within 30 minutes' walk from home, environment with jungle/shrub. exposure to jungle shrub, exposure to leprosy patient, exposure to fishing, visits to leprosy affected area and unavailability of safe water source had statistically significant risk factors after logistic regression. Both internal stigma and stigma of others are high in Jaffna District. Cost of leprosy was high for poor patients.

Recommendations: A mechanism need to be developed to ensure early case detection and regular treatment especially those who were detected as suspected cases. Validated Tamil versions of ISMI and EMIC are recommended to detect stigma related to leprosy of Tamil speaking populations in Sri Lanka. Detailed studies need to be done to detect the factors associated with high level of stigma in both patients and others to plan stigma reduction programmes, which in turn help to eliminate leprosy. Further studies need to be done to explore the possibility of an environmental reservoir or an animal like local reptiles as a source of infection. Provision of MDT can be arranged in the peripheral hospitals to reduce the economic costs of the patients and family.

Keywords: Leprosy, stigma, case-control study, Jaffna, out of pocket expenditure

0220.Sivashankan, J.T.

Effectiveness of a homemade supplementary food, in improving the weight gain of moderately acute malnourished children, between 2 to 5 years in Kopay medical officer of health area.
MSc. Community Medicine – 2014   **D 3692**

Background: Sri Lanka is on tract for the Millennium Development Goals (MDG) 4,5 on maternal and child health. This is achieved by the free health care service and the best primary health care network. Achieving reduction in the underweight, wasting and stunting (MDG 1) is still a challenge even with food supplementation and cash transfer programmme for the marginalized populations. Large regional disparities among the districts are an additional challenge. This study aims to assess the feasibility, acceptability and the effectiveness of a homemade supplementary food (HMSF) to improve the weight gain of moderately acute malnourished children (MAM) between the ages 02 to 05 years.

Methods: Quasi experimental study with a HMSF given to total number of MAM children (>-3SD to <-2SD (Standard Deviation) for Weight for Height) between 25 years, in Kopay Medical Officer of Health (MOH) area (n=275), and compared the effect on weight gain with that of simple randomly selected control group of MAM children of similar age in Uduvil and Nallur MOH areas (n=285) which were closely matching in socio democratic characteristics. Ethical clearance obtained from faculty of Medicine Colombo. The study period was from October 1st - December 31st 2014.

The Calculated sample size for each group= 263, after adding non responders it was=263+26=289 (Hulley etal 2013).

Amount of HMSF to be given decided after a test study (mean 90 gm). 50gm HMSF was given to the children daily as a snack with added sugar and scraped coconut (total=90gm= 500 kcal) in the intervention group for 3 months and monitored with weight and height measurements by the area Public Health Midwives (PHM). Basic socio economic characteristics as well as mothers' knowledge on child nutrition and their child care practices were assessed through an interviewer administered questionnaire. Data was analyzed using SPSS 21.

Results: There was a significant difference in the average weight gain throughout all 3 months in the intervention children (95%CI 0.095-0.578: p = 0.006:95%CI

0.046-0.530: p = 0.02 :95%CI 0.040-0.526: p = 0.022 respectively) with no difference between the two groups before the intervention (95%CI -0.059-0.416: p=0.14). More than 90% of the mothers in both groups practiced dietary diversification as recommended by World Health Organization. Ninety-three percent of the families adhered to the HMSF as per instructions. The Public Health Midwives 'perception was positive towards the feasibility and the acceptance about the programme in the community.

Conclusions: This HMSF is easy to prepare at home by the mothers and relatively cheap and could be recommended not only for MAM children under five years but also for underweight adolescents and pregnant mothers with BMI (Body mass index) <18.5 to prevent Low babies (Sivashankar J.T,2013).

Keywords: Moderately acute malnourished children (MAM), homemade supplementary (HMSF), under five year children, weight gain.

0221.Subasingha, S.A.D.I.
Work life imbalance and its relationship with the level of perceived stress among school teachers in Gampaha district.
MSc. Community Medicine – 2018   **D 4475**

Introduction

In recent years, there had been a remarkable attention to the work and family interface and stress among employees. As a result, the term Work Life Conflict (WLC) and Work Life Balance (WLB) emerged in recent literature. The changing nature of teachers' work in the twenty-first century and how it is controlled and accomplished, made a significant influence on Work Life Balance and psychological wellbeing of teachers. Nowadays, teachers had to play multiple roles in Sri Lanka. They undertake not only teaching but also problems associated with curriculum, students, parents and the school community. However, in Sri Lankan context neither prevalence nor relationship study related to Work Life Balance and perceived stress in school teachers has been carried out. So proposed research focused on examining the prevalence of Work Life Imbalance and its relationship with perceived stress among school teachers in Gampaha District.

Objectives

To determine the level of work life imbalance, perceived stress and the relationship among school teachers in Gampaha district.

Methods

A cross-sectional study was conducted in 392 school teachers from grade 6 to 13 in Gampaha district and multi stage cluster sampling method was used. A selfadministered questionnaire was used and it was adopted and modified from the Perceived Stress Scale (PSS-10), Family Work Conflict Scale and Work-Family Conflict Scale questionnaires. Data were analysed by SPSS. One way ANOVA, Welch test, Brown-Forsythe test and Pearson's correlation coefficient were used to assess the association.

Results

This study found that 75.3% of school teachers were having moderate level of Work Life Imbalance while 13% were having high level of Work Life Imbalance. Further it was shown that 75.5% of school teachers were having moderate level of perceived stress while 13.3% of them were severely stressed. Increase in Work Life Imbalance was correlated with increase in level of perceived stress.

Conclusions and Recommendation

This study gave insight regarding the magnitude of the Work Life Imbalance and stress among school teachers in Sri Lanka. Balance should be established between work load distribution, time and secondary activities, so as to inoculate efficiency among teachers and to improve the quality of education.

Keywords: Work Life Balance, work life conflict, perceived stress, school teachers in Sri Lanka, and work family conflict.

0222.Sudasinghe, S.P.B.H.
Prevalence, outcomes, quality of life and factors predicting postpartum abnormal glucose tolerance related to gestational diabetes mellitus Gampaha district.
MD Community Medicine - 2017   D 4325

Introduction/ Background

Objectives Gestational diabetes mellitus (GDM) is on the rise in parallel with ongoing obesity and diabetic epidemic. Its complications to mother and offspring can be minimized by early identification and proper management. Hence, identification of its burden is important.

To assess the prevalence, pregnancy outcomes, quality of life and factors predicting postpartum abnormal glucose tolerance of GDM among pregnant women in two medical officer of health (MOH) areas of Gampaha district.

Methods

This study consists of three components.

Component I: Community based longitudinal study to determine GDM prevalence among pregnant women in Gampaha and Dompe MOH areas. Study population was pregnant women with a period of amenorrhea less than 12 weeks at recruitment. Calculated sample size was 1600. This study was conducted in field based ante-natal clinics. A population survey indicated >95% pregnant women registration by Public Health Midwife. Required sample was obtained by cluster sampling with probability proportionate to size. Study instruments were interviewer-administered questionnaire, two-hour postprandial blood sugar (2hrPPBS), fasting 75g oral glucose tolerance test (75g OGTT). All responders underwent 2hrPPBS in the first trimester and those who had 2hrPPBS >200mg/dl underwent fasting plasma glucose; those >l20<200mg/dl proceeded to OGTT<16 weeks; all negatives were tested by 75g OGTT between 24-28 weeks. Negatives for GDM at 24-28 underwent 75g OGTT between 32-36 weeks. Venous plasma glucose was tested by oxidase peroxidase method. Component II: Prospective cohort study to determine maternal and offspring outcomes at selected intervals and quality of life at 32-36 weeks among women with and without GDM. Required sample was 131 GDM and 131 non GDM. Study participants were identified from component I; all diagnosed GDM were included as exposed group and a comparable group was included as nonexposed group. Study instruments were interviewer-administered questionnaires, WHOQOL-BREF questionnaire, fasting 75g OGTT and cholesterol.

Component III: Descriptive cross-sectional study using the same sample to identify predictive factors of abnormal glucose tolerance at two months and one year postpartum among women with GDM. Required 'sample for two-month was 86, and one year was 91. Data gathered in component II and III was used. Data analysis: Data was analyzed using SPSS. Percentages with 95% confidence interval(CI) were calculated. Relative risk (with 95% Cl) and odds ratio (with 95% Cl) were calculated depending on the study design. Multiple logistic regression models were used to adjust for effects of confounders.

Results

Component I: Total sample was 1600, non-response 4.2%(67); 1533 underwent 2hrPPBS with 40 exceeding 120mg. Of them 19 were identified as GDM <16weeks

; 134(8.38%) miscarried and were excluded except one with early abnormal OGTT. Of eligible 1381 for OGTT (24-28 weeks), 150 had GDM. Only 344 (27.9% of normal 1231) consented for third trimester OGTT, of whom 25 had GDM, yielding total 194. GDM prevalence at 28 weeks was 12.1% (95%CI= 10.4%-13.8%), at 36 weeks was not calculated as total at risk was not screened.

Component II: Recruited women with GDM were 194 and non GDM were 194. Responders of GDM were 169(87.1%) and non GDM were178(91.8%). General quality of life of women with and without GDM at 32-36 weeks was similar. Significant maternal and offspring outcomes by bivariate analysis were adjusted for age, parity and BMI by logistic regression. Significant outcomes were the presence of obstetric and/or medical complication during pregnancy (Adjusted OR(aOR)=1.8; 95%CI=1.1-2.7), pregnancy induced hypertension (aor 3.1; 95%CI=1.5-6.5), vaginal moniliasis within two months postpartum (aOR=4.9; 95%CI=1.4-17.4),breast-engorgement within two months postpartum (aOR =2.6;95%CI=1.026.4).birthweight>3.5kg(aOR=2.8;95%CI=1.4- 5.5), PB1J admission by prematurity (aOR=4.1; 95%CI= 1.1-15.1), impaired glucose tolerance at two-month postpartum (aOR=6.1; 95%CI=2.7-13.8) and abnormal glucose tolerance at two-month postpartum (aOR=9.1;95%CI=4.3-19.1). At one-year postpartum, only 68 with GDM and 70 without GDM participated

(39.7% of two months' participants).

Exclusive breastfeeding for six months (aOR=0.3; 95%CI=0.1-0.7) and diabetes mellitus (aOR=4.1;95%CI=1.1-15.7), impaired glucose tolerance (aOR=5.8; 95%CI=1.5-21.8), abnormal glucose tolerance (aOR=7.7; 95%CI:2.9-20.6) at one year postpartum were identified as significant outcomes.

Component III: At two months postpartum, of 169 women with GDM, 10.1%(17/169) had diabetes mellitus, 32.5%(55/169) had abnormal glucose tolerance (Diabetes=17, Impaired glucose tolerance= 36, Impaired fasting glucose=2).

At one year postpartum, 59 women with GDM underwent OGTT; 18.6%(11/59) had diabetes and 47.5%(28/59) had abnormal glucose tolerance.

Predictive factors of abnormal glucose tolerance at two months were 2hrPPBS<12weeks >97.5mg/dl (aOR=2.8; 95%CI=1.3-6.0), GDM diagnosis<16weeks (aOR=7.7; 95%CI=1.5-39.7), l hrOGTT>179mg/dl (aOR=3.1;

95%CI 1.5-6.4). Predictive factors of abnormal glucose tolerance at one year were 2hrPPBS<12 weeks>97.5mg/dl (aOR =8.4; 95%CI=2.3-30.3), physical activity (aOR= 0.2; 95%CI =0.1-0.8).

Conclusions and Recommendations

GDM prevalence is high. Adverse outcomes occurred in pregnancies complicated by GDM. One in ten with GDM had diabetes and one in three had abnormal glucose tolerance at two-month postpartum. Universal screening for GDM, close monitoring, mandatory postpartum OGTT are recommended.

Keywords: Gestational diabetes mellitus, prevalence, postpartum abnormal glucose tolerance pregnancy outcome, quality of life

0223.Suranga, M.A.
Knowledge and attitudes on sexually transmitted infections current sexual behaviors and factors associated among male students following fulltime courses in a Technical Training Institute.
MSc. Community Medicine – 2016   **D 4002**

Background: Sexually transmitted infections (STIs) including human immunodeficiency virus (HIV) continue to be a major health problem leading to acute illnesses, infertility, long term disability and death, causing psychological, social and economic burden on communities globally. Adolescent and youth are vulnerable to acquire STIs and HIV. A total of 22809 new patients with STIs were reported during the year 2015, while an increase of total new HIV infections and new HIV infections among the 15-24 year age group were seen during the past few years in Sri Lanka.

Objectives: The study was aimed to assess the level of knowledge, attitudes on sexually transmitted infections, current sexual behaviors and the factors associated with sexually transmitted infections among male students following fulltime courses in a technical training institute.

Methods: The study was an Institution based cross-sectional analytical survey, carried out among 427 male students of the Ceylon German Technical Training Institute in Moratuwa. The study instrument was a pre tested self-administered questionnaire with close-ended questions. The knowledge was assessed on a scale of 0-48, while attitudes were assessed using the Likert scale. The associations were analyzed using the Chi square test, taking $p<0.05$ as significant.

Results: Almost all the study participants (99.3%) had heard about STIs, and 96.6% were aware about HIV. However, only 30% of the respondents knew that infected people can be asymptomatic. The majority (84%) knew that STIs could be transmitted through unprotected sexual intercourse and 45.5% knew that STIs can be transmitted through oral sex. The knowledge that, having STIs will increase the chances of acquiring HIV infection was only seen in 38%, and only 40.4% of the participants knew about having one faithful partner as a preventive method of STIs. The majority of the participants were aware of the two methods of HIV transmission (90%) and prevention methods (84%). The majority (98.8%) had correctly identified unprotected sex with an HIV infected person as a mode of transmission of HIV, while 83.1% knew about mother to child transmission. The majority (86.2%) had correct knowledge that having one faithful partner would be a preventive method of HIV. Only 22% knew that ART given to infected mothers could | the transmission of HIV to the child. The GARPR indicator was 38.7% on universal knowledge HIV transmission. Overall knowledge score on STIs including HIV in the study participants found to be 'satisfactory' in 64.2%, and a 'good' knowledge score was seen in 18.2%. The n (78.8%) had positive attitudes towards STIs including HIV.

Around forty-three percent of the study participants had ever had sex, and the majority (had their first sexual experience in the age range of 19 to 22 years. The study participants w ever had sex during the past three months were engaged with commercial sex workers (2 girl friend (43.9%) and non regular casual partners (68.1%), and the condom use was 50.6%; them. Male to male sexual practices were seen in 2.7% and 28% had been under the influence alcohol, among the participants who had sex during the last three months. The increase total knowledge score was associated with the higher educational level (p=0.037). The participants who had ever used condoms had a better overall knowledge score (p<0.05). The higher le education was associated with favourable attitudes (p=0.034). Among the participants who had favourable attitudes, majority had not ever engaged in sex (p0.00l). The increase of the o knowledge score was associated with favourable attitudes (p=0.011).

Conclusions and recommendations: The awareness on STIs including HIV among the study participants was satisfactory, and majority had positive attitudes towards STIs including HIV. Almost half of them have premarital sex, and condom

users among the study participants was 50.6 % among participants who had sex during the past three months. Skill based sexual education containing prevention of STIs including HIV should be incorporated in to the recruitment curriculum old students in this institution. Sexual behaviours of the youth should be further evaluated.

Keywords: Sexually transmitted infections, human immunodeficiency virus, knowledge, attitudes Current sexual behaviours, Condoms

0224.Suranutha, A.S.
Factors associated with attendance by women of birth cohort of 35 years at well women clinic in medical officer of health area Kopay.
MSc. Community Medicine – 2015   D 4219

Background: Well Woman Clinics (WWC) were established to improve reproductive and sexual health needs of women over 35 years of age and to provide screening for common non-communicable diseases, i.e., hypertension, diabetes mellitus, cervical and breast carcinoma, which have become the major causes of death in women between 30 - 70 years of age. The well women clinic utilization in Kopay MOH area was less than 25% and reasons for underutilization of WWC among the study population are not well understood.

Objective: The aim of this study was to describe factors influencing the utilization of WWC by the women of Kopay MOH area in Jaffna district.

Methodology: A descriptive cross-sectional study was conducted among 380 women in the birth cohort of 35 years living in Kopay MOH area. A two-stage probability sampling method was adopted and data were collected via face-to-face interviews based on a validated questionnaire developed for this study on socio demographic characteristics, knowledge regarding the services offered at well women clinics and factors associated with utilization of clinic services. The coverage of well women clinics was assessed with its 95% confidence interval. The knowledge was assessed separately for hypertension, diabetes, cervical and breast cancer and also an overall knowledge score. The chi- square test (p-value < 0.05) was used to test significant association between variables.

Results: Some 33.95% (n=129) of sample (n=380) with 95% Cl 29% to 39%)., had utilized WWC. Some 50.7% (n=193), 66.5% (n=253), 75% (n=285) and 79.2%; n=301) of participants had good knowledge regarding hypertension, diabetes

mellitus, cervical carcinoma and breast carcinoma, respectively. Good overall knowledge regarding these conditions were demonstrated in 89.8% (n=275) of participants. Being informed about WWC by PHM or staff of health care institutions and presence of awareness on WWC showed highly significant statistical association (p=0.001) with the utilization of WWC. Invitation letter from MOH to utilize WWC, knowledge scores on screening of cervical and breast carcinomas and gross knowledge score regarding screening were also significantly associated with the utilization of the service. Having a positive family history of cervical carcinoma was almost significantly associated (p=0.05) with utilization of WWC at p<0.05. the study identified 'leaving of children unattended during clinic visits' 71.8% (n=273), 'visiting the clinic unaccompanied' 62.8% (n=239),'failure of recognizing the need of screening' 46.6% (n=177) and 'unavailability of female doctor[7] 62.4% (n=237) as important demotivating factors, while the 'no availability of a female doctor[7] 64.9% (n=163) was identified as the main reason in the non attending respondents.

Conclusion and Recommendation: findings demonstrated the low well woman clinic attendance rate by women of Kopay. Targeted health education about WWC and establishment of community based strategies are needed to improve the utilization of WWC.

Keywords: well woman clinic, Kopay, attendance.

0225.Suraweera, E.G.D. N.
Knowledge, attitudes and challenges faced at domestic level in managing plastic waste among main female householders in Medical Officer of health area Kalutara.
MSc. Community Medicine – 2016   **D 4008**

Introduction: Plastic waste is a growing problem in Sri Lanka and is aggravated in the absence of proper management system. Disposal of plastic waste has become one of the major environmental and health issue.

Objectives: To describe the methods, challenges faced knowledge and attitudes in managing plastic waste at domestic level among main female householders in Medical Officer of Health (MOH) area Kalutara.

Methods: A community- based descriptive cross sectional study was carried out among 630 participants. Twenty-one clusters of 30 subjects were selected randomly

by cluster sampling technique probability proportionate to size. The study instrument consisted of a structured interviewer administered questionnaire. Data entry, processing, and analysis were performed using the statistical package for social sciences (SPSS) 20.

Results: Majority of the respondents were Sinhalese (94%, n=578) and Buddhist (87%, n=536). The main female householders currently unemployed were 76.8 %(n=470). Significant proportion of the sample had completed their O/L 40.5 %(n=248). The mean age of the sample was 40 years (SD=12).

Burning of the plastic waste was the most common method practiced by them (72% n=444). Of the study participants 38% (n=233) hands over plastic waste to local authorities after separation done by 38%. Handing over to recyclers was done by 17 %(n=107).

The main challenge was unavailability of a convenient place to handover plastic waste (78%n=477). Most of the participants have good knowledge on plastic (78%n=477). Around 51% (n=312) of the sample had good attitude.

There was a statistically significant association between the level of education and the knowledge on managing plastic waste of the study group (p=0.000). There was no significant association between the knowledge and the disposal methods of the sample. The association between knowledge and total attitude score was significant (p=0.000).

Conclusion and recommendation: Despite the good knowledge majority in the sample (72% n=444) burn the plastic waste, availability of a proper plastic waste management system is the main challenge. Motivation the people for minimization, reuse and recycling of plastic together with implementation environmentally sound waste management practices can be considered timely need.

Keywords: plastic waste, main female householders, knowledge, attitudes

0226.Suwandaarachchi, A.S.

Preference, associated factors and the impact of a health education intervention on the caesarian section as a mode of delivery among primi pregnant mothers attending antenatal clinics of Medical Officer of health area Bandaragama.

MSc. Community Medicine – 2018 **D 4822**

Introduction: Increasing caesarian section (CS) rate is observed in the world, which has a significant negative impact of the health of the pregnant mother, family as well as the economy of the country.

Objectives: To describe the preference, associated factors and the impact of a health education intervention on the caesarian section as a mode of delivery among primi pregnant mothers attending antenatal clinics of Medical officer of health area Bandaragama

Methods: This Study had two phases. Phase 1 was a descriptive cross sectional study among 238 primi pregnant mothers who were in their second and third trimester, attending antenatal clinics in the Bandaragama Medical officer of Health area. Preferred mode of delivery (MOD) and associated factors was measured using the interviewer administrated questionnaire. This instrument was validated and translated to Sinhala and Tamil languages. Associated factors with preferred MOD were determined using chi square test. Significance level was set at 5%.

Phase 2 was a before and after comparison study. Total number of pregnant mothers who preferred CS (26) and another 26 pregnant mothers, who preferred vaginal delivery in phase 1 randomly selected to this phase. A health education intervention was conducted at 2 weeks of intervention and after the delivery. The change of MOD and actual MOD were measured respectively with Mc-Nemar chi-squared test.

Results: Response rate was 90%. Prevalence of preferred MOD for CS was 12% (95%: Cl 7.68% to 16. 32%).The factors significantly associated with CS were high maternal age (p=0.042), being a Sinhalese (p = 0.003) private job sector (p < 0.005) and the monthly income more than Rs 40,000 (p <0.005). Effectiveness of the intervention was assessed by the degree of change of CS from the beginning to, after the intervention which was statistically s at the 2 weeks after the intervention.

Conclusions: Health education intervention is an effective strategy to increase the aware pregnant mothers and reduce the rate of CS of the country.

Keywords: Caesarian section, preferred mode of delivery

0227.Talagala, I.A.
Risk factors, risk prediction and quality of life related to oesophageal carcinoma among adults in the Western Province.
MD Community Medicine – 2016   **D 4063**

Background: Risk factors of Oesophageal Carcinoma (OC) specific to Sri Lanka are important for implementing primary prevention. Owing to late symptoms and absence of routine endoscopic screening, delayed presentation leads to severe outcomes. Thus, developing a simple low-cost risk prediction tool to identify highrisk individuals based on population-specific risk will enable early diagnosis and treatment as secondary prevention. Though quality of life (QOL) is important in tertiary prevention of OC, its status following the initial treatment has not been assessed lately in Sri Lanka.

Objectives: To identify the risk factors of OC specific for adults in the Western province, to develop and validate a risk prediction model to identify high-risk individuals, and to assess the QOL of patients at diagnosis and one month after completing the initial treatment.

Methodology: Component one: A case-control study was conducted among 49 incident cases of OC recruited from the National Cancer Institute, Maharagama using a nonprobability sampling method, and unmatched hospital controls (n=196) excluded of oesophageal carcinoma recruited from the endoscopy unit at the National Hospital of Sri Lanka using an incidence density sampling method. Data were collected using an interviewer administered questionnaire at the patients' residence. Component two: A risk prediction tool to identify high-risk individuals was developed based on weighted scores derived from their risk factor profile and expert opinion. An independent case-control study was conducted among 30 cases and 138 unmatched controls recruited in the same manner as in component one for assessing its criterion validity against histological diagnosis of OC. Data were collected through an interviewer administered questionnaire. Component three: A cohort of 51 incident cases was followed up to assess their QOL at diagnosis and one month after completion of their initial treatment. Data were collected at the patients' residence using previously validated EORTC QLQ -C30 and EORTC OES 18 questionnaires.

Results: Bivariate analysis followed by logistic regression analysis identified the following risk factors of OC adjusted for confounding effect: age >65 years (OR: 4.0; 95% Cl: 1 1-14.2), family history of cancer (5.0; 1.3-19), sub-optimal consumption of fiber (3.6; 1.1-12.3), antioxidants (7.0; 2.2-22.5), deep fried food (6.7; 2.0-22.6), 'low' total lifetime sports and exercise activities (5.8, 1.5-23), 'high risk' alcohol consumption (11.7; 2.8- 49.4), ever betel quid chewing (6.1; 1.9-20), ever exposure to agrochemicals (6.6; 1.4- 30.3), consumption of pipe-borne water (5.6; 1.7-18.9) and ever exposure to radiation (4.6; 1.4-15.5).

Risk predictors in the newly developed risk prediction tool were all the significant risk factors in the logistic regression plus ever tobacco smoking. The tool demonstrated valid predictions (96.7% sensitivity; 84.1% specificity; AUC=0.97; 95% Cl: 0.94-0.99) to identify high-risk individuals for OC at 34.5 cut-off.

On a scale of 0-100, the overall health status/QOL (mean score=49.8; SD=22), and role (42.2; SD=34), physical (53.1; SD=29), emotional (53.4; SD=26) and social functioning (57.2; SD=23) were relatively low at diagnosis, which further deteriorated (difference >5 points) following the initial treatment ($p<0.05$). Dysphagia (mean=54; SD=27) was the main symptom at diagnosis, which improved significantly ($p<0.05$) in contrast to dry mouth (mean=39.2; SD=34) that worsened ($p<0.05$) following initial treatment. Family support and financial difficulties were adversely affected ($p<0.05$) during the initial treatment.

Conclusions and Recommendations: Risk factors specific for OC were mainly lifestyle related including a few explained by environmental factors. To minimize delayed diagnosis, the risk prediction model should be implemented to identify and prioritize high- risk individuals for endoscopy screening. The deterioration of several dimensions of QOL of patients following the initial treatment highlights the need for preserving and improving it in OC management.

Keywords: Oesophageal carcinoma, risk factors, screening, risk prediction, quality of life

0228.Ubeysekara, N.H.

Prevalence of unhealthy lifestyle practices, risk factors for physical inactivity and the effectiveness of an intervention to improve physical activity among government school Teachers in the Southern Province, Sri Lanka.
MD Community Medicine – 2017   D 4327

Introduction

Four main unhealthy life styles; unhealthy diet, physical inactivity, tobacco and alcohol consumption and psychological stress lead to common chronic noncommunicable diseases (NCDs); cardiovascular diseases, cancer and diabetes. Physical activity is considered as one of the commonest unhealthy life styles. Objective of this study was to determine the prevalence of unhealthy life styles, risk factors for physical inactivity and to evaluate the effectiveness of an intervention package aimed at improving physical activity among government school teachers in the Southern province

Methods

This study consists of 3 components.

A descriptive cross sectional study was conducted to determine the prevalence of unhealthy lifestyles among government school teachers. Sample size of 651 was computed using design effect of 2.2 to inflate the sample size. By using cluster sampling technique 93 schools (clusters) with seven teachers/school was selected applying probability proportionate to the size of the population and the functional type of the schools. Self- Administered Questionnaire 1 (SAQ I) [which was based on WHO STEP survey questionnaire] was used to assess lifestyles and GHQ-12 to assess psychological stress.

A case control study was conducted to determine the risk factors for physical inactivity. Study population consisted of those with physical inactivity as cases and the physically active group as controls. Simple random sampling technique was used to select 105 from among 252 physically inactive group and 105 from among 399 physically active groups identified in prevalence study. Data on risk factors were collected using SAQ II to assess knowledge and attitudes on healthy life styles and SAQ III to assess the environmental factors related to physical inactivity. Weight, height, BMI, waist circumference, blood pressure and fasting blood sugar were assessed. Based on bivariate analysis variables with a p value of <0.25 were

considered for multivariate logistic regression. Results were expressed as OR, and 95% Cl and the p values.

As component three an intervention package, consisted of two educational sessions, group discussion, physical activity demonstration, physical activity calendar, and booklet and health messages was developed to improve physical activity. A cluster randomized trial was conducted to determine the effectiveness of the intervention. Study population consisted of teachers of the selected clusters (schools) from the descriptive study. Twenty-four clusters with seven/cluster were selected randomly from 86 eligible clusters and randomized into intervention (IG: 12 clusters) and control (CG: 12 clusters) groups using simple randomization technique. For the pre assessment, information obtained from SAQ 1, SAQ 2 and GHQ 12 of component 1 were used. Intervention package was given to the IG and followed up for six months while CG did not receive any intervention. Post assessment data were collected using above questionnaires in both groups. To test the effectiveness of the intervention, between group comparison in pre/pre and post/post assessments were done using chi squire test and within group analysis to compare pre/post assessments of IG and CG were done using McNemar's Chi-Square test. Results: Proportion of females in the sample was 77% (n=501). Majority (n = 488, 75%) of participants were >40 years of age. Prevalence of current smokers was 1.5% (95% Cl: 0.8- 2.5%), smokeless tobacco 0.9% (n=6) and current alcohol use was 12.1% (95% Cl: 9.7- 14.6%). Prevalence of low fruit and vegetable consumption (<5 servings per day) was 66.7% (95% Cl: 63.9 -69.1%; n=433) and adding salt to rice while cooking was 38.2%; 95% Cl: 34.7- 42.2% (n=249).

Prevalence of physical inactivity and psychological distress were 38.7% (95% Cl: 34.9 - 44.2%; n=252) and 23.3% (95 % Cl: 20.3 - 26.5%; n=152) respectively.

Age >40 years (OR=3.18; 95% Cl: 1.44 -6.9%), using inactive modes of transportation (OR=5.61; 95% Cl: 1.87 - 16.8%), non-availability of facilities for sports and physical activities in workplace (OR=2.09, 95% Cl: 1.06 - 4.15%) and not being involved in exercises or sports training sessions at school (OR=2.07, 95% Cl :1.1 -3.9%) were identified as independent risk factors for physical inactivity by multivariate regression analysis. There was a significant improvement in the proportion of physically active participants (56% to 77.4%, p=0.003) in intervention group compared to control group after 6 months duration.

Conclusions and recommendations: The prevalence of unhealthy life styles especially low fruit and vegetable consumption (66.7%) and physical inactivity (38.7%) among participants was high. Of the four, three risk factors for physical inactivity were modifiable and the developed intervention package was effective in improving physical activity among teachers.

Recommend provision of supportive environment and motivation for the use of active modes of transportation for the teachers to be more active.

Keywords: Unhealthy Lifestyles, Physical inactivity, Intervention, Teacher

0229.Udugama, D.G.
Psychological distress, health related quality of life and socio-demographic factors among inmates in homes for the elderly in the Colombo district.
MSc. Community Medicine – 2015   D 3702

Introduction : Since Sri Lanka is facing a period of rapidly ageing population, more attention and resources are needed to take care of its elders. Albeit very little is known about prevalence of psychological distress and health related quality of life of the elderly in homes for the elders.

Objectives: To assess the prevalence of psychological distress and health related quality of life of inmates in homes for elders in the Colombo district and to describe their association with socio-demographic characteristics.

Methods: A descriptive cross sectional study was done using a sample of 330 inmates aged 60 years and above of age. It was selected through two stage probability proportionate to the size cluster sampling method from the homes for elderly in the Colombo district. The tools utilized for the assessment were the General Health Questionnaire-12 and Short Form- 36. Pre tested instruments were interviewer administered. Chi-square test was used to assess the association of psychological distress and the t- test statistics was used to compare the mean summary scores (PCS-36 and MCS-36) of socio-demographic subgroups of the elderly population.

Results: Majority of the inmates in the homes for elderly are either unmarried or widowed females without any mode of income. The prevalence of psychological distress was 43.3% (GHQ score > 2) which was higher than the previous researches in Sri Lanka. Both psychological distress and health related quality of life were not significantly associated with any of the socio-demographic factors, but a significant

association was noted with the duration of loneliness amongst divorced, separated and widowed elders.

Poor health related quality of life was apparent with low mean score and in comparison with studies done in other countries.

Conclusions and Recommendation: Inmates of the homes for elderly in Colombo district have poor health related quality of life (HRQoL) as well as high level of psychologica distress. Thus, there is urgent necessity for the development of a mechanism to further identify the modifiable factors associated with both psychological distress and HRQoL and develop and implement new strategies to improve HRQoL in these elderly.

Keywords:The Elderly, The Health Related Quality of Life Psychological Distress

0230.Vijewardane, K.D.S.C.
Non-compliance with treatment and disease related stigma and factors associated, among patients treated for pulmonary tuberculosis at the Central Chest Clinic, Colombo.
MSc. Community Medicine – 2014   D 3926

Introduction: Tuberculosis (TB) is a major threat to the health of the people worldwide. Sri Lanka too is facing challenges in controlling it, where treatment compliance is of utmost important especially in preventing drug resistant TB. The stigma related to TB is a hidden burden of disease causing non-compliance. The objectives of the study were to describe the proportion with non-compliance to treatment, extent of perceived disease-related stigma and the associated factors, among patients receiving treatment for pulmonary tuberculosis at the Central Chest Clinic, Colombo.

Methods: This was a descriptive cross sectional study conducted at the Central Chest Clinic (CCC), Colombo. The study population consisted of patients diagnosed with pulmonary TB, aged over 15 years, who have been taking treatment for a period of two months or more, from the CCC.

Study sample consisted of 426 tuberculosis patients. By considering the total number of clinic attendees per day, the duration of data collection, previous data bases of the CCC and discussing with the experts at NPTCCD, systematic sampling method was used. Approximately 18 patients were interviewed per day, where

every fourth patient fulfilling the eligibility criteria was selected from the daily clinic attendance register.

An interviewer administrated questionnaire was used to collect data and data was analyzed using SPSS 20.0 statistical package.

Results: Mean age of the study group was 47.52 (SD=15.55) years with a range of 15 - 85 years and the group consisted of 310 (72.8%) males, 80.3% (n=342) were married and highest proportion of the study participants (n=187; 43.9%) were educated up to grades 6 -11. Of the participants 7.3% (n=30; 95% CI=4.8%-9.8%) were non-compliant with anti-TB treatment. Among the study participants, 61.4% (n=261; 95% Cl 57.1%-65.7%) reported as having the perception of being stigmatized. Residing in urban sector-slum areas (x^2=7.5869, df=2, *p*-0.023), having poor knowledge about TB and its treatment (x^2= 4.366, df= 1, p= 0.037), not visiting DOTS provider (x^2= 4.012, df=l, p=0.045) and spending 500 rupees per clinic visit or more for travelling and foods (x^2 = 4.046, df=l, p=0.044) were significantly associated with non-compliance.

Male sex (x^2=63.84.df=l, p=0.0001), low education level - passing below GCE O/L (X^2=63.84.df=l, p=0.0001), being employed (x^2=63.84.df=l, p=0.0001), being a current smoker (X^2=63.84.df=l, p=0.045) and current consumption of alcohol (x^2=63.84.df=l, p=0.045) were significantly associated with the perception of being stigmatized.

Conclusions and Recommendations: Treatment compliance can be improved by giving adequate knowledge about TB and its treatment to patients, encouraging patients to visit DOTS providers and paying more attention to patients residing in urban sector-slum areas. Healthcare providers should be made aware about the disease-related stigma and take every step to minimize it by raising awareness among general public, which will prevent non-compliance associated with stigma. This will help to optimize the management of TB to achieve the national targets.

Keywords: Tuberculosis, non-compliance, stigma

0231.Vithanage, V.C.

Factors associated with caregiver strain in children with autism spectrum disorder (ASD) attending autism clinics in Western Province.
MSc. Community Medicine – 2015   **D 3928**

Background: The primary caregivers of children with Autism Spectrum Disorder (ASD) are likely to experience more strain and stress than caregivers with other developmental disabilities. Although previous studies identified various predictors of caregiver strain, studies are lacking in local context. Therefore, objective of this study was to assess the level of caregiver strain and associated factors to ensure well-being of both caregivers and care recipients.

Method: A hospital based descriptive cross sectional study was conducted at autism clinics of Lady Ridgeway Hospital (LRH) and Faculty of Medicine, Kelaniya. Non-probability consecutive sampling method was used to select 294 eligible primary caregivers of children between 1-12 years of age with a diagnosis of ASD. Data was collected by an interviewer administered questionnaire. Caregiver Strain Questionnaire (CGSQ), General Health Questionnaire -12 (GHQ 12) and Brief COPE questionnaire was used to assess caregiver strain, psychological distress and coping strategies respectively. Chi square test was used to assess statistical significance of associated factors. A P value less than 0.05 was considered as statistically significant.

Results: In the study sample, majority (61.8%) of primary caregivers had moderate level of caregiver strain. Caregiver strain was significantly associated with age ($p<0.001$), educational status ($p=0.003$) and psychological distress ($p<0.001$) of the primary caregiver, age of the autistic child ($p=0.002$), number of siblings ($p=0.002$) and distance to the hospital ($p=0.001$).

Conclusions: Caring for children with Autism Spectrum Disorder (ASD) constitute a significant burden and psychological distress on caregivers of affected children. There are number of factors associated with caregiver strain, which are important when developing long term care plan for caregivers.

Keywords: Autism Spectrum Disorder (ASD), Caregiver   Strain, Developmental Disorders, Psychological Distress

0232.Walpita, N.B.
Knowledge, attitudes and associated factors on healthy ageing among nurses aged 40 to 60 years in Teaching Hospitals of Colombo district.
MSc. Community Medicine – 2018   **D 4698**

Introduction/ Background- Population ageing is evident in Sri Lanka and worldwide which has many implications. Concept of healthy ageing enables to convert ageing from a burden to a resource. It can be achieved through life course approach. Assessing knowledge on healthy ageing among different age groups is vital. Nursing officers are service users as well as service providers. Assessing their knowledge and attitudes regarding healthy ageing is essential.

Objectives- Study was conducted with an objective of assessing knowledge, attitudes and associated factors on healthy ageing among nurses aged 40 to 60 years in teaching hospitals of Colombo district

Methods- A descriptive cross-sectional study design was conducted. The sample was selected among nursing officers based on inclusion and exclusion criteria in nine teaching hospitals of Colombo district. A self-administered questionnaire with face and content validity was administered to 426 nursing officers selected using simple random sampling. The data was collected and analyzed by the principal investigator. Knowledge was assessed using a scoring system. The associations were analyzed by Chi square test using SPSS statistical package, version 22.

Results- The average knowledge score for life style factors was 68.1 % while average knowledge score on elderly care services was 65.7%. Statistically significant association among knowledge score on life style factors and marital status was found. Knowledge on elderly care services was not significantly associated with sociodemographic factors. Majority (47.9%) of the participants attitude was to retire at 60 years of age. Approximately 51% of the participants had not planned on any financial management after 60 years of age. More than 50% of the study participants were not engaged in physical exercises as a daily routine. Nursing officers had a good knowledge score on diet related factors. Nursing officers considered that maintaining social contacts is important to obtain healthy ageing.

Conclusions and Recommendations- Nursing officers had satisfactory knowledge on life style factors and elderly care services. Further improvement of knowledge regarding financial planning, physical activity, social contacts and elderly home

modifications should be focused to promote healthy ageing among the nursing population.

Keywords- healthy ageing, nursing officers, knowledge, attitudes, associations

0233.Walpita, W.D.Y.N.
Resilience at work , its correlates and association with work performance among Nursing Officers at government hospitals in the district of Colombo. MD Community Medicine – 2016   D 4224

Introduction: With occupational stress among Nursing Officers (NOs) becoming a universal phenomenon, the concept of 'resilience at work 'has received attention as a preventive measure. In the absence of valid tools to measure resilience, its current status, correlates and relationship with performance are unknown entities in Sri Lanka.

Objectives: To describe the 'high' level of resilience at work among NOs in the district of Colombo using culturally adapted Resilience at Work- Sinhala (RAWS) tools , its correlates and the association with nursing performance using modified Sinhala version of six-dimension scale (6-D scale).

Methods: A validation study was conducted among 438 NOs selected from three go\ hospitals in Kalutara district to assess judgmental and construct validity, and r of the translated and culturally adapted RAW-S. Sample was randomly split t< performing exploratory (EFA) and confirmatory (CFA) factor analysis. Using sample, 6-D scale was revalidated using Principal Component Analysis (PCA) .A qualitative study (literature review, focus group discussions, and key informant interviews) was conducted to identify the developable correlates relevant to S using thematic analysis.

A cross sectional study was conducted among 855 NOs representing go\ hospitals in Colombo district, recruited through multi-stage sampling using probabilityproportionate-to-size technique to select 230 clusters (one hospital unit of four NOs), stratified by work strata. NOs in executive and special grade posts and below district type B hospitals were excluded. Data on resilience at work and correlates were collected using RAW-S and self-administered questionnaires, In a sub sample of randomly selected 230 NOs (one NO per cluster), work performance was assessed using 6-D scale. Bivariate analysis following logistic regression modeling determined the significant correlates with adjustments for confounders

Association between work performance and resilience was assessed using bivariate correlations and multiple linear regression based on tool scores.

Results : Original seven factor model emerged well from RAW-S data during EFA. Its validity was established during CFA. The reliability was satisfactory (Cronbach's alphas 0.88; test-retest reliability coefficients.81). Mean RAW-S score of 855 NOs participated in the main study was 69.6 (95% CI=68.9-70.3), which significantly differed by their working strata (p<0.001). The prevalence of 'high', 'moderate' and 'least' resilience among NOs was 28.4% (95% CI=25.4-31.6), 55.6% (95% 01=52.1-58.9) and 16% (95% 01=13.7-18.7), respectively. After adjusting for confounders, the significant correlates of resilience at work were: frequent meditation practice (OR=1.53; 95% 01=1.11-2.13),spending >3 hours per week on recreational activities (OR=1.63; 95% 01=1.18-2.27), attending
> 3 social events per three months (OR=2.04; 95% 01=1.47-2.84), being 'satisfied' with the facilities available to perform job safely (OR=1.70; 95% 01=1.20 -2.42), having 'adequate' support from supervisors (OR=1.53; 95% 01=1.09-2.13), having Tow' physical demands (OR=1.53; 95% 01=1.09-2.15), having a Tow' negative affect (OR=1.71; 95% 01=1.15-2.55) and 'high' self-esteem (OR=1.55; 95% 01=1.09-2.22). Modified 6-D scale was shown to be valid and reliable (Cronbach's alpha=0.83; test retest coefficients.82) in local setting. A strong positive correlation was seen between resilience and nursing performance (r=0.87; p<0.01), with six subscales of RAW-S predicting 70% of the variance in performance.

Conclusions and recommendations: RAW-S is simple and valid as a self assessment and monitoring tool among NOs. Not more than 30% of NOs showed 'high' level of resilience at work, indicating ample opportunity for improvement. The identified correlates indicate that resilience building programmes should primarily focus on developing psycho-social competencies of NOs including psychosocial support available in work environment. Its strong association with performance should be used for advocating positive health promotion of NOs than focus on stress management through coping skills.

Keywords: Resilience at work, Nurses, Correlates, Nursing performance

0234.Warnakulasooriya, P.H.
Quality of life, household economic cost and associated factors of primary caregivers having children with congenital heart diseases awaiting cardiac surgery attending Lady Ridgeway Hospital.
MSc. Community Medicine- 2018   **D 4813**

Introduction and background: Congenital heart disease (CHD) is the commonest type of birth defect of which the estimated prevalence is around 8-12/1000 worldwide. CHDS are the major cause of serious morbidity and mortality in worldwide. Nearly 4% of all neonatal deaths are due to CHDs. A considerable number of children need surgical or catheter based treatment within first year of their life. Annually, more than thousand cardiac surgeries and cardiac catheterizations are done in the Lady Ridgway Hospital for children (LRH), which is about 55% of annual need of cardiac intervention. Over 90% of these CHDs could be cured and these children would reach adulthood without further complication with timely, and proper treatment if they would have been undergoing surgery at proper time.

Care givers of children with CHDs are easy victims of low quality of life (QOL) and with economic burden, like caregivers of children with any chronic disease. Assessment of level of quality of life and economic burden, of these caregivers and its associated factors is vital to recognize high risk caregivers early, so that necessary intervention could be planned and implemented for those who are affected, being better outcome to the children as well.

Objectives: To determine the quality of life, household economic cost, and associated factors of primary caregivers having children with congenital heart diseases awaiting cardiac surgery attending cardiology clinics in Lady Ridgeway Hospital, Colombo.

Methodology : This study was carried out as an institution-based descriptive cross-sectional study over a period of three months. Four hundred and twenty-two care givers of children with congenital heart diseases who were awaiting cardiac surgery attending Lady Ridgeway hospital cardiology clinic, who were fulfilling the inclusion and exclusion criteria were included in this study. An interviewer administered questionnaire and data extraction form were used to collect data. QoL WHO BREFF scale were used to assess overall parental QoL mean score level in all four domains. Economic cost was assessed by a set of questions developed based

on previous studies, surveys, and expert opinions. Mean values were used to describe the variables, while associations between key variables were tested by independent sample test for the amalgamated binary categories.

Results: The response rate was 99% Most of the care givers were (98.5%) parents; and majority (89.3%) of them were mothers. Most were in the 30 to 39-year age category and mean age was 33.4 years; 58% of them had an educational level above GCE O/L; and 75% were unemployed. Out of the care givers 58% of them received less than Rs. 30,000 monthly incomes. None of the care givers received any financial support from any organizations. The children attending the clinic were mostly girls (53.6%), mean age was 39.4 month with a range of 7 to 86 month. Almost all children eligible to attend school were going to Scholl. Atrial Septal defect was the commonest acyanotic heart disease and Tetralogy of Fallots was the commonest cyanotic heart disease found in this population. Out of the population 13.5% had Down's syndrome (Trisomy 21) and 77% of them were under nourished. Most of the clinic attendees were from more than 50 km distance with range of 4 to 400 km distance. Commonest mode of transport was public transport. Median transport cost per clinic visit was Rs. 1000 with 600 to 2000 Interquartile range (IQR). Median direct expenditure per clinic visit was Rs. 1800 with 1175 to 3000 IQR. Out of all care givers, 28.7% of the care givers were falling in to catastrophic expenditure during that particular month of clinic visit .1.9% of caregivers have lost their employment due to child caring, which all were females. Mean waiting time per clinic visit was 53 minutes with 15 minutes to 129 minutes.

Mean score of the QoL was comparatively low in all domains except in social relationship domain. QoL was associated with age, educational level, marital status, number of children, income of the care givers, type of the heart disease, postponement of the surgery and significantly associated with psychological domain when the time reaching for the surgery date($p<0.05$).

QoL had no association with the type of the care giver, gender, ethnicity and religion, age of the child, schooling, presence of co-morbidities ($p>0.05$). There was statistically significant association with distance to travel and transport cost ($X2=25.14$, $p=0$), and there was no significant association between of income and expenditure.

Conclusions: Parents of children with CHDs are experiencing varying degrees of QoL, which are related to age, educational level and marital status, number of

children and income of the care givers and type of the heart disease, postponement of surgery and early reaching of the surgery date. When long term care for children with CHDs is planed these parent, related factors should be considered for better outcomes.

0235.Weerakoon, W.M.K.P.
Electronic and electrical waste and its management among grade ten students in medical officer of health area Nivithigala, current disposal modalities, knowledge, attitudes and its correlates.
MSc. Community Medicine – 2016   **D 3993**

Background Information: Economic and social development due to technological and industrial revolution has led to the high demand for the production and consumption of Electronic and Electrical equipment's. To achieve the desired waste management, community participation is essential as it should start from the household level.

Objectives: This study was done to describe the current disposal modalities, knowledge and attitudes on e- waste and its management and to determine its correlates, among grade ten students in the MOH area of Nivithigala.

Methods: A cross sectional study was conducted among all 570 students in type 1AB, 1C and type 2 schools in Nivithigala MOH area without sampling, using pretested self-administered questionnaire. Analysis was done descriptively and associations were assessed by using chi- squared test at 5% significance level.

Results: High usage pattern of equipment's at household level was found among two thirds of the study participants. With regards to disposal, 32.5% store their ewaste at home, 25.8% recycle the e- waste, and 22.1% dump the e-waste into a garbage pit. However, 65.5% positively responded that they could promote safe practices among the family members. Among the respondents 55.6% (n = 304) had satisfactory knowledge while 54.5% (n = 298) had unsatisfactory attitude level on e-waste and its management.

Conclusions and recommendations: Having a satisfactory attitudes on e-waste and its management was significantly associated with the satisfactory knowledge level (X^2 = 27.9, p < 0.001). A supportive environment should be created to

improve the knowledge and attitudes of students while encouraging active participation in e-waste management in the households.

Keywords: E-waste, Knowledge, Attitudes, Disposal modalities, School children

0236.Weerasinghe, K.D,K,P,
The knowledge on depressive disorders, utilization of information sources and associated factors among patients followed up for depression at general psychiatric clinics of the National Institute of Mental Health.
MSc. Community Medicine – 2017   D 4496

Introduction -Depression is a widely prevalent, highly disabling mental illness affecting over 322 million people globally. Psycho-education has been shown to diminish the severity of the symptoms and reduce the rate of relapses among patients with depression. Therefore, measuring the knowledge attained by patient as well as describing how information sources are utilized by them in search of information is vital in optimizing the management.

Objective- To describe the knowledge on depression, utilization of sources of information and its associated factors among patients followed up at general psychiatric clinics of the National Institute of Mental Health.

Methods - A cross sectional study was conducted among 385 patients with depression followed up at general psychiatric clinics of the National Institute of Mental Health. All the eligible patients who attended the clinic during the period of data collection were recruited. An interviewer administered questionnaire was used to collect data. Findings were described using frequency tables and significance of associations tested using the Chi square test.

Results -The level of knowledge on depression was good among 23.1%, satisfactory among 57.1% and poor among 19.7% of patients. Being Sinhalese (p=.027) and being educated beyond primary (p=.001) were significantly associated with high level of knowledge. Among respondents 97.9% almost always used the treating clinician as the source of information while only 4.4% claimed to use internet to seek information on depression. Only 29.6% of them had ever come across any form of reading material on depression and only 4.9% were currently in possession of any. Although only 7.5% of them had ever been at a health education session, 44.8% of those who were exposed said the knowledge imparted at the

session was extremely useful and 86.2% of them perceived it to be an extremely credible source.

Conclusions and recommendations - The level of knowledge on among the respondents was satisfactory. Clinicians were the most often utilized source of information. Impersonal sources like internet are seldom used by them. Conducting health education sessions and distributing printed material written in the native languages among patients can improve the level of knowledge further.

Keywords: Depression, Knowledge on depression, Information sources, Information seeking.

0237.Weerasinghe, W.M.P.C.
Prevalence and associated factors of depression and its health seeking behavior among end stage renal disease patients on hemodialysis in government hospitals n the Kurunegala district.
MSc. Community Medicine - 2018   **D 4825**

Introduction: Depression is the main psychological issue among ESRD patients who are on hemodialysis which affect adversely on medical outcome of the disease. Objective of this study is to determine the prevalence and associated factors of depression and the health seeking behavior among patients with end stage renal disease on regular hemodialysis in government hospitals in Kurunegala District.

Methods: Population of 163 patients at ESRD on hemodialysis participated in this descriptive cross-sectional study which was conducted in hemodialysis centers of TH Kurunegala, BH Nikaweratiya and DH Polpithigama. Interviewer administered questionnaires were used to collect socio demographic, disease related and dialysis service provision related data and CESD was the screening tool for depression. SPSS 23.0 was used for analysis. To find associations with depression Chi square and Fisher's exact tests was used.

Results: Among 91.57% of the study population who responded 69.3% had positive depression (score > 16) to CESD. Lower level of education (p = 0.015), currently unemployed (p = 0.48), longer duration since diagnosis of ESRD (p=0.006) and higher CKD symptom burden (p < 0.001) showed statistically significant positive associations with depression. Lowest patient satisfaction score received for the "quality and completeness of information" domain (mean = 1.77 / 4, SD = 0.51). Majority were willing to reveal psychological problems to family members (n =

136, 83.4%) and were happy to be screened for psychological status (n = 147, 90.2%) and preferred western medical treatment for mental health problems at the same CKD clinic (n= 73, 44.8%). Only 7(4.3%) among study population had ever been seen by a psychiatrist.

Conclusions and recommendations: Its recommended to provide psychological screening, for patients at ESRD on hemodialysis at identified points in clinical course and provide appropriate management as far as possible at the same CKD clinic. Competency of identifying such issues need to be improved among health staff. Protocols for symptomatic management of psychological conditions should be provided to all treatment-centers.

Complete and accurate information should be provided to patients at the beginning of dialysis and educate responsible family members on detection and response to psychological issues of the patient.

Keywords: CKD, ESRD, Hemodialysis, Depression, Health-seeking-behavior

0238.Welgama, D.C.
Coverage of the different service provisions for selected non communicable diseases screening in the medical officer of health area Kuruwita.
MSc. Community Medicine – 2018   D 4699

Background: Non communicable diseases (NCDs) are emerging global pandemic with changing life style and environment. Programmes and interventions were introduced globally to combat it. Screening and Health promotion are major strategies of prevention of NCDs. Assessment of community level coverage of those programmes is mandate for planning for new interventions based on successfulness of implemented programmes as it reflects both gaps in service delivery and population health literacy.

Objective: The purpose of the study is to determine the coverage of the different service provisions for non-communicable diseases screening in the medical officer of health (MOH) area Kuruwita.

Methodology: A descriptive cross sectional study was conducted in 35 to 65 aged cohort lived in Kuruwita MOH area. Two stage cluster sampling was implemented to recruit 360 participants out of them. Primary sampling unit was Grama Niladhari (GN) divisions, 30 out of 39 GN divisions were selected by random sampling. Secondary sampling unit included 35 - 65 years aged individuals. Interviewer

administered questionnaire that contain socio demographic data, direct observational check list and questions to assess the level of behavioral change based on HICDARM model was used. Percentage population coverage for selected NCD related services were calculated.

Results: Out of the total population 37.4% (Cl 32.3-39.9) was diagnosed as having one or more NCDs, 26.1% (Cl 21.5-30.66)) was never screened and rest was screened negative population. About 8.4% (Cl 5.51-11.28) reach health system 5 times but full screening package is delivered only on 0.06% (Cl -1.5 - 1.6). More than half of the population screened on hypertension (58.4%, Cl 51.7 - 65.0) and diabetes (50.3%, Cl 43.6-56.9) at least once in their life time. Majority (93.5%, Cl 88.0-98.9) had never undergone clinical oral examination. Only 27.8% (Cl 21.3 - 34.3) of the population received systematic screening while 32.3% (Cl 25.7 - 38.8) got opportunistic screening.

The level of behavioral change varied from highest; abstinence from alcohol as healthy behavior (m = 43.84, SD = 25.58) and lowest; regular exercise for 30 minutes (m = 19.11, SD = 19.57) as a healthy behavior, when analyzed by modified Likert scale based on HICDARM model.

Conclusion and recommendation: NCD screening progrmme should be modified with new strategies to catch the remained one-fourth of the population and opportunistic/systematic single package should be introduced.

Gaps of behavioral change regarding NCD related lifestyle risk factors should be filled and reasons for not adhering the behaviors should be further evaluated.

Keywords: Non communicable diseases, Screening, Coverage, HICDARM model, behavioral change analysis.

0239.Welgama, I.P.
Characteristics and factors associated with major unintentional physically traumatic injuries in hospitalized children aged 5 to 12 years, residing in Colombo district.
MD Community Medicine – 2018   **D 4676**

Major unintentional, physically traumatic injuries are a leading cause of mortality and morbidity among children, resulting in adverse socio-economic implications on affected families and the country. Hence, an urgent need exists for the identification and control of major unintentional child injuries. However, the key

constraint in advocating for such major child injury prevention programmes in Sri Lanka, is the lack of information and research evidence on these specific injuries.

Introduction / Background: Objectives: To describe the characteristics and risk factors of major unintentional, physically traumatic injuries of hospitalized children aged 5 to 12 years, residing in the Colombo district of Sri Lanka, and to examine the resulting post injury short term activity limitations, estimate its cost of care and identify community perceived factors associated with major child injuries in the same district.

Methods: Study included community-based, focus group discussions (FGDs) and in-depth interviews (IDIs), and hospital-based descriptive study of major injuries, case control studies for risk factors assessment, a prospective study for short-term activity limitations assessment, and an estimation of cost of care. Study setting was Colombo district and, study population included children aged 5 to 12 years, permanently residing in Colombo district.

For community-based studies, children aged 10 to 12 years, mothers and teachers of the study population and doctors, were selected, using multistage random sampling and purposeful sampling. Eight FGDs each, with 40 mothers and 40 children, and 4 FGDs with 19 teachers and IDIs with 4 doctors, were performed. Hospital-based studies included all eligible patients being hospitalized over a predefined time period. All hospital study components recruited children with major unintentional injuries as cases, while the case control studies in addition, involved patients with minor injuries (control group 1) and patients with no injuries (control group 2). Data collection was carried out for 3 months at 4 MOH areas and for 6 months at 4 hospitals. Short term activity limitations were assessed at post injury 72 hours and 30 days respectively. Cost assessment was conducted over 3 months, with 1-month post discharge follow-up. Discussion guides, Dictaphone, structured, pre-tested, interviewer administered questionnaires and a cost diary were the study instruments utilized, while data collectors were trained pre-intern doctors.

Results : Content and thematic analysis of data from the discussions and interviews, followed by method triangulation, were conducted based on Braun and

Clarke's six step framework (Braun and Clarke, 2006). It enabled the identification of important factors associated with major child injuries. Adverse child behavior including hyperactivity, poor attitudes of parents and child overprotection, strong

influences from friends and peers for indulging in high injury risk activities, adverse physical environment in schools and negative teacher characteristics, adverse transport modes of school children and lack of road safety, and finally, the poor attitudes of the media and administrative authorities in the country, towards ensuring an injury safe culture for children, were raised as the main factors that resulted in the persistence of child injuries in the society.

Descriptive study of 672 children with major injuries, revealed the mean age of the patients as 8.8 years (SD + 2.3 years), predominantly boys (70.4%). Common major injury types were fractures (75.4%), deep soft tissue injuries (17.6%) and bums (5.8%). Forearms (58.2%), legs (15.8%) and thighs (13.9%) were frequently affected, while main causes were falls on the ground (53.1%), road accidents (13.8%) and falls from heights (13.4%). Multiple major injuries were present in 12.1% of patients.

The 174 pairs each of the two case control studies, revealed that long term illness (OR = 5.0, Cl: 1.5 to 17.3) and low monthly family income (OR = 3.3, Cl: 1.3 to 8.3) were risk factors when compared to children who had sustained minor injuries, whereas, academic performance of the child (OR = 0.35, Cl: 0.21 to 0.6), low education level of mother (OR = 5.6, Cl 3.2 to 9.9) and employed mothers (OR = 4.6, Cl: 2.4 to 8.9) were found to be the risk factors, when compared with children with no injuries.

Of the 450 of these patients assessed for short term activity limitation, prevalence of 30- day partial activity limitation was 57.0% and complete activity limitation was 25.2%. Cost assessment of 131 of these patients, revealed that per day per patient mean institutional cost was Rs. 7,694.86. The mean "out of pocket" expenditure per patientper day was Rs. 553.00. The average "out of pocket" expenditure for a 30 day follow up was Rs. 2,162.00.

Conclusions and Recommendations: The common major, unintentional injury types were fractures and soft tissue injuries, caused by falls, road accidents and bums. Boys were predominantly affected. Majority suffered short term activity limitations during the first 30 days since the injury. Factors associated with child behavior, attitudes of parents, school environment, friends and peers and environment related factors were important factors identified as being associated with major child injuries. An average total cost of Rs. 8,248.00 had been incurred per patient, per day of hospitalization with major injuries.

From the current study findings, several recommendations can be suggested towards minimizing the burden and impact of major child injuries. The implementation of a system of identification of patients with serious injuries at the time of admission, further research on identification of the burden of post injury activity limitations in children and the resulting socio-economic implications, the planning and implementation of a strong and sustainable first aid training programme for selected groups in the community, improvement of the "Health promoting school" concept with the inclusion of an injury safe environment activities, reviewing the school curriculum to include practical sessions on safe living practices, ensure the construction of playing and ground equipment adhering to the child safety standards, further improvement of the hospital based cost assessment programme which has been initiated, and to formulate a method for periodic review of child injuries.

Keywords: Major Injuries, Unintentional, Childhood, Risk Factors, Sri Lanka.

0240.Welivita, W.D.T.S.
Knowledge on unintentional injuries and pre-hospital care among caregivers of children under 5 years registered in Kolonnawa Medical Officer of health area and assessment of their home safety level for injuries.
MSc. Community Medicine – 2016   **D 4010**

Introduction: Childhood unintentional injuries are considered as a major public health problem which contributes significantly to morbidity and mortality of children all over the world. The caregiver's knowledge is very important in preventing child injuries as he or she cares the child during the day.

Objective: The aim of this study was to describe the knowledge on unintentional injuries and pre-hospital care among caregivers of children under 5 years registered in Kolonnawa Medical Officer of Health area and assessment of their home safety level for injuries.

Method: This was a community based cross sectional study. A pre tested interviewer administered questionnaire assessed the knowledge on unintentional injuries and pre hospital care among caregivers of children less than 5 years registered in Kolonnawa Medical Officer of Health area, while a home safety check list assessed their home safety level for injuries. Simple random sampling was used

and the estimated sample size was 480. Data were analyzed using statistical software for Social Sciences (SPSS) version 20.

Results: Response rate was 97.3% (n=467). Mother was the principle caregiver in the 95.9% (n= 448) of the study population. Majority of caregivers (82.44%) were unemployed. More than half (51.2%, n= 239) of the caregivers reached cutoff mark of "Good knowledge" while 48.8 % (n = 228) had "Poor knowledge" about childhood unintentional injuries.

The majority of the study population had good knowledge regarding pre-hospital care. More than half (62% n = 291) of caregivers obtained a total mark on or above the cut off value of "Good Knowledge" while 37.7% (n=176) of caregivers had "Poor knowledge". So the results of our study indicate overall caregiver knowledge of first aid was good in majority of study population.

Caregivers with age less than 30 years had significant better knowledge on childhood unintentional injuries when compared to caregivers with age more than 30 years. Furthermore, caregivers who were educated up to Advanced Level or above had significantly better knowledge on childhood unintentional injuries when compared to caregivers educated up to O/L or below as their highest level of education (p < 0.005).

As the majority of unintentional injuries occur in the home in children under the age of fi development of a home safety level check list is a timely intervention. There were man' identified in the homes studied using the home safety checklist.

Conclusion and Recommendations: Based on the findings of the current study it is encouraging to note that most caregiver's adequate knowledge on household injuries and per hospital care. Community based < programs, firm legislation and household inspections for hazards for unintentional < injuries are recommended. Hazards in the home environment require assessment and 1 checklist used in this study is recommended for further use in a field setting to prevent injuries.

Keywords: Childhood unintentional Injuries, Caregiver, pre hospital care

0241.Wickramasinghe, D.K.
Incidence, causes, work practices and their association with occupational injuries among patients attending the Accident Service Unit of Colombo South Teaching Hospital.
MSc. Community Medicine – 2017   **D 4483**

Introduction: Occupational injuries cause globally 2.3 million deaths annually, and it is estimated that over 313 million non-fatal occupational injuries occur every year. In Sri Lanka, underreporting is a major problem and the actual magnitude of burden of work related injuries is not revealed. This leads to less empathies being paid by the government as well as the industries to this important area affecting the health of the economically productive population.

Objective: To determine the incidence of occupational injuries, assess knowledge, work practices and their association with occupational injuries among patients with occupational injuries attending the Accident Service Unit of the Colombo South Teaching Hospital.

Methods: A cross sectional study was conducted among 221 patients with occupational injuries attending the Accident Service Unit of the Colombo South Teaching Hospital. Convenient consecutive sampling technique was applied. An interviewer-administered questionnaire was used as the data collection tool.
Frequency distribution tables were used to describe data and Chi square test was done to determine associations.

Results: The incidence of occupational injuries among patients attending the Accident Service Unit of the Colombo South Teaching Hospital was 6.9 per 100 patients. A majority (94.6%) of patients with occupational injuries were males. Most of the respondents (40.3%) were between 18 to 30 years. Of the respondents 31.2% were engaged in construction work and 68.3% were employed in the informal sector. The commonest (32.6%) cause of occupational injuries was cut injuries and the upper limbs were the most frequently (41.2%) affected region of the body. Lacerations were reported as the commonest type (41.2%) of injury. A majority of the study population (85.5%) had a good level of knowledge. Assessment of work practices showed only 24.4% regularly used Personal Protective Equipment (PPE) and 61.1% handled unguarded machines or tools. There was no statistically significant association (P=0.871) between frequency of occupational injuries during the past year and level of knowledge on occupational

hazards. However, a statistically significant (p<0.05) association was seen between the frequency of occupational injuries and being engaging in a trained occupation.

Conclusions and Recommendations: Extending the injury surveillance system of the Ministry of Health to include data on occupational injuries is important to overcome the issue of under reporting of occupational accidents and injuries to a certain degree. Proper implementation and strengthening of the existing legislation should be done especially in the areas of use of PPE, operating unguarded machinery and working under the influence of alcohol.

Keywords: Occupational injuries, Occupational hazards, Accident Service Unit, Knowledge, Work practices

0242.Wickramasinghe, E.P.
Prevalence and factors associated with occupational stress and prevalence of selected occupational health problems among secondary teachers in the public schools in Colombo district.
MD Community Medicine – 2017   **D 4075**

Background: Occupational stress among teachers have been shown to be on the rise in the world. Occupational stress and occupational health problems among school teachers and their factors associated with occupational stress have not been studied in Sri Lanka.

Objectives: To determine the prevalence and factors associated with occupational stress and prevalence of selected occupational health problems among secondary teachers in public schools in Colombo District and to describe their views on occupational stress and ways of coping.

Methods: Self-administered version of Teacher Stress Inventory (TSI)-Sinhala was validated among 305 secondary school teachers in Gampaha district. A triangulation of methods assessed construct, convergent and discriminant validity and reliability. A cross-sectional study included 1426 secondary teachers selected by a multistage cluster sampling from public schools of Colombo District. Occupational stress was assessed by validated TS1- Sinhala and the teachers were classified into high, moderate and eustress levels of occupational stress using predetermined cut-offs. Musculoskeletal pain, voice disorders, headache disorders and burnout were identified using validated and culturally adapted self-administered tools. Individual and work life related factors associated with high

occupational stress were determined through multivariate analysis. In-depth views on occupational stress and coping strategies were explored by in-depth interviews.

Results: Adequately fitting two factor model in confirmatory factor analysis and being well correlated with the hypothesized scaling structure confirmed validity of TSI- Sinhala and a Cronbach's Alpha of 0.875 and good test-retest reliability >0.7 confirmed reliability.

Prevalence of high 15.9% (95% Cl: 14.0%-17.8%) and moderate 67.5% (95% Cl: 65.1%-69.9%) occupational stress among secondary teachers in public schools in Colombo was estimated resulting in an overall prevalence of 83.4% (95%CI: 81.4%- 85.3%). Prevalence of musculoskeletal pain in neck and/or upper limb/s was 33.8% (95% CI:30.8%-36.7%) while prevalence of lower back and lower limb/s were 32.9% (95% CI:30.0%-35.8%) and 38.1% (95% CI:35.1%-41.1%). Prevalence of voice handicap was 52.7% (95% Cl: 50.2%-55.2%), and self reported voice impairment was 65.9% (95% CI:62.9%-68.8%). The prevalence of any headache disorder was 46.4% (95% CI:43.3%-49.4%) with tension type headache and migraine being 7.8% (95% CI:6.5%-9.4%) and 2.9% (95% CI:2.2%-3.9%). Prevalence of burnout was 40.1% (95% CI:37.1 %-43.1 %).

The individual related factors associated with high occupational stress among secondary teachers were age <50 years (p=0.01), monthly income <Rs.40,000.00 (p=0.04), perceived inadequacy of income (p=0.04), presence of chronic illness (p=0.03), perceived poor health status (p=0.04), not engaged in regular exercises (p=0.01), poor sleep (p=0.02) and perceived high burden of house work (p=0.007). Work experience <5 years (p=0.006), >32 students in the class (p=0.02), usually taking school work home (p=0.01), perceived disturbance to school work by household work (p=0.003), dissatisfaction on classroom space (p=0.02), dissatisfaction of surrounding quietness (p=0.001), perceived poor relationship with students (p=0.001), perceived poor support from the superior staff (p=0.04), perceived poor support from teachers (p=0.01), perceived poor student support (p=0.02) and perceived poor parental support (p=0.02) were significant work life related factors in multivariate analysis. In-depth interviews revealed most teachers follow passive forms of coping strategies to address stress.

Conclusion and Recommendations: TSI-Sinhala is a valid and reliable tool to identify occupational stress among secondary teachers. Prevalence of overall occupational stress, was high among secondary teachers. Prevalence of voice

disorders, burnout and musculoskeletal pain were also high. It is recommended that a preventive programme for occupational stress with primary and secondary preventive strategies be designed based on the identified modifiable and no modifiable factors and be incorporated to the established school health programme. Other occupational health problems should also be addressed in this programme and should be explored further for factors associated with them.

Keywords: TSI-Sinhala, occupational stress, burnout, voice disorders

0243.Wickramasinghe, H.A.A.
Knowledge, attitudes and associated factors on patient centered care among medical student of Sri Lanka.
MSc. Community Medicine – 2016   D 3996

Introduction: This study investigated the knowledge, attitudes and associated factors on patient centered care among medical student in Sri Lanka. Patient - centered care is widely acknowledged as important to achieve improved patient outcomes in health care.

Methods: This study used Institutional based descriptive cross sectional study design in selected medical faculties. Sri Lankan students who are currently in fourth year in selected medical faculties participated in the study. I used two stages sampling for this study to select medical faculties and medical students. I selected four medical faculties where similar contents on patient centered care included in curricula. From selected four medical faculties, at well attended lecture, I selected students according to the inclusion criteria. Computed Sample size was four hundred twenty-three. A self-administered pre tested questionnaire used to assess knowledge and attitudes. To assess socio - demographic characteristics of the respondents, data regarding sex, religion, ethnicity, level of education of parents, whether a parent or a close relative is involved in health care, family income, whether home town is belonged to urban or rural area and decision on specialty that the student will select in future medical career were obtained. To assess attitudes on patient centered care, Patient - practitioner orientation scale (PPOS), 18 items containing likert scale was used. Questionnaire to assess knowledge of patient centered care was formulated based on six dimensions of patient centered care. The overall patient -practitioner orientation was calculated as mean of the scores.

Results: Majority of medical students (51.7%) had moderate knowledge on patient centered care. The average PPOS score for the entire sample was 3.52 (SD = 0.5) There was statistically significant association seen between the total knowledge of patient centered care with education level of mother (p = 0.002) and specialty of interest in future (p = 0.02). There is statistically significant association seen between attitudes on patient centered care with total knowledge on patient centered care.

Conclusions and recommendation: There were considerable gaps in knowledge and attitudes on Patient centered care among Sri Lankan medical students. Components on patient oriented care should be further strengthened in the medical curriculum in the faculties particularly in clinical training. **Key words: Attitude, patient - centered, knowledge**

0244. Wickramasinghe, I.P.
Type 11 diabetes mellitus related foot problems and knowledge, practices related to foot care among type 11 diabetes mellitus patients attending to diabetes clinics of General Hospital Kurunegala.
MSc. Community Medicine – 2015   D 4218

Introduction: Diabetic foot problems accounts for many hospital admissions and if it is not treated properly can lead to life threat amputations. Moreover, it is preventable by self-care practices, early diagnosis and proper management.

Therefore, patient's knowledge and practice regarding foot care remains a mainstay of management.

Objective: Describe the level of knowledge and practice of foot care among patients with Type II diabetes.

Methodology: Patients having diagnosed with Type II diabetes (N=384) were selected from diabetic clinics of General Hospital Kurunegala for this descriptive cross sectional study. Data were collected by an interviewer administered, pre tested questionnaire and check list following informed written consent. Patient's knowledge and practice on diabetic foot care were inquired. A scoring system ranging from 0-36 was utilized to analyze the responses given for level of knowledge and practice. Data were analyzed by using SPSS version 20. The study was approved by the Ethics Review Committee of Post Graduate Institute of Medicine, Colombo.

Results: Mean age was 58.2 years (SD ±10) and male to female ratio was 1:3. Diabetes was diagnosed >11 years among 37.8%. Majority (72%) of study sample were not undergone to foot examination at the clinic during previous year. Diabetes related foot problems had among 74.4%. There were 72.4% presented with neuropathic signs and symptoms and 27.6% presented with ischemic signs and symptoms. Regarding foot care knowledge, the mean score was 14.6, 42% had scored above >50% of total knowledge score and 52.7%. Regarding foot care practices, the mean score was 12.5, 89.8% participants had scored <50% of total practice score. A Statistically significant association exists between the foot care knowledge and practice scores (p<0.05, x2= 15.9).

Conclusion: According to results, knowledge on diabetic foot care was not up to the standard; however, their practices of foot care were further unsatisfactory. Therefore, patient education on self-care management of foot should be incorporated into the routine care of patients with diabetes both in the clinic and in the community. Examination of foot by clinic team, counseling, providing information and education during clinic sessions would help to improve this situation.

Keywords: Type II, Diabetes, Foot, Care, Knowledge, Practice

0245.Wickramasinghe, S.A.
Quality of immediate postnatal care provided following normal deliveries in the state sector specialized care health institutions in Colombo district.
MD Community Medicine – 2017   **D 4486**

Introduction

In spite of the high maternal and neonatal mortality and morbidity associated with the post natal period, it is a relatively neglected period, when compared to other period of maternal care. Ensuring quality of care during this period is a vital strategy to improve the adverse health outcomes associated with the postnatal period. Assessment of the level of current quality is the first step in a quality improvement cycle. Further, evaluation of the regular care is imperative as it tends to get neglected in the face of more complicated and emergency care.

Therefore, the objective of the current study was to assess the quality of immediate postnatal care provided for the mother and the newborn following an uncomplicated normal vaginal delivery, by the state sector specialized care health institutions in Colombo district.

Methods

The study composed of four components: Component 1: to develop and validate instruments to assess quality of immediate postnatal care provided in specialized institutions; Component 2: to assess quality of immediate postnatal care objectively using the developed methods; Component 3: to assess client-perceived quality of immediate postnatal care and Component 4: to assess determinants of client perceived quality.

Component 1: Five study instruments were developed and validated under this component, following the recommended steps for tool development, to assess the quality comprehensively: a checklist to assess the structure of the ward, a questionnaire to evaluate the service provider knowledge on essential immediate postnatal care, a checklist for observation of processes, two interviewer administered questionnaires to gather information from clients on the services received by them and client-perceived quality of the received care.

Component 2: A cross sectional study was conducted in the six state sector specialized institutions providing maternal and newborn care in Colombo district from December 2016 to April 2017.

Sample sizes were calculated separately for each assessment. Quality of the structure was assessed among all 17 wards in the 6 selected institutions. Knowledge assessment was carried out among medical officers, nursing officers and midwives providing care in the immediate postnatal period and 255 heath care workers were selected via convenient sampling technique. Hundred and two observations were carried out from each of the four selected services and 1300 mothers were included to assess the services provided to them.

Component 3 & 4: A sample of 1300 mothers was recruited using stratified random sampling technique to evaluate the client perceived quality of immediate postnatal care and its determinants.

Results

The structural quality was assessed by seven domains. Domains related to physical attributes have shown satisfactory scores. Deficiencies were identified in the organizational aspects of care and infection control domains.

Service providers' knowledge was unsatisfactory, with the scores ranging from 33 to 80 out of 100 marks. The median score was 67 (IQR= 63-73). Majority (90%) have obtained scores between 50.1 and 75 out of 100. Knowledge scores were

significantly associated with increasing age and service experience (p<0.001). There was a paucity of availability and receipt of in-service training programmes among the service providers, with only less than 10% having attended to any of the recommended training within last three years.

The technical and interpersonal care was observed to be satisfactory. Main deficiencies were identified in regular monitoring of the mother in the labour room and the postnatal ward and provision of health education. Though health education was provided in all the observations, the content and the duration allocated was highly dependent on the care provider and the time availability.

Client perceived quality of immediate postnatal care has obtained a mean value of 104.44 (SD= 10.1) and a median value of 108 (IQR= 96-114) out of a total score of 115. Ward facilities and cleanliness domain have been rated less positively when compared to technical care and interpersonal care domains.

Mothers with an education status of above Grade 11 were more likely to perceive the quality as bad (OR = 0.74, 95% Cl 0.58-0.95). In contrast, mothers with a high monthly income (above the median level), were more likely to perceive the quality of care as good (OR=1.29, 95% Cl 1.01-1.64). Further receipt of services such as giving the baby to the mother immediately after the delivery (OR=1.47, 95% Cl 1.05-2.07), provision of adequate pain relief during suture of the episiotomy cut (OR=1.54, 95% Cl 1.06-2.22), providing information about baby's health status after examination (OR=7.75, 95%CI 1.06-62.54) were also associated with positive perceived-quality.

Conclusions and Recommendations

Quality of immediate postnatal care provided for mothers and newborns following a normal vaginal delivery were satisfactory as measured through clients' perspective and when measured via objective measures. However, specific areas such as organizational structure of the ward and provision of health education should be improved.

Keywords: immediate postnatal period, institutional postnatal care, client perceived quality, maternal and newborn care

0246.Wickramasinghe , W.A.N.D.

Prevalence of burnout, its correlates and association of burnout with work engagement among grade thirteen students in Sinhala medium government schools in the Mawanella educational zone.
MD Community Medicine – 2015 D 3956

Background

In parallel with ever increasing academic expectations and demands, burnout has emerged as a major problem negatively affecting the well-being of the student populations. Globally, even though the concept of student burnout has been explored across different study settings, hitherto, there is no published literature related to student burnout in Sri Lanka. Although a number of studies have assessed mental health problems among the Sri Lankan Advanced level students, none of those studies have addressed a mental health problem that can be directly attributed to their academic endeavours, such as burnout.

Objectives

To determine the prevalence of burnout, its correlates and to describe the work engagement and its association with burnout among grade thirteen students in Sinhala medium government schools in the Mawanella educational zone.

Methods

The study consisted of four components. Component I and component III were cross sectional validation studies conducted among 194 grade thirteen students in three selected Sinhala medium government schools in the Kurunegala educational division. In component I, the Sinhala translation of Maslach Burnout Inventory Student survey (MBI-SS[SJ]) was validated by assessing the construct and criterion validity. Component II was a school-based cross sectional study conducted among 872 grade thirteen students in seven 1AB and eight 1C Sinhala medium government schools in the Mawanella educational zone, selected by a stratified cluster sampling technique, to determine the prevalence and correlates of burnout. Based on the clinically validated cut-off values developed in the component I for MBI-SS[S], burnout status was assessed and the adjusted prevalence of burnout was calculated. The associations of different correlates with burnout were quantified using crude odds ratio in the bivariate analysis. A multiple logistic regression model estimated the adjusted odds ratios (AOR) of the elicited associations. In component III, the Sinhala translation of Utrecht Work Engagement Scale-Student Version

(UWESS[S]), was validated by using the exploratory factor analysis (EFA). Data collection of the component IV was carried out simultaneous with the component II, to describe work engagement and its association with burnout among grade thirteen students, by using bivariate correlations between the subscales of work engagement and the subscales of burnout. thirteen students, by using bivariate correlations between the subscales of work engagement and the subscales of burnout.

Results

The 15-item MBI-SS[S] revealed good judgmental validity. The confirmatory factor analysis confirmed the three-factor structure of the MBI-SS[S]. High internal consistency was observed for all the three subscales (Cronbach's a>0.7). The clinically validated cut-off values for Exhaustion (EX), Cynicism (CY) and reduced Professional Efficacy (rPE) subscales of burnout were 12.5, 7.5 and 10.5 respectively. By using the "exhaustion+1" criterion based on the clinically validated cut-off values, burnout status was assessed with a sensitivity of 91.9% and a specificity of 93.2%.

The response rate in component II was 91.3%. The adjusted prevalence of burnout among grade thirteen students in Sinhala medium government schools in the

Mawanella educational zone was 28.8% (95% CI=25.0%-32.7%). The adjusted prevalence of EX, CY and rPE subscales of burnout were 33.8% (95% O=29.6%38.0%), 35.3% (95% 0=31.3%-39.5%) and 43.4 % (95% CI=38.9%-47.9%) respectively.

Multivariable analysis elicited several statistically significant associations with burnout when controlled for other factors included in the model.

Perceived satisfaction about the facilities available in the classroom (AOR=0.1; 95% 0=0.1- 0.2, p<0.001), about the library facilities (AOR=0.5; 95% CI=0.3-0.9, p=0.037) and about the scope of the subject content covered in the curriculum (AOR=0.2; 95% 0=0.1-0.5, p<0.001) showed statistically significant negative associations with burnout.

Students who thought the content covered in the subjects are relevant to the curriculum (AOR=0.2; 95% 0=0.1-0.3, p<0.001) and students who easily understood the subject content taught in the curriculum (AOR=0.3; 95% CI=0.10.5, p<0.001) had statistically significant lower likelihood of having burnout in comparison to their counterparts.

Satisfactory support from parents (AOR=0.2; 95% 0=0.1-0.4, p<0.001) and satisfactory support from teachers (AOR=0.3; 95% d=0.1-0.8, p=0.016) were found to have statistically significant negative associations with burnout.

The students who selected the subject stream based on their own decision were less likely to have burnout as opposed to those who have selected the current subject stream for other reasons (AOR=0.1; 95% 0=0.1-0.4, p<0.001).

The students who felt that their own future expectations are encouraging their studies (AOR=0.3; 95% 0=0.1-0.9, p=0.030) and expectations of their parents are encouraging their studies (AOR=0.4; 95% 0=0.2-0.7, p=0.004) were less likely to have burnout as opposed to those who did not feel so.

Having to encounter disturbances while studying (AOR-2.1; 95% 0=1.1-4.3, p=0.043) and being subjected to bullying at school (AOR=2.7; 95% 0=1.5-4.8, p=0.001) emerged as statistically significant positive associations with burnout. The 16-item UWES-S[S] revealed good judgmental validity. The EFA confirmed the hypothesized three-factor structure of UWES-S[S]. High internal consistency was observed for all the three subscales (Cronbach's a>0.7).

The mean item scores for all the three subscales of work engagement, viz., Vigor (VI), Dedication (DE) and Absorption (AB) were significantly higher among the students who were not having burnout than the students who were having burnout (p<0.001). All three subscales of burnout had statistically significant negative correlations with all three subscales of work engagement (p<0.001).

Conclusions and Recommendations

The MBI-SS[S] and UWES-S[S] are valid and reliable instruments to assess the burnout status and work engagement respectively among Advanced Level students in Sri Lanka.The burnout prevalence among grade thirteen students in Sinhala medium government schools in the Mawanella educational zone was high and the majority of significant correlates were factors related to the academic curriculum and the study environment.Hence, it is recommended to encourage the positive and supportive involvement of parents and teachers for students' academic endeavours. Furthermore, it is recommended to strengthen the counseling services at school level to rectify the problems related to burnout among Advanced Level students with the collaboration of the Ministry of Education and Ministry of Health.

Keywords: Student Burnout, Work Engagement, MBI-SS, UWES-S, Grade Thirteen

0247.Wickramatunga, T.A.

Family planning preference, unmet need and associated factors among postpartum mothers attending child welfare clinics in Colombo Municipal Council area.

MSc. Community Medicine – 2017   **D 4493**

Introduction: Postpartum family planning is important for health and wellbeing of women, children and the whole family leading to a sustainable community.

Objectives: To compare the family planning preference, unmet need and associated factors among postpartum mothers aged 20-35 years and over 35 years attending child welfare clinics in Colombo Municipal Council area.

Methods: A comparative cross sectional study was carried out among more than 35 years and 20-35 years postpartum mothers with a child less than 7 months attending child welfare clinics in Colombo Municipal Council area. A sample of 212 postpartum mothers for each category was recruited using non-probability consecutive sampling method for more than 35 years while using multistage systematic sampling method for 20-35 years. An interviewer administered questionnaire was used for data collection. Data was analyzed using Statistical Software for Social Sciences (SPSS version 21.0). Associated factors of current family planning methods and unmet need of family planning was assessed using chi square test. P<.05 was considered as the statistical significant level.

Results: The proportion of family planning use was 69.8% among more than 35 years group whereas 68.9% in 20-35 group. Among users overall knowledge on FP methods and its use was not statistically significant (p=.297). More than 35 years mothers who had no family support (p=.003) and with more children (p<.001) were using family planning more than their counterpart and this difference was statistically significant. However, ethnicity, religion, education level, being employed, average monthly income and family type were not statistically significant (p>.05).

The proportion of unmet need of family planning was 30.2% in more than 35 years age group while it was 31.1% among 20-35 group. Higher proportion of mothers in more than 35 group had good knowledge than their counterpart, yet this difference was not statistically significant (p=.390). More than 35 years mothers who were less educated (p=.018), being a nuclear family (p=.002), had no family support

(p=.042) and with more children (p=.001) were not using any family planning method compared to 20-35 group and this difference was statistically significant. Further, ethnicity, religion, employment status and average monthly income were not statistically significant (p>.05).

Number of home visits and discussed family planning during home visits by the Public Health midwife were not statistically significant in both age groups irrespective of their family planning usage.

Conclusions and Recommendations: Proportion of unmet need of family planning is high among both study groups. Knowledge regarding family planning methods and its use does not change the decision of contraceptive usage among two groups. Family planning programmes should be streamlined to address the high unmet need of family planning and the health education programmes on family planning should be targeted to for a behavioural change of the postpartum women.

Keywords: Postpartum family planning, unmet need of family planning, postpartum mothers, determinants of family planning.

0248.Wijegoonewardene, M.N.Y.F.
Burnout among correctional and rehabilitation officers working in Sri Lankan prisons: prevalence, correlates, association with health related and organizational outcomes and adopted coping strategies.
MD Community Medicine – 2017   **D 4323**

Introduction and Objective

Burnout is known to occur as a consequence of chronic occupational stress, which would lead to adverse outcomes for the individual, the organization and the service recipients. This study was carried out with the objectives of determining the prevalence of burnout, its correlates, association with selected health-related and organizational outcomes, and coping strategies to reduce burnout, among Correctional and Rehabilitation Officers in Sri Lankan prisons.

Methodology

The study was an institution based cross-sectional survey, carried out in island wide prison institutions among 1803 correctional and rehabilitation officers. This study comprised of four components, which were carried out in early 2017. The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) was validated among Sri Lankan prison correctional and rehabilitation officers, and using that, the

prevalence of burnout was assessed. Personal and work-related correlates of burnout, and selected health-related and organizational outcomes were assessed. In-depth interviews were carried out to identify the coping strategies adopted.

Statistical analysis was carried out using SPSS version 23.0.

Results

The MBI-HSS was a valid and reliable tool to measure burnout among the prison correctional and rehabilitation officers. The true prevalence of burnout in the study participants was 31.1% (95% Cl: 22.1% - 40.1%), while the true prevalence for emotional exhaustion, depersonalization and diminished personal accomplishment were 28.6% (95% CL 19.7% - 37.5%), 26.9% (95% Cl: 18.2% - 35.6%) and 37.8% (95% Cl: 28.3% - 47.3%), respectively.

Feeling overburdened by housework (OR - 3.9. 95% Cl: 1.6 - 9.3) and family-work conflict (OR - 1.8, 95% CL 1.1 - 2.9) were associated with a higher risk for burnout, while being married or living together was found to be protective for burnout (OR - 0.3, 95% Cl: 0.2 - 0.5).

Working in closed prisons (OR - 5.4. 95% Cl: 1.3 - 21.7), remand prisons (OR - 4.9, 95% Cl: 1.2 - 19.3) and work camps (OR - 6.7. 95% Cl: 1.6 - 28.4), perceived difficulty in shift work (OR - 2.4, 95% Cl: 1.4- 4.0), perceived difficulty in taking leave (OR - 2.8, 95% Cl: 1.5 — 5.4). poor welfare facilities (OR - 3.8, 95% Cl: 1.6 - 8.7), work overload (OR - 2.1, 95% Cl: 1.1 - 3.7), role ambiguity (OR - 1.6, 95% Cl: 1.1 -2.3), poor relationship with colleagues (OR - 10.6. 95% Cl: 1.1-103.3), poor relationship with families of inmates (OR - 4.7, 95% Cl: 1.4-16.0), Perceived poor respect from inmates (OR - 1.9, 95% Cl: 1.2 - 3.0), job dissatisfaction (OR: 14.3, 95% Cl: 4.4 - 46.8), poor work environment (OR - 1.04, 95% Cl: 1.003 - 1.08) and faking emotions with colleagues (OR - 1.09, 95% Cl: 1.02 - 1.17) were associated with higher risk of burnout, whereas regulating emotions with superiors was protective of burnout (OR - 0.9, 95% Cl: 0.84 - 0.94). Work experience was not significantly associated with burnout (P>0.05).

Burnout significantly predicted health -related outcomes like sleep difficulties (OR-2.8, 95% Cl: 2.2 - 3.6) and life satisfaction (OR - 1.4, 95% Cl: 1.1 - 1.8), as well as organizational outcomes like organizational commitment (OR - 2.2, 95% Cl: 1.7 - 2.8), turnover intent (OR - 1.6, 95% Cl: 1.2 - 2.2) and short-term absenteeism (OR

- 1.6, 95% Cl: 1.1 - 2.4), while it didn't predict musculoskeletal disorders (P>0.05). Problem and emotion-focused, and dysfunctional coping methods were evident in the study sample.

Conclusion and Recommendations

Burnout in prison correctional and rehabilitation officers is an issue needing prompt interventions. Stress management should be included in the training curriculums in the prison setup.

Keywords: Burnout, prison, correctional officers, emotional labour, coping

0249.Wijekoon, D.V.S.
Knowledge, attitudes, practices and associated factors of intimate partner violence against women among male trainees of Colleges of Technology in Sri Lanka.
MSc. Community Medicine – 2016   **D 3986**

Introduction

Intimate partner violence is one of the most common forms of violence against women worldwide. It comprises physical, sexual, and emotional abuse and controlling behaviors by an intimate partner. As men are the primary perpetrators, involving them to understand the underlying root causes, has found to be effective in numerous studies worldwide. However, in Sri Lanka this area is yet to be explored widely as there have been only a few studies done to date. In order to fill the dearth of information in this arena, this study was undertaken with the objective of assessing knowledge, attitudes, practices and associated factors of intimate partner violence against women among male trainees of Colleges of Technology in Sri Lanka.

Methods: A cross-sectional study was carried out among a sample of 426 male trainees enrolled for full time courses at the Colleges of Technology in Sri Lanka. Out of the nine Colleges of Technology in the nine provinces of the country, five were randomly selected following which stratified random sampling was done to select each participant. Translated and pretested self- administered questionnaire adopted from the United Nations Multi-Country Study on Men and Violence: Core Men's Questionnaire- version 3 was used as the study instrument. Descriptive analysis was done and univariate analysis was done using chi square test to assess associations.

Results: Among 426 respondents 49.1% did not know even one term that is used to describe intimate partner violence, 43.9 % were unaware of the existence of Laws against those who perpetrate violence against women in Sri Lanka. Knowledge among the respondents regarding campaigns/activities instated in the community to prevent intimate partner violence was 58.7% and 72 % had seen an advertisement / public service announcement on television regarding intimate , partner violence against women. Moderately equitable attitudes towards gender were found among 69.2%. Life time perpetration of at least one act of controlling behavior, emotional, physical or sexual violence against an intimate partner was 74.4%. From socio-demographic factors relationship status $(\backslash 2 - 6.073$, df = 1, p=0.014) and ethnicity (X2 = 4.454, df = 1, p=0.035) were found to be statistically significant at a level of 5% with perpetration of intimate partner violence. All forms of childhood trauma were significantly associated with perpetration of intimate partner violence, .i.e. Physical abuse (x2 = 8.371, df = 1, p=0.04), emotional abuse (x2 = 3.874, df = 1, p = 0.049) and sexual abuse (x2 = 11.96, df = 1, p = 0.001). Significant association was also found between knowledge of legislation pertinent to and violence perpetration $(\backslash 2 = 1.210,$ df = 1, p=0.007) and between those who were least equitable, moderately equitable and highly equitable $(\backslash 2 = 16.456$, df = 1, p = <0.001).

Conclusions and Recommendations: Though the findings suggest the trainees are aware of intimate partner violence and possess moderately equitable gender attitudes on abstract notions of equality, in practice there's a contradiction. However, the study needs to be conducted beyond this population and extended to the community to understand how to prevent violence against intimate partners by understating perpetrators point of view in the matter.

Keywords: intimate partner violence against women, knowledge, attitude, practices, associated factors

0250.Wijesekara, H.M.A.D.M.
Disability among patients with schizophrenia seeking treatment from clinic based government psychiatric services in the Gampaha district : magnitude and risk factors.
MD Community Medicine – 2015   **D 3686**

Introduction: Disability is a complex and dynamic phenomena. It donates the interaction between a person's health condition and physical and social environment Schizophrenia is a major mental disorder which causes disability in several spheres of patient's life. Identification of the true magnitude and the related putative risk factors are of importance in the provision of holistic care to the schizophrenic patients.

Objective: To validate two version of the WHODAS 2.0 (WHODAS 2.0 - 12 item -for the patient [WHODAS 2-Pat] and WHODAS 2.0- 36 item - for care givers [WHODAS 2-CG]) and determine self-perceived and care giver perceived disability of the schizophrenic patients and the related risk factors (as rated by the care givers) among patients who seek care from clinic based government psychiatric services in the Gampaha district.

Methods: The WHODAS 2 - Pat was validated with both exploratory and confirmatory factor analysis and convergent and discriminant validity was assessed with the simultaneous use of Medical outcome study short form (SF - 36). The WHODAS 2-CG was validated with the exploratory factor analysis. Reliability was measured with Cronbach's alpha and with the test rest methods. A cross sectional study was carried out and the sample size computed was 461. Study population consisted of schizophrenia patients and their care givers recruited from all the 10 Government hospital psychiatric clinics in the district. Study participants were selected using a convenience sampling technique and the two validated instruments were used for data collection regarding assessment of disability. A case control analysis was performed to determine risk factors based on the care giver ratings on disability. Disability levels were calculated and presented as proportions for both patients and care giver ratings. Bivaraite and multivariate logistic regression was conducted and the results were expressed as odds ratios and relevant 95% confidence intervals.

Results: Factor structure of The WHODAS 2-Pat was a single factor structure with a Cronbach's alpha value of 0.972 and a Kappa coefficient of 0.929. The same values for WHODAS 2-CG were0.850 and 0.891 respectively with a five factor structure. The reported disability rates were 82.6% (n=381) and 95.4% (n=440) respectively based on patient and caregiver ratings.

Multiple logistic regression revealed seven risk factors for disability. Of them, the modifiable risk factors were: treatment with other modalities except western medicine at the onset of the illness (OR = 3.4; 95% Cl: 1.9 - 6.3), an income of <Rs. 5000 per month (OR = 1.6; 95% Cl; 1.001 - 2.7), non-receipt of aid from any agency/organization (OR = 2.9; 95% Cl; 1.1 - 8.0) and non-hospitalization (OR = 1.9; 95% Cl: 1.1-3.4). T he non-modifiable risk factors were: Buddhists (OR = 1.7; 95% Cl: 1.03 - 2.7), male sex (OR = 1.7; 95% Cl: 1.01 - 2.7) and presence of other co-morbid illness (OR = 2.2: 95% Cl: 1.3 - 3.6).

Conclusion and Recommendations: Considering the high levels of disability, routine assessment of it is recommended. Management plan should include regular drug treatment, measures to minimize disability and provisions of occupational therapy in order to enhance their income generation capacity with an established social security system for the needy before retirement age and for all after retirement age. Validation of improved/revised WHODAS 2-CG is recommended as a future research requirement.

Keywords - Disability, Schizophrenia, WHODAS 2.0

0251.Wijesekara, N.W.A.N.Y
Drinking-water quality, household water treatment and safe storage and capacity for drinking -water quality surveillance in the Western province.
 MD Community Medicine -   2018   D 4708

Introduction: Good quality drinking-water is a key determinant of health of communities. Household water treatment and safe storage by the people should be last line of protection against harmful organisms and substances that have the potential to endanger the health of communities. It is essential to have adequate capacity for drinking-water quality surveillance to sustain the access to safe water of the public.

A detailed assessment of the drinking water quality, household water treatment and safe storage, and capacity for surveillance of drinking water quality had not been

conducted in the Western Province of Sri Lanka, even though it is the most populated, urbanized and industrialized province, as well as hosting the administrative and economic capital of Sri Lanka.

Objectives: Objective of the study was to describe the drinking-water quality, to assess household water treatment and safe storage, and the capacity for surveillance of drinking-water quality of the Central and Provincial Ministries of Health,

National Water Supply and Drainage Board (NWSDB), Government Analysist's Department and the Colombo Municipal Council for surveillance of drinking-water quality in the Province.

Methodology: A descriptive cross-sectional study was carried out among 4508 households, selected through cluster sampling, representing four drinking-water sources, namely, NWSDB, dug wells, Community Water Supplies (CWS), and tube wells and other sources. The pH, turbidity, electrical conductivity, total coliform count, thermotolerant coliform count, Nitrate, Fluoride, Iron, Copper, free residual chlorine, and Arsenic were measured with the use of field water quality testing equipment. Respondents from households were inquired about any objectionable colour, odur or taste of drinking-water. Sri Lankan Standards requirement values were used to determine compliance. Source water samples from the intake of seven water treatment plants of the NWSDB were analyzed for heavy metals, arsenic and pesticide residues. One third of the households visited (n = 1502, 33.3%) were administered a questionnaire to assess household water treatment and safe storage. The capacity assessment was conducted by review' of existing literature, key informant interviews and field observations, involving the relevant stakeholders for drinking-water quality surveillance.

Results: Household survey of the drinking-water quality of the Western Province showed an overall compliance of 38.6% for pH (n=1739, 95% Cl [37.2 - 40.0]). The Gampaha district showed the lowest median pH values across all drinking water sources, ranging from 5.5 to 6.5. All household drinking-water in the Province had a compliance of 91.1% (n=4109, 95% Cl [90.2-91.9]) for turbidity and near 100% compliance for electrical conductivity. The bacteriological quality of household drinking-water for total coliform count was 37.9% (n=l710, 95% Cl [36.5 - 39.4]) and, for thermotolerant coliform count 36.2%, n=1633, 95% Cl [34.8-37.6]. A drinking water sample from N WSDB was 25 times more likely to be compliant for total coliform count, (OR = 25.5, 95% Cl [15.6 - 41.9]) and

thermotolerant coliform count, OR = 25.4, 95% Cl [15.5 -41.7], compared with an unprotected well. Over 98% compliance was observed for all chemical parameters for the household drinking-water samples tested from the Western Province (Nitrate: 98.4%, n=2234, 95% Cl [97.9 - 98.7]; Fluoride: 99.6%, n=4488, 95% Cl [99.3 - 99.7]; Iron: 99.8%, n=4501, 95% Cl [99.7 - 99.9]; Copper and Arsenic: 100.0%, n=4508. Source water was free of heavy metals, arsenic and pesticide residues, at the intake of seven NWSDB water treatment plants of the Western Province. The colour, odour and taste of household drinking-water samples were acceptable for almost all of the users. The highest water quality index scores of the Western Province ranged from Fair (68, samples from NWSDB, Colombo district) to Poor (35, samples from CWS, Kalutrara district).

The reported use of a household water treatment method was 75.4%, n = 1132. The observed use was 73.0% (n = 1096). Three most popular household water treatment methods observed in the Province were boiling (32.3%, n=486, 95% Cl [30.034.8]), cloth filter attached to the tap (15.7%, n=236, 15.7%, 95%C1 [13.9 - 17.6]), and ceramic and gravel filter, 6.9%, n=104, 95% Cl [5.7 - 8.3]. Forty- seven percent (n=714) of households in the Western Province had a water storage tank connected to a NWSDB. CWS or pumped through a dug well or a tube well. Untreated water was mostly stored in a clay pot (n=67, 4.6%), metal pot (n=62.

4.1%) and plastic plot (n=54, 3.6%). Household treated water was mostly stored in jug with a lid (n=236, 15.7%), filter itself (n=197, 13.8%) and kettle or metal pot (n=197, 13.1%).

Capacity gaps were identified for collecting, collating and sharing timely information of good quality, through the existing pathways for drinking-water quality surveillance. The capacity to implement action based on data collected through the drinking-water quality surveillance system from grassroot to national level was poor. There were deficiencies of trained laboratory staff for drinking-water quality surveillance of the Province. National and district drinking-water quality surveillance committees did not meet regularly.

Conclusions and recommendations: The findings of the study can be used for the improvement of the drinking-water quality of the Western Province. Bacteriological quality of CWS was poor and needs more effective methods for bacterial removal. As dug wells showed high levels of bacteriological contamination, and household water treatment and safe storage methods such as

boiling and filtration need to be promoted. Field public health staff such as Public Health Inspectors and Public Health Midwifes can play an effective role in promoting such behaviors. In-service training programmes should be conducted to train Public Health Inspectors, Supervisory Public Health Inspectors and Medical Officers of Health, on proper maintenance of documentation for drinking-water quality data from surveillance and effective use of the findings for corrective and preventive actions. A detailed assessment of the human resource needed for the laboratories involved in the drinking-water quality surveillance should be conducted, and required staff need to be recruited or mobilized. Epidemiological Unit and the Directorate of Environmental and Occupational Health should jointly conduct quarterly drinking-water quality surveillance reviews at district level, and annual national drinking-water quality surveillance reviews, including all stakeholders such as NWSDB. District and national drinking-water quality surveillance committee meetings should be restarted, with the active engagement of all stakeholders, including the NWSDB and CWS.

Keywords: Drinking-water quality, Household Water Treatment and Safe Storage, Surveillance Capacity

0252.Wijewickrama, G.K.
Parenting styles, eating behavior and food habits of preschoolers in Nugegoda health unit area.
MSc. Community Medicine – 2016   **D 3985**

Introduction

Healthy eating behaviours and food habits in childhood are the foundation of an individual's healthy diet and nutrition throughout life. Problem eating behaviours and unhealthy food habits are common in preschool age and are influenced by parenting practices. Investigating the influence of parenting on children's eating and food habits could provide valuable evidence for designing nutrition interventions targeting this important age group.

Objectives

To describe the parenting styles and its association with the eating behaviours and food habits of children aged three to five years attending preschools in Nugegoda health unit area.

Methods

A cross sectional study was conducted involving 432 parents/principal care givers of children aged three to five years attending randomly selected preschools in Nugegoda health unit area. A pretested, interviewer administered questionnaire was used for data collection. Parenting styles in the sample were assessed using a locally adapted version of Parenting Styles and Dimensions Questionnaire. Pearson correlation and independent sample t-test were used to assess the association of parenting styles with eating behaviours and food habits of the children.

Results

Authoritative parenting style was the predominant parenting style (98.8%) in the sample. Authoritative parenting was correlated positively with enjoyment of food ($p<0.001$) and negatively with slowness in eating ($p=0.03$), food fussiness ($p=0.03$) and irregular eating ($p=0.01$). Authoritarian parenting was correlated positively with emotional under eating ($p=0.003$), satiety responsiveness ($p=0.17$), irregular eating ($p<0.001$), inappropriate snacking ($p<0.001$) and negatively with enjoyment of food ($p=0.001$). Permissive parenting style was correlated positively with emotional under eating ($p=0.031$), satiety responsiveness ($p=0.001$), irregular eating ($p=0.005$), inappropriate snacking ($p=0.025$) and negatively with food fussiness ($p=0.025$). Considering the food habits, authoritative parenting style was significantly associated with preschool children's habitual consumption of fresh fruits/vegetables ($p=0.001$) and sugar sweetened beverages ($p=0.026$). Authoritarian parenting was significantly associated with low intake of fresh fruit/vegetables ($p=0.009$) and sweet snacking ($p=0.031$). Preschoolers' dairy ($p=0.009$) and sweet snack ($p<0.001$) consumption were significantly associated with permissive parenting style.

Conclusions and Recommendations

Authoritative parenting is associated with children's healthy eating behaviours and food habits compared to other parenting styles. Programmes aiming at promoting nutrition in preschool age should focus on improving parenting practices to sustain healthy eating and nutritional well-being.

Keywords: Parenting Styles, Eating Behaviours, Food Habits, Preschool children

Family Medicine

0253.Arulaananthan , K.
Nature of health care needs, role of caregivers, and services available for elders in the Batticaloa district.
MD Family Medicine -   2015   D 3778

The global and national ageing population has led to much health, social and economic concerns. In the absence of carefully conducted research studies with scientific evidence, it would be difficult to address the existing health and social problems.

This enquiry becomes especially relevant in a place where elders experienced several natural disasters and a prolonged war which lasted for almost three decades resulting in serious change in family dynamics. In this context, the present study is aimed at addressing the health care needs of elders, assessing the availability of health, social services and the roles of care givers in Batticaloa district. The study population comprised non institutionalized elders both males and females.

This community based cross sectional descriptive study was conducted in Batticaloa district with 845 elders who were selected by proportionate random sampling and interviewer administrated questionnaire was used as a major tool. Indepth interviews were also conducted in a convenient sample of 20 elders and their caregivers.

Most of the elders (78%) were in the young old category and majority of them (56.6%) were females and most of elders (77%) were in poor socio economic status. Two thirds of elders were rural residents. The identified long standing medical problems amongst elders were hypertension (39%), muscular skeletal problems (32%), bronchial asthma (18%) and diabetes mellitus (17%) while, visual (64%), hearing (23%) and mobility impairments (16%) were also found.

Most of the elders (88%) sought medical treatment in outpatient department at government hospitals as first contact and around half of them had followed clinics for chronic conditions. This study also showed that the health system in Batticaloa District lacked geriatric services and elders were not treated as a special group. They were not provided with separate ward/unit or other infra structure facilities. In addition, there were no geriatric healthcare professionals in the district health care provision.

In the context of social services, even though many social programmes were launched by National Secretariats for Elders (NSE) of Social Services Ministry, most of the elders were unaware and thus not benefitted much by the currently existing social security system resulting in very low coverage.

Qualitative component of this study on perceptions of elders and caregivers on care given revealed both positive and negative feelings. The study showed that 70% (14/20) of the elders had perceived negatively about the care received. Most of the care givers who were females (19/20) felt that they lacked any special training and constrained by resources in training and caring for the elders. In addition, most of them were not employed.

The healthcare problems, health seeking behavior and accessibility of health and social services for elders were not adequately met. There is a need for improvement of their wellbeing by strengthening primary care within existing national health system. In addition, training is needed on care giving for elders. In order to abide with the world health organization's advocacy on active and healthy ageing, initiating a pragmatic caring system through multi sectoral partnerships of intergovernmental, nongovernmental, private-sector and voluntary organizations in the district is much needed.

0254.De Silva, R.E.E.
Study on the quality of life in an elderly population attending a University family practice.
MD Family Medicine – 2014   **D 3792**

`   The rapid ageing of populations around the world presents challenges for both developed and developing countries, which include, increasing demand for health care and long term care. The situation in Sri Lanka too has given rise to a host of geriatric related problems and these have received little attention until recent times. Although the increase in life expectancy has increased the number of years added to life, it is important that such increase in the years added is enriched in quality.

It is of importance to assess the QOL in the elderly in order to identify the factors influencing their QOL in primary care as preventive practices can be strengthened to improve QOL. However, research on this subject is scarce in Sri Lanka. This study was carried out to assess the QOL in an elderly population attending a Family Practice Centre (FPC) and to study the factors contributing to QOL in the elderly.

A descriptive cross sectional study was carried out at the FPC, Faculty of Medical Sciences, University of Sri Jayewardenepura. The study population comprised of all registered elderly people over 60 years who attended the FPC, from February to April 2012. Data collection was through pre-tested interviewer administered questionnaires and patient medical records. The questionnaires comprised of socioeconomic data, health profile data, Activities of Daily Living (ADL); 20 point modified Barthel Index, Instrumental Activities of Daily Living (IADL), and the Elderly Quality of Life instrument (EQLI) validated for Sri Lanka. Data analysis was through Microsoft Excel and SPSS (version 17) computer software. The statistical tests used were descriptive statistics, t test and the ANOVA test. The majority of participants in this study (51.4%) were in the 60-69 year age group, with a higher proportion of females (65%). The majority (63.7%) were educated up to O/L or beyond, (67.9%) were married and living with their spouse, and most lived with their families (88.6%).

QOL in this group of elderly was satisfactory, with spiritual and functional aspects of QOL being the most satisfactory and physical QOL being the least satisfactory, however latter too had a mean score over 50. Better QOL was seen in males, participants with better education, and married and living with their spouse. Participants living alone or with someone other than with family had significantly poorer QOL. Forty-six percent were financially dependent on their families. Perceived adequacy of income for both daily needs and for recreational activities was associated with better QOL.

The top five commonest symptoms among the study participants were problems related to musculoskeletal system, respiratory tract, sensory neuropathy, urinary problems and teeth, gum and mastication, the leading problem being musculoskeletal. Chronic diseases were among the highest morbidity in this study population. Increased number of health problems was significantly associated with QOL with presence of 3 or more health problems resulting in poorer QOL. However, multimorbidity was not significantly associated with QOL in our study participants. Thirty-five percent of the respondents had been admitted to hospital in the previous year and this group had poorer QOL. Seventeen percent of study participants have had a fall in the previous year and this resulted in poorer QOL in elderly.

Majority of the study participants were able to lead an independent life with relevance to ADL and IADL. Participants' independent in all IADL had significantly better QOL. Participants with a disability had a poorer QOL. In conclusion, majority of the study participants were able to lead an independent life. Chronic diseases were among the highest morbidity. QOL in this group of elderly was satisfactory with the spiritual and functional aspects being the most satisfactory and the physical aspect being the least. Better QOL was associated with male sex, higher levels of education, being married and living with spouse, perceived adequacy of income for both daily needs and recreational activities and independence in IADL. Poorer QOL was associated with living alone or with someone other than with family, presence of 3 or more health problems, hospital admission in the previous year, accidents or falls in the previous year, and presence of disability.

0255.Heenatigala, L.S.
Prevalence of perimenopausal symptoms and knowledge, attitudes and practices associated with menopause among middle aged women in Kandy.
MD Family Medicine – 2013 -2016   D 4410

Background: Natural menopause happens around 45 to 55 years. It occurs as a result of sex hormone deficiency secondary to natural ovarian failure. During this transition a set of symptoms appear and are called "perimenopausal symptoms".

Objectives: Objectives of this study were to describe the peri-menopausal symptoms experienced by midlife women in Kandy District and to analyze their knowledge, attitude and practices associated with menopause.

Methods: A descriptive cross sectional study was done from October 2014 to September 2015. 864 midlife women from the district of Kandy were selected randomly using a multistage stratified cluster sampling. An interviewer administered questionnaire was used for data collection.

Results: Overall prevalence of peri-menopausal symptoms was 92.6%. Most common four symptoms experienced by the women were joint & muscular discomfort (74.9%), physical and mental exhaustion (61.8%), hot flushes & night sweats (57.2%) and Sleep problems (56.8%). 48.4% of women suffered from moderate to severe symptoms. Prevalence of vasomotor symptoms was 57.2%. Post menopausal and perimenopausal women, older women, estate women, Muslim

women, employed women, lower educated women and women with co morbidities had higher rates of symptom prevalence.

Overall knowledge on menopause was satisfactory in 34.6% of women. Knowledge on HRT was extremely poor and the knowledge on post menopausal health risks was also low. Estate and rural dwelling, postmenopausal state and lower education were associated with poor knowledge. Most common source of information was friends and relatives. The contribution of doctors in the health education process seemed low.

About 75.6% of women had a good attitude towards menopause. The Attitudes were dependent more on ethnic and cultural environment rather than education, knowledge, income and occupation. Attitudes of Indian Tamils and Muslims were poor.

Only 28.7% of the women sought treatment and only 2% have used HRT; 7.5% of women were aware about herbal treatment and 5% have tried them. 35% of postmenopausal women engaged in satisfactory physical exertion. 7.9% of women had taken nutritional supplements. Prevalence of contraception usage was 39.7% and most popular method of contraception was LRT. Two thirds of women wanted to have more information on menopause. Women with severe symptoms, Indian Tamils and Muslims, women with higher education, women with better knowledge on menopause had more interest in gathering information.

Conclusions and recommendations: Prevalence of perimenopausal symptoms and severity of them were high among this study population. However, most women had not sought treatment for the symptoms and therefore symptoms were not discussed or treated adequately. Knowledge on menopause was poor in the majority of women and knowledge on HRT was extremely poor. Most popular source of information was friends and relatives and the doctors were not a popular source of information. Knowledge of midlife women on menopause has to be uplifted and the primary care physicians should be motivated and encouraged to engage in health education activities. More emphasis should be given to these topics in electronic and print media as well. Treatment seeking among these women was poor and the use of HRT was very low. Women and the doctors should be encouraged to discuss about the perimenopausal symptoms and the clinicians should be encouraged to treat the underlying hormone deficiency state where necessary rather than treating symptomatically.

0256.Kumara, M.D.R.
Knowledge, attitudes and practices regarding physical activities and relationship of physical activity to glycemic control among patients with type 2 diabetes, attending general practice clinics in the district of Colombo.
MD Family Medicine – 2013   D 3791

Background:

Diabetes mellitus (DM) has become a global pandemic with a definite upward trend in the prevalence. Aging population, urbanization, dietary habits rich in carbohydrate, sedentary lifestyle, obesity and stress have contributed immensely to the increased prevalence of diabetes in our country. Diabetes is one of the main non communicable diseases that can be prevented by lifestyle modification. However, it has been a difficult and a challenging task to give the necessary health education in an effective manner and getting them to adhere to the recommended lifestyle modification.

Objectives:

To assess knowledge, attitudes and practices regarding physical activities and to establish the relationship between physical activity and glycaemic control; among patients with type 2 diabetes; attending General Practice clinics in the district of Colombo.

Methods:

A descriptive cross sectional study was conducted from December 2011 to March 2013, using 453 patients with type 2 diabetes attending fifteen general practice clinics in the district of Colombo after obtaining ethical approval from the ethical review committee of Faculty of Medical Sciences in the University of Sri Jayewardenepura. Thirty consecutive patients were selected from each randomly selected general practice clinic. Patients with type 2 diabetes, between 15-69 years of age, who have been attending the general practice clinic for more than three months, were selected for the study. All pregnant mothers and diabetics secondary to other illness were excluded. Data collection was done by well-trained two preintern medical officers, using a validated, pre tested, interviewer administered questionnaire. Patients' information regarding socio demographic data, knowledge, attitudes and practices regarding physical activities and reasons for not engaging in physical activities were obtained. Data analysis was done using SPSS statistical analysis package and comparison of continuous variables was done using student's

t test and the categorical variables were tested using chi-square test. Score was given to assess knowledge and attitudes were described. Level of physical activity was categorized in to three groups as low, moderate and high. Moderate and high levels were taken as adequate level of physical activity. Mean of fasting blood sugar values was calculated to determine the relationship of physical activity to glycaemic control.

Results:

Mean age of the population was 56.5 years (+10.22) and 68.9% (n=312) of the subjects were females. The majority (55.4%, n=251) have studied above GCE O/L and only 24.9% of patients were employed Majority (79.5%) of patients in the study population were educated on the importance of physical activities and it was delivered mainly by the doctors (72.4%, n=328). 55.2% (n=250) patients have been instructed on the recommended duration and type of exercises to be done by their family doctor.

The majority (58.3%, n=264) did not have adequate knowledge regarding physical activities. However, the majority (77.9%, n=353) were having active lifestyle with adequate levels of physical activity with their daily activities. The main reason for not doing adequate amount of exercise is the physical pain (34%). Lack of time (34%), laziness (34%) and health problems (24%) are other reasons for not doing exercise. The mean body mass index (BMI) was significantly lower (P=0.000) in those who had an adequate level of physical activity.

Conclusions :

The majority of the patients did not have adequate knowledge regarding physical activities Despite their poor knowledge and negative attitude toward exercise, the majority had adequate level of physical activity with their daily activities..

Keywords: Knowledge; attitudes; practices; physical activities; type 2 diabetes; general practice Clinics

0257.Perera, K.C.P.
Frequency and nature of the causes of headache in children attending a primary care physician.
MD Family Medicine – 2015   **D 3786**

Background - Headache is a common in childhood with an estimated 60% of the children being affected by it at some point. Headache in children and adolescents

may be due to a primary headache syndrome (i.e., migraine headache, tension-type headache, cluster headache) or secondary to an underlying medical condition. Secondary headaches usually are related to an acute febrile illness (e.g., upper respiratory infection, influenza) but may be due to central nervous system infection or space-occupying lesion although these are rare.

Socio demographic variations are seen in the incidence of headache. The frequency of occurrence increases with age and is more frequent among females.

Study of headache in adults in Sri Lankan primary care settings indicate that tension type headache is the most common followed by migraine.

No known studies have been carried out specific to headache frequency in pre-teen children in Sri Lanka. Therefore, this study will be of benefit to primary care physicians when dealing with childhood headache.

Objectives -The general objective of this study was to describe the frequency and nature of headache in children attending to primary care practice in Kandana.

The specific objectives were to describe the socio demography of children with headache, the causes, the frequency and precipitating factors of headache in the study population.

Methodology - Cross sectional descriptive study design was used. The study setting was a primary care practice at No. 172, Rilaulla, Kandana. The study population consisted of 322 children between 5 to 12 years of age attending the practice whose primary complaint was of headache. They were recruited to the study consecutively until the required sample size was achieved. Data was collected using questionnaire administered by principal investigator after written consent was obtained from the parent. Ethical clearance was obtained.

Results - Descriptive statistics were used to describe the data. It was seen that frequency of headache increased with age. The majority of the children in the study sample were 11 years old. The majority were female (55%). The most frequent type of headache was migraine without aura (16.5%).

This was followed by frequent episodic tension type headaches (15.2%). Headaches attributed to undifferentiated somatoform disorder (10.9%) and to rhinosinusitis (8.7%) were also common. Two cases of headache due *to* rare disorders were observed - one was attributed to bacterial meningitis and in the other to a probable neoplasm.

The most commonly identified precipitating factor was stress (23.8%) followed by bright light (18%). Routine physical activities (9.3%) skipping meals and sleep deprivation were mentioned by 8%.

Conclusions - According to the results of the current study, the frequency of headache among children of 5 to 12 years, in primary care is 4.2%. Using standardized and acceptable criteria more than 82% of the children presenting with headache to a primary care physician can be diagnosed. Further cause of headache in descending order of prevalence are unspecified headache (17.7%), migraine without aura (16.5%), Frequent Episodic Tension Type Headache not associated with Peri-Cranial Tenderness (15.2%), undifferentiated somatoform disorder (10.9%) and rhinosinusitis (8.7%).

Health Sector Disaster Management

0258.Bandara, G.R.B.S.
Psychological morbidity and associated factors among adult survivors following the 2016 landslide in Aranayaka area.
Postgraduate Diploma in Health Sector Disaster Management – 2017   D 4383

Introduction

Disasters can cause lasting psychological problems, beyond the acute physical consequences. Aranayaka, a town in the Kegalle District in Sri Lanka was severely affected by one such disaster, a landslide on the 17 th of May, 2016.

Objective

The objectives of this study are to assess the prevalence of psychological morbidity and associated factors nearly one year after the 2016 landslide in Aranayaka area and to identify the psychological support received by adult survivors through different practices for post disaster adjustment.

Methods

A descriptive cross-sectional study was carried out in the relief camps and resettled areas among survivors above 18 years. The number of individuals selected from each site was determined applying probability proportionate to the size technique to achieve a sample size of 405.The determined number of participants in each site was selected by simple random sampling. A self administered questionnaire, consisting of socio demographic details, psychological support received through

different practices, experiences of trauma and translated K-10 and PSSR-17 questionnaires to estimate the prevalence of depressive disorder and post-traumatic stress disorder (PTSD) was used.

Results

The prevalence of depression and moderate to severe PTSD was 22.5% and 19% respectively. Both depression and moderate to severe PTSD features were present in 11.6%. Nearly 29.9% of participants were having either depression or moderate to severe PTSD. There was a positive moderate correlation between K10 score used to detect depression and PSSR-17 score used to detect PTSD (P =0.000). Level of education, marital status, economical status and past history of physical and psychological illnesses were found to be significantly associated with depression. There was a statistically association between gender, marital status, economical status, ethnicity and chronic physical illnesses with PTSD. During this incident, a considerable proportion of them had been exposed to traumatic events all of which showed a highly significant association with depression and PTSD. Their own religious practice, own strength, support received from family and friends were the supportive factors pointed out by most of the participants for post disaster adjustment. Depression, but not PTSD was significantly associated with the level of the support received from religious practices with a lower prevalence of depression in the group of population who told that religious practice was extremely helpful.

Conclusion and Recommendation

There was a considerable prevalence of depression and PTSD among adult survivors nearly one year following the Aranayaka landslide. Higher prevalence of depression and PTSD was reported among females than males and among single/widowed or divorced group than married individuals with a statistically significant association. Several factors and practices had been useful for post disaster adjustment. Detailed assessment and appropriate medical response to support the affected individuals should be arranged. Further studies on risk and resilience to psychological morbidities are recommended.

Keywards: Post Traumatic Stress Disorder, Depression, associated factors, adult survivors, 2016 Aranayaka landslide

0259.Chaminda, U.G.G.

Management of the dead in disasters: knowledge, attitudes and self-reported practices among a group of army soldiers in Galle district, Sri Lanka. Postgraduate Diploma in health sector disaster management- 2017 D 4384

Background: Management of the dead in disasters has significant economic, legal, psychological and social consequences on the survivors and the community. Improper management of the deceased can hinder the identification, lead to loss of important forensic evidence and affect the dignity of the dead. Army soldiers play a vital role in dead body management in disasters.

Objectives: To describe the knowledge, attitudes and self-reported practices on management of the dead in disasters among a group of army soldiers in Galle district, Sri Lanka.

Methods: This descriptive cross sectional study was conducted using a pre-tested self- administered questionnaire in 2017. All army soldiers working in two selected camps in Galle district were selected and descriptive analysis was used for this study.

Results: Out of the total of 188 army soldiers included in this study, a majority (61.2%, n=115) had a moderate level and 32.4% (n=61) had a good level of overall knowledge on management of the dead in disasters. In particular, knowledge on wearing face masks by dead body recovery teams, taking photographs, spraying disinfectants to dead bodies and use of ambulances to transport the deceased was poor. Regarding dead body management in disasters, respectively 21.8% and 52.1% believed that funeral rites are not important and dead bodies of foreign nationals should be treated better than locals. Only 12.8% believed that there's no need to respect dead bodies as they are dead. A majority (69.1%) had reported that they had engaged in dead body management in disasters as army soldiers and 59% (n=l 11) had reported that they had used gloves and boots in dead body recovery process.

Conclusions and Recommendations: Even though a majority had either moderate or good level of overall knowledge, deficiencies of knowledge in certain aspects of management of the dead in disasters were evident. A majority had more favourable attitudes in many aspects of management of the dead in disasters although there were some negative attitudes to a certain extent. There is a space for improvement in certain practices of dead body management. Improving training opportunities for

army soldiers is necessary to enhance their knowledge and experience on management of the dead in disasters.

Keywords: Management of the Dead, Disasters, Knowledge, Attitudes, Practices, Army Soldiers, Sri Lanka

0260.Chathurika, H.L.S
Knowledge, attitudes and practices of Army soldiers on prehospital trauma care in Matara district.
Postgraduate Diploma in health sector disaster management- 2015 D 4132

Background: Due to rapid developmental activities and climate change, the occurrence of natural and human induced disasters has become more common. Although morbidity and mortality has declined substantially over years due to advancement in Medicine, hospitalization due to injuries has been increased. This increases the burden on Sri Lankan government as they spend more on health sector in comparison to other South Asian countries. As prehospital trauma care systems reduce the trauma morbidity and mortality, implementing such systems can reduce the government burden on it. Thus, basic life support measures taken by trained lay first responders such as military personnel is life-saving, it is important to build up their capacities by updating their knowledge and practices on prehospital trauma care while cultivating positive attitudes toward it.

Objective: To describe knowledge, attitudes and practices on prehospital trauma care among army soldiers in Matara District.

Methodology: A descriptive cross sectional study was carried out among army soldiers in Matara district. The whole population was studied belonging to the above group during the study period. Self-administered questionnaire was used as the study instrument. Cross tabulations were done to identify the possible associations using chi square statistics. Knowledge and practices were categorized in to two groups as "Poor" and "Good" taking 50% as the cut off.

Results: The study population consist of 266 participants (response rate 97.79%) lodged at army camp Matara fort and its two detachments located in Matara district. All were male and majority (47%) was in the age group of 28 to 37 years. Most (43.6%) had a monthly income of 30,000 rupees to 39,999 rupees and not qualified General Certificate of Education (Ordinary Level) - 65.8%. Nearly two third (68.8%) of them had worked for more than 05 years as army soldiers.

The overall level of knowledge on prehospital trauma care is poor (78.6%) while knowledge on golden hour of trauma (77.1%), triage system (74.4%), cardio pulmonary resuscitation (92.5%) and transportation of patients with spinal cord injury (69.2%) was markedly poor. Good knowledge is significantly associated with advance age, higher income and higher level of education whereas it has no significant association with work duration. More than 80% of them had positive attitudes on most aspects of prehospital trauma care while majority thinks it is good to have knowledge on this topic and they would have performed better in disaster situations if they were trained on pre hospital trauma care.

With regard to the practice, majority (62.8%) is included in the group of poor level of practice. They lack practice on first-aid, cardiopulmonary resuscitation and safe transportation of the patients. Moreover, they had less opportunity to participate in drills/simulation programs done on disaster events. Good practice is significantly associated with advance age and higher level of education but not associated with level of income and working duration of army soldiers.

Highly significant association was observed between the level of knowledge and level of practice on prehospital trauma care of army soldiers. It is observed that higher the knowledge practices become better.

Conclusion: A higher proportion of army soldiers had poor knowledge and practice on prehospital trauma care while majority had positive attitudes regarding it. Majority lacks knowledge and practice in first-aid and cardiopulmonary resuscitation. Due to significant association observed between knowledge and practice it can be recommended to include a training session on prehospital trauma care in the basic military curriculum which will enhance the ability to act as first responders effectively.

Further research is needed in this area of prehospital trauma care to enhance the qualitative outcome.

Keywords: Disasters, Prehospital trauma care, First responders, Army soldiers

0261.De Silva, B.H.W.K.
Knowledge, attitudes and practices of the three wheeler drivers on selected road safety rules in Horana Urban Council area.
Postgraduate Diploma in Health sector disaster management -2016   D 4023

Road traffic injuries become a growing disaster in the world. Almost 16,000 people die due to injuries on daily basis. Annually, over 1.25 million deaths and 20 to 50 million sustaining nonfatal injuries result due to road traffic accident (WHO, World Health Statistics, 2016) (WHO, Global status report on road safety 2015). There are 36,918 road traffic accidents and 2801 deaths were reported for 2015 in Sri Lanka (Ministry of Transport and Civil Aviation). Number of accidents attributed to three wheelers are only seconded to motorcycle accidents in Sri Lanka.

This study is a cross sectional study with the main aim to describe knowledge, attitudes and practices of three wheeler drivers on selected road safety rules in the Horana Urban Council Area. Specific objectives of the study are (l)To describe knowledge on selected road safety rules among three wheeler drivers stationed in the Horana Urban Council Area, (2) To assess the association of knowledge on selected road safety rules and selected covariates, nd (3)To observe the practices of road safety rules among the three-wheeler drivers pass through selected locations in the Horana Urban Council Area.

Data collection of the study comprised of two components. Administration of a questionnaire to the three wheel drivers at designated parks in the Urban Council of Horana was comprised of the first component. The second component comprised of direct observation of purposively identified 3 locations in Horana Urban Council Area. Locations for direct observations were identified based on (l)past data on road accidents reported at the Police station of Horana, (2) expert opinion taken by traffic police division and (3) selected insurance companies.

The data were presented as frequencies and percentages. Continuous data were presented as mean and standard deviation. Based on the responses received for questions on knowledge, a cumulative score was developed. Based on the score, participants were categorized as "good knowledge" and "poor knowledge" groups. The associations were assessed with Chi Square test for categorical data. Out of 269 three wheeler drivers registered in 16 three wheeler parks, 206 three wheeler drivers responded (76.6% response rate). About 60 % of participants are in the age group of 35 to 50 years. About 60.2% of this age group had "Good knowledge" and

39.8% were in "Poor knowledge" group. Around 25.7% of the responders were in more than 50 years. There were 24.2% (n = 29) of "Good knowledge" and 27.9% (n = 24) of "Poor knowledge" in this age group. Others were in less than 35 years age category $(j2 = 0.378, p = 0.828)$. All responders had some education. About 41% of the participants have studied up to grade 10. Around

40.0% (n = 48) of this educational group were in "Good knowledge" category and 42.4% (n = 36) were in "Poor knowledge" category. The majority (59.0%, n = 121) were in O/L passed or above educational group and 60.0% (n = 72) of them had "Good knowledge" and 40% (n = 48) had "poor knowledge". About 57.6% (n = 49) of this O/L passed or above educational level responders were in "Poor knowledge" category $(y2 = 0.114, p = 0.736)$. Around 61% (n = 126) of participants had "10 or less than 10 years" service experience. A 63% (n = 76) of those who have "10 or less than 10 years" service experience had "Good knowledge" and 58.8% (n = 50) of them had "Poor knowledge". Seventy nine (38.5%) of total responded three wheel drivers had "more than 10 years" of service experience. There were 36.7% (n = 44) in "Good knowledge" category and 41.2% (n = 35) found in "Poor knowledge" in the service experience category of "more than 10 years" $(\%2 = 0.427, p = 0.513)$. The findings of the study show that the overall knowledge on road safety rules of three wheeler drivers in the Horana Urban council area were satisfactory. But there are some gaps of knowledge on road safety rules specially the "maximum speed" for the three wheelers allowed in the city area. Knowledge is totally independent of age, sex, marital status, religions, ethnicity, educational level and service experiences of three wheeler drivers in the Horana Urban Council area. Around 20% of unsafe driving was observed during the direct observation at three locations for one hour duration. Though the knowledge is adequate, observation showed that practices of road safety rules are poor. Probably it may due to poor attitudes of drivers. It is recommended that, conducting programmes targeted for behavior change of three wheel drivers.

0262.Ebert, C.R.

Study of the knowledge and practices of officers towards handling pandemic influenza at Sri Lanka's main point of entry (PoE), the Bandaranaike International Airport, Sri Lanka.
Postgraduate Diploma in Health sector disaster management – 2016   D 4028

Objectives*:* The knowledge and practices of officers at Sri Lanka's main point of entry (PoE) towards the prevention and control of pandemic influenza were examined through this descriptive cross-sectional study.

Methods: The study was carried out at the Bandaranaike international airport using a self- administered questionnaire including questions on socio-demographic characteristics, knowledge and practices of officers who were actively in contact with passengers.

Results : Completed questionnaires were returned by 193(91%) of the officers. 93.8% of the officers involved in the control and prevention of influenza at the BIA were non-medical personnel. The overall scores of those who had achieved more than 50% marks in knowledge and practices were 44% and 94.3% respectively. A majority of 88.6% had not received training in the handling of pandemic influenza, and a statistically significant association was seen between the knowledge of officers and the previous training they had received. A discrepancy between the knowledge of medical and non-medical officers was also noted.

Conclusions. The officers scored better in the total scores for practices than for knowledge. A significant association was found between the knowledge of officers and previous training prompting the need for regular training among the officers involved in the control and prevention of pandemic influenza at Sri Lanka's main PoE.

0263.Gamaethige, G.

Knowledge, attitudes and practices of Nursing Officers in Colombo South Teaching Hospital on management of an influenza outbreak.
Postgraduate Diploma in Health sector disaster management- 2016   D 4021

Background

Influenza is a highly contagious infectious respiratory disease if not managed properly can result high mortality and morbidity. The focus of this study is to assess several important aspects such as knowledge, attitude and practices of nursing officers attached to the Colombo South Teaching Hospital (CSTH) regarding their

preparedness on an Influenza outbreak. It also aims at assessing the determinants which may make changes in these aspects among nursing officers. The nursing category has been recognized as the most important category of healthcare workers who should possess an adequate level of knowledge and satisfactory practice to handle an outbreak situation effectively in the future.

Methods

This was a descriptive cross sectional study. A self-administered questionnaire was used in all 3 languages as the data collection tool. This research focused on the nursing officers attached to the CSTH. Their preparedness for an Influenza outbreak was assessed under several important aspects. The data were obtained through a questionnaire and they were analyzed statistically in order to draw conclusions and also to make recommendations.

Results

Out of 170 nursing officers 152 responded (89%), majority were from medical units and belonged to 30-39 age category (48%). Years of experience with knowledge of nursing officers were statistically significant $p<0.05$. Work unit and level of knowledge had no statistically significant association $p>0.05$. Specialized units as ETU, ICU, Infections control units showed a better practice than other units ($p=0.009$).

Conclusions

Nursing officers had a good knowledge, positive overall attitude on managing an outbreak and possessed good practices on management of the disease.

0264.Gayathri, W.V.R.
Knowledge and practices regarding solid waste management among students in Kurunegala regional centre of Open University.
Postgraduate Diploma in Health sector disaster management – 2017   D 4392

Solid waste management is a complex problem in most developing countries. Poor waste management is associated with adverse effects on human health and environment

A descriptive cross sectional study was conducted using 404 respondents to ascertain knowledge and practices regarding solid waste management among Students in Kurunegala regional center of Open University.

The mean age of the study sample is 22 years and Standard Deviation is 2.57.There was a female preponderance. The knowledge regarding waste management among the students were high. 72% and 74% of the respondents identified open dumping and open burning as unhealthy solid waste disposal methods. But significant gaps in knowledge regarding waste management were observed. Out of the population surveyed 18% did not consider recyclable waste as a category of solid waste. Only 62% of the respondents were able to correctly identify the national color code for solid waste segregation.

Despite perceiving a causal relationship between improper solid waste management and environmental and health hazards there were significant gaps in the respondents' knowledge. Only 44% of the respondents were aware of the ground water and soil contamination risk due to improper waste disposal. Only 62% were aware of the ability of solid waste to accumulate in biomasses through adding into food chain and to cause diseases.

At least 30% of the respondents were practicing the unhealthy practice of open dumping of waste. Only 35% of the respondents used reusable material as against single use non-biodegradable material and 35% of the respondents practiced separating and handing over recyclable items to collectors/collecting units. Conversely only 63% of the respondents reported to be taking measures to reduce waste generation at home and only 44% reported to be composting biodegradable solid waste domestically, indicating poor knowledge utilization.

Multisectoral collaboration in developing education and awareness programmes and periodic reinforcement is recommended to translate the knowledge into sustained practice. Further research to understand the population's thoughts, feelings and beliefs about waste management behavior will be helpful to develop and implement effective programms.

Keywords: Solid waste, waste disposal, knowledge, practices

0265.Goonewardene, T.D.L.

Assessment of knowledge on paediatric triage and primary trauma care among medical officers of Lady Ridgway Hospital for children- Colombo. Postgraduate Diploma in Health sector disaster management – 2016   D 4024

Objective: To assess the knowledge on paediatric triage and Primary Trauma Care (PTC) among Medical Officers of Lady Ridgeway Hospital

Methodology: A self-administered questionnaire consisting of 12 Multiple Choice type questions and 7 Single Best Response type questions based on paediatric triage and PTC was distributed among 251 Medical Officers selected randomly. Knowledge scores were analysed with regard to socio-demographic variables and previous training in trauma care.

Results: 234 Medical Officers participated in the study, giving a response rate of 93.2%. Satisfactory scores (50% and above) in triage and PTC were obtained by *60.2%* and 77.8% of the sample respectively. The knowledge on paediatric triage was significantly associated with age and present appointment. Knowledge on PTC was significantly associated with age, present appointment, previous emergency/trauma related appointments held, training in trauma care/life support and time since last training. Medical Officers who were 40 years or below displayed better knowledge in triage (85, 72%) as well as in PTC (68, 57.6%) than the above 40 years category (p<0.001). This group of Medical Officers also had a higher percentage (69.5%) of training in trauma care/ life support (p=0.002). The Medical Officers in Surgical/Anaesthesia units displayed better knowledge in both triage (80, 68.4%) and PTC (55, 47%) compared to those in non-Surgical/Anaesthesia units. (p=0.016). The Medical Officers appointed to PCU had obtained higher scores in PTC when compared to Medical Officers appointed to ASU and OPD (p<0.001). A positive correlation was observed between Training in trauma care and PTC knowledge (p<0.001). Of those who had received training, significantly higher knowledge scores (65.3%) were obtained by those who received training within the last 2 years (p=0.014).

There was no association between knowledge and sex of participant or university attended.

Conclusions: Training in trauma care has a strong impact on knowledge scores in PTC. Lower knowledge scores in triage are likely to be as a result of deficiencies

in curricula of trauma care training programmes. It is a timely need for triage to be included as a component of trauma rare training curricula.

0266. Hewagama, S.P.
Knowledge, attitudes and its associated factors on the provision of psychological first aid during response to disasters among public health midwives in Colombo RDHS area.
Postgraduate Diploma in Health sector disaster management - 2017   D 4390

Introduction

Different kinds of distressing events happen in the world causing a wide range of reactions and feelings. Psychological first aid (PFA) is humane supportive response for suffering. All health workers especially PHMs who play a major role as first responders in a disaster should be able provide basic PFA effectively. Aim of this study was to assess the knowledge, attitudes and associated factors on the provision of PFA among PHMs during disasters.

General Objective

To assess the knowledge, attitudes and its associated factors on the provision of psychological first aid during response to disasters among public health midwives in Colombo RDHS area.

Methods

A descriptive cross sectional study was carried out among 307 Public Health Midwives in Colombo RDHS area. All SPHMs and PHMs of the area who were in service were taken as the study population. Data was collected using a self administered questionnaire.

Results

In the study population, 86.6% (n=266) of the respondents were aware of the term "Psychological first aid" while 13.4% (n=41) were not aware. The total knowledge score was good in majority 85.4%(n=262) of the respondents while only 14.3%(n=45) had a poor knowledge on PFA. There was statistically significant difference in relation to the level of education with the total knowledge score. Comprehensive desirable attitudes towards PFA was low(30.61%, n=94). However majority of the respondents (81.10%, n=249) had positive attitudes towards the importance of giving PFA in the immediate aftermath of a disaster. Six to nine years of work experience was associated with positive attitudes. However, there was no statistically significant difference of attitudes in relation to the profession, religion,

place of work, level of education and in relation to the overall knowledge score. According to the study only a less than quarter (21.82%,(n = 67) of the study population had received training on PFA. More than half (56%, n=l 72) of the respondents had experience in responding to disasters.

Conclusions and Recommendations

The overall knowledge and attitudes were found to be satisfactory. However it is important to improve the knowledge level of the PHMs by providing training and workshops on PFA. Development of a public health awareness program on PFA will also be important.

0267.Jayaweera, G.N.P.
Infant nutrition in a disaster response: knowledge, attitudes and practices among public health midwives in Anuradhapura district.
Postgraduate diploma in Health sector disaster management – 2015   D 3942

Infants are one of the most vulnerable groups in disasters/emergencies, so their nutrition is of major concern in a disaster response. The infant feeding in emergencies Core Group (IFE Core Group) is an expert advocacy and resource group on infant and young child feeding in emergencies which functions as an interagency collaboration, widely discusses the optimal feeding practices, risks of sub optimal feeding practices and requirements for minimum response. There are several international guidelines developed by IFE and other various health care organizations in order to deliver a better standard care to infants and young children who are in disaster/emergency situations and are in need.

In our country it is mainly the Public Health Midwives (PHMs) who will be the first contact to be involved in infant nutrition. Therefore it is of utmost importance to assess their knowledge, attitudes and practices on infant nutrition. This study was conducted to assess knowledge, attitudes and practices on infant nutrition in disaster response among PHMs in Anuradhapura district.

A descriptive cross sectional study was carried out from 1st of August to 31st October.

All PHMs attached to 19 MOH areas of Anuradhapura district was included while the PHMs on maternity leave during study period were excluded. A pre tested self administered questionnaire was employed to collect data with prior informed written consent. The total population was included without any calculations (241)

among which only 95% (229) participated in the study. Data analysis was done using SPSS 20 statistical software.

Median age of the sample population was 44(Inter quartile range 35 - 50years) Among the studied PHMs 95.6% were Buddhists, and the majority 61.8% were educated up to G.C.E A/L, 51% of the population has got field experience as a PHM for >15 years.

Overall knowledge on infant nutrition in a disaster response of the study population seemed to be poor, that is <75 percentage score, in a greater proportion (69%) with a median knowledge percentage score of 72% (Inter quartile range= 66 - 76). Total score instead of overall percentage score was calculated for attitude since there are positive as well as negative overall responses. Majority of the population had positive overall attitudes with a median score of +4 (Inter quartile range = +2 - +8). Overall practices also seemed to be very poor, that is <75 percentage score, in 97% of the population revealing their gaps in experience working at a disaster camp site. Median practices percentage score was 10% (Inter quartile range = 0 - 20). However there was no statistically significant association between overall knowledge and any socio demographic characteristic namely age, religion, ethnicity, marital status, educational level and experience in field or having training on infant feeding. But, overall attitudes showed a statistically significant association with the age ($p<0.05$) and experience in field as a PHM ($p<0.05$) Overall practices showed statistically significant association with the educational level in the study population ($p<0.05$).

In conclusion the majority of the population had poor knowledge and practices on infant nutrition in a disaster response (<75% score).Theses overall results elaborate that there is an urgent need in a proper training/awareness programme to increase the capacity and preparedness to respond to a disaster successfully.

0268.Karunarathna, M.S. P.

Knowledge, attitude and practices on effects of radiation during iodine 131therapy among Nursing staff at National Cancer Institute Maharagama. : A descriptive study.

Postgraduate Diploma in Health sector disaster management – 2015   D 3787

Iodine 131 is a widely accepted, safe and a relatively inexpensive treatment modality for some thyroid disorders. Because of radioactive properties of Iodine 131, a potential hazardous radiation could be emitted after a therapeutic administration from the body of the patient, secreted body fluids, excreta and utensils. Therefore, not only knowledge but attitudes and practices about Iodine 131 therapy are prime importance to prevent unwanted radiation exposure.

Institutional based descriptive cross sectional study was done during 1st of May to 31st of November 2014 involving all the nursing staff at NCIM. A simple random sampling technique was used to obtain the sample which contains 240 respondents. The response percentage was 98.7% (237 responses). The mean age of the sample was 30 years with 9.5 SD. 53.78% were married officers. 47.2% of the officers have less than 1 year of service. 91.8% were female officers and 98.7% were Buddhists. 91% have G.C.E. (A/L) and nursing diploma. Almost all except four nursing officers did not have training on radiation.

The knowledge on radiation was discussed under three components as general knowledge, knowledge gained by practice, and advanced theoretical knowledge. The knowledge of the nursing staff regarding the radiation was in satisfactory level in some areas and not in others in all three components of knowledge.

The nursing officers' knowledge differs in different areas of radiation. The respondents who were males, those who were more than 30 years of age and who have more than five years of service have significantly better knowledge. The knowledge gained from practice was better than the general and advanced knowledge. This illustrates that the nurses' knowledge on all aspects of radiation had been improved simultaneously with their service at NCIM

Earlier the G.C.E. O/L was the entry qualification for the nursing and recently it was upgraded to the G.C.E. A/L. Though the results show that the O/L qualified staff has higher knowledge than the A/L qualified staff, it can be due to the service experience of them.

Both males and females had negative attitudes on working in radiation units. The more experienced (duration of service) group and the group above 30 years of age have more negative attitudes than the counterparts. This illustrates the fact that negative attitudes increase with duration of service and age of the individual and it does not differ with the level of education.

The male respondents, the more experienced (duration of work), those of age above 30 years, and those with O/L qualifications had significantly better level of Safety Practices than their comparative groups.

Therefore, as recommendation, officers in all categories should be received a training based on knowledge attitudes and practices regarding radiation before they recruit to radiation departments and radiation emergency response drills should be conducted periodically to improve and update their knowledge. These departments should provide with proper equipment's and they should be checked regularly. The staff should be screened for carcinomas periodically.

0269.Kodituwakku, K.A.L.C.
Provision and satisfaction regarding sexual and reproductive health servicers to disaster affected women of reproductive age at temporary shelters in Neluwa and Kotapola MOH areas following floods and landslides in May 2017. Postgraduate Diploma in health sector disaster management- 2017 D 4385

Background: Floods and subsequent landslides in May 2017 caused considerable loss of lives and massive physical and infrastructural damages in several districts of Sri Lanka. Neluwa MOH area of Galle district and Kotapola MOH area of Matara district were among the worst affected. Displaced people of these two MOH areas were accommodated in temporary shelters. Considerable numbers of reproductive age women were displaced thus creating the necessity for provision of sexual and reproductive health services in temporary shelters. Therefore this study was designed with the aim of finding to which extent these services were provided to displaced women at the shelters and their satisfaction on receiving those services.

Objective: To assess the provision and satisfaction regarding sexual and reproductive health services to disaster affected women of reproductive age at temporary shelters in Neluwa and Kotapola MOH areas during floods and landslides of 2017.

Methodology: A community based cross sectional descriptive study was designed. All reproductive age women at temporary shelters in Neluwa MOH and Kotapola MOH areas were included. Out of 109 reproductive age women 101 participated in the study. An interviewer administered questionnaire was prepared to assess all the key aspects of sexual and reproductive health provision highlighted in Minimal Initial Service Package (MISP). Service satisfaction was also assessed. Service gaps were identified by using a check list in MISP, Registers and minutes on temporary shelter activities at MOH offices and Disaster Preparedness and Response Division at Ministry of Health. Frequencies and percentages were used to analyze the service provision and satisfaction. Ethical clearance was obtained from the ethical review committee of National Hospital of Sri Lanka.

Results: Adherence to key components of MISP during service provision was surveyed in the study. Respondents have identified a manager of the shelter (92, 91. 1%). Grama Sewa Niladari was identified as the manager (n=70, 76.1%) whereas Public Health Midwife was identified as reproductive health officer (49, 48.5%). All pregnant women received the services of a medical officer during their stay while majority of infants were examine either by a medical officer or a PHM (11, 84.6%). Sufficient number of separate latrine and water for sanitation were available at the shelters (n=49, 48.5%). Majority of women received sanitary towels (89, 88.1%).

High satisfaction was recorded regarding the helpfulness of services (54, 53.5%) and service delivery by health staff (57, 56.4%). Majority of women were highly satisfied with the respect received for their rights as a woman (60, 59.4%). Low satisfaction was recorded regarding the delay in initiating SRH services from the onset of the disaster (55, 54.5%).

Absence of instructions and guidance regarding where to seek help in case of sexual violence is a key service gap identified (94, 93.1%). An emergency vehicle to refer pregnant mothers to the closest hospital was not present at the shelters (4, 80%). There was no doctor to attend for sexually transmitted diseases (64, 63.4%). Standard precautions such *as wearing gloves and masks were not* practiced *(64, 63.5%).* Despite being prohibited lactating mothers were supplied with infant formula milk (12, 92.3%). "No private space was available at the shelter for breast feeding as well (9, 69.2%). Majority of contraceptive users confirmed that existing family planning methods were interrupted during their stay at the shelter (37,

57.8%). Health education materials regarding sexual and reproductive health were also unavailable at shelters (93, 92.1%).

Conclusion: Some components of MISP have been followed while delivering sexual and reproductive health services to women. There was coordination on reproductive health issues and measures have been taken to prevent maternal and infant morbidity and mortality despite some lapses. Provision of menstrual protection material to displaced women has also been achieved. Nevertheless, there were significant lapses in prevention and management of consequences of sexual violence. Services to reduce transmission of sexually transmitted diseases were also not adequate. There were deficiencies in adherence to standard precautions in handling patients at shelter site. Contraceptive methods were not provided at site thus interruption of family planning services were recorded. Although service satisfaction was high, steps must be taken to provide SRH services from the onset of disaster to further increase service satisfaction. Therefore, it is essential to address these service gaps in future and consider reproductive and sexual health service delivery as a priority in disaster relief.

0270.Koshali, W.G.K.N.
Knowledge and attitude on provision of adolescent sexual and reproductive health care during a disaster situation and associated factors among public health midwives in Polonnaruwa district.
Postgraduate Diploma in Health sector disaster management- 2018   D 4386

Introduction

Out of 20.4 million of Sri Lankan Population 16% consisted of adolescents of 1019 years. A sexual and reproductive health service provision is a major need among adolescents in developing countries in context of availability, accessibility, acceptability and confidentiality. When it comes to the emergencies and marginalized populations, problem is more aggravated. Public health midwives are the front-line health care workers who provide sexual and reproductive health for adolescents at grass root level. Hence, it is very important to know the baseline knowledge and attitude on provision of adolescent sexual and reproductive health care during a disaster situation and associated factors among public health midwives for development of necessary interventions. The present study was conducted, to assess knowledge and attitude on provision of adolescent sexual and

reproductive health care during a disaster situation and associated factors among public health midwives in Polonnaruwa district.

Methods

A descriptive cross-sectional study was conducted among one hundred and nineteen public health midwives attached to all medical officers of health areas in Polonnaruwa district who works more than six months period. A self-administered pretested questionnaire was administered after obtaining informed consent. Scoring system was developed with expert support. Data entry and analysis were conducted using SPSS 20 software. Percentage scores were calculated for assessment of knowledge and attitude. Depending on the distribution, percentage scores were presented using median and interquartile range. Cut off levels were identified for satisfactory and unsatisfactory levels of knowledge and attitudes separately. Associated factors were looked for the levels of knowledge and attitude using Chi Square test at level of significance of $p<0.05$.

Results

The median age group of the study population was 40 years and inter quartile range was 34 to 48 years. All of them were Sinhala Buddhist. Majority of them were married (n=101, 84.9%).84.9% of the population have passed general certificate of education advanced level (n=101).Mean service duration of the study population was 13 years and inter quartile ratio was 9 to 19 years. Most of them have undergone training on adolescent and reproductive health (n=85, 71.4%).More than 55% have not underwent on training on disaster management (n=67).But more than half of the population had experience on providing adolescent sexual and reproductive health in internally displaced persons camps (n=69; 58.4%). When considering overall knowledge on adolescent sexual and reproductive health care during a disaster period majority 89%(n=106) of public health midwives had satisfactory knowledge. Gaps in knowledge were identified in individual sections on contraception (69.9%, IQR=58.3 to 83.3) related to adolescents. The attitudes among the study population on providing adolescent sexual and reproductive health care in a disaster situation were found to be unsatisfactory (n=62, 52.1%). The total knowledge score was significantly associated with education qualifications (p<0.05)and experience in providing adolescent sexual and reproductive care in a disaster situation (p=0.036). The total attitude score was significantly associated with training on adolescent sexual and reproductive health (p<0.001).

Conclusions and Recommendations

The present study showed that though public health midwives were having satisfactory knowledge on providing adolescent sexual and reproductive health care. They lacked knowledge on handling adolescent sexual and reproductive health care problems in disaster situation. Their attitude on providing adolescent sexual and reproductive health care in a disaster situation was unsatisfactory. Study recommends incorporation of training on adolescent sexual and reproductive health care related to disaster management at basic, post basic and in-service levels

Keywords: Disaster, Adolescents, Sexual reproductive health, Sri Lanka

0271.Kumara,,D.Y.S.
Knowledge, attitudes and practices of the search and rescue teams of the Sri Lanka Army regarding search and rescue as a response to disasters.
Postgraduate Diploma in Health sector disaster management – 2017   D 4395

Introduction

Sri Lanka Army is a valuable resource for the country as a capacity factor in disaster situations. Sri Lanka Army has established wide spread Search and Rescue teams (SAR teams) in all 25 districts in according to the level of risk in each district. SAR teams being one of the front-liners in disaster situations, the Ministry of Disaster Management has arranged specialized training programmes for them to keep their knowledge up to date.

To maintain optimal level, exploring the knowledge, attitudes and practices of SAR teams regarding search and rescue as response to disasters is a salient requirement. Therefore, it is of utmost importance to assess their knowledge, attitude and practices regarding search and rescue as a response to disasters. This study was conducted to assess knowledge, attitude and practices of the SAR teams of the Sri Lanka Army regarding search and rescue as a response to disasters.

Objectives

To describe the knowledge, attitudes and practices of SAR teams of SL Army regarding search and rescue as a response to disasters.

Methods

A descriptive cross-sectional study was carried out from October to December 2017. 5 platoons each were selected randomly from high risk and medium risk district categories and all the 5 platoons were selected from low risk district

category as there is no randomization in the low risk district category. 15 platoons were selected from all over the country for data collection and total sample size was 465.

A pre-tested self-administered questionnaire was employed to collect data with prior informed written consent. Data analysis was done using SPSS 21 statistical software.

Result

Median age of the sample population was 28. Among the studied population 3.2% were officers and 96.8% were soldiers and the majority 80.4% were educated up to G.C.E. (O/L), 62.4% of the population were married.

Among the studied population 9.0% were working as only search and rescue (SAR) team member, 52.9% of the population had undergone training on search and rescue as a response to disasters during the past three years in Sri Lanka and none had undergone training outside the country on search and rescue as response to disasters.

Overall knowledge regarding search and rescue as response to disasters of the study population seem to be good, that is >75 percentage score, 57.2%. Overall attitude were calculated after summation of coded responses, and overall score -20 to 0 was taken as negative attitudes while +1 to +20 was taken as positive attitudes. 93.8% has desirable positive attitudes. 73.5% of total population had participated in search and rescue operation as response to disasters. Overall practices seemed to be poor, that is <75 percentage score, in 71.3% of the population revealing their gaps in experience working at a disaster site.

A statistically significant association was observed with level of education (p= 0.001), and designation (p= 0.004) and knowledge on search and rescue as a response to disasters. A statistically not significant association was observed with level of education designation, and SAR training and attitude on search and rescue as a response to disasters. A statistically significant association was observed with designation (p= 0.021) and practices regarding search and rescue as a response to disasters.

Conclusion & Recommendation

SAR team members should be promoted to get further educational qualification to upgrade their knowledge. Search and rescue drills should be carried out regularly. When conducting knowledge improvement programme it should mainly focus on

improve knowledge on first aids, psychological first aids and dead body handling. Knowledge on search and rescue as response to disasters should be incorporated in to the basic training programme for officers and soldiers. When conducting training programme need to be more focus for practical training.

0272.Kumarathilake, R.S.D.
Knowledge, attitudes and experience on pre hospital care among fire fighters in Colombo municipality area.
Postgraduate Diploma in Disaster Management – 2015   D 3979

Objective:

This study was done to assess the knowledge, attitudes and experiences towards prehospital care in fire fighters in Colombo municipality area.

Methodology:

A cross sectional descriptive study was done including all the fire fighters permanently attached to the all six stations of fire brigade under Colombo municipality area. A pretested self-administered questionnaire was used as the study instrument. The level of knowledge and the attitude was assessed using separate composite scores.

Results :

Response rate of the participants was 92%. Majority of them were Buddhist, lie within the age group of 31 -40 years, educated up to A/L and were firefighters according to the rank of their designation. The total marks varies from 40 to 90 giving a mean of 72.5 ±9.12. While % had an "Adequate" knowledge regarding pre hospital care, 25.9% showed "Inadequate" level. The mean attitude score in the study was 32.5 ± 2.32 out of 40 and all the participants scored more than 25 indicating a "Good" attitude towards pre hospital care. 60% of them had a working experience of more than l years while 93.2% had participated in fire disaster drills during the carrier period. There was a significant percentage (14%) those who had not get any kind of training on first aid by a recognized organization or a person. Only 35.1% has done CPR in an adult during their carrier and the percentage was further less (13.7%) when it comes to a child.

Conclusion:

70% had an "Adequate" knowledge regarding pre hospital care all the participants showed a "Good" attitude towards pre hospital care.

Recommendations:

Recommend to conduct in service training programs for fire fighters including disaster drills and simulations.

Keywords: Knowledge, attitudes and Experiences, Pre hospital care, fire fighters in Colombo municipality area

0273.Lakmali, A.K.S
Knowledge, attitudes and practices of medical officers at the Lady Ridgway Hospital, Colombo on preparedness for selected diseases with pandemic potential.
Postgraduate Diploma in Health sector disaster management – 2017   D 4523

Background

Pandemics such as Avian Influenza and Ebola are unpredictable but recurring events that can have devastating consequences. Although Sri Lanka is an island separated from other countries, the risk of getting such disease is not less due to current trends of travel and trade.

Out of all categories of health care workers, Medical Officers are at the forefront of managing a pandemic response. Concurrently, they are at increased risk of getting exposed to such infections. Therefore, the knowledge and attitudes and the practices with regard to these disease conditions are of crucial importance on assessing their preparedness for such pandemics.

Objectives

To assess knowledge, attitudes and practices of Medical Officers at the Lady Ridgeway Hospital Colombo on preparedness for selected diseases with pandemic potential.

Method

Institution based descriptive cross sectional study was carried out in the Lady Ridgeway Hospital, Colombo from August to October 2016 inviting all (119) the Medical Officers registered in SLMC who working in OPD, PCU, MICU, Medical wards and Isolation unit. A pre-tested self-administered questionnaire was used to assess knowledge on causative organism, transmission, clinical manifestations, laboratory diagnosis, treatment, notification and surveillance procedure with regard to Highly Pathogenic Avian Influenza (HPAI) and Ebola Virus Disease (EVD), attitudes towards working during such pandemics, learning more about disease conditions, willingness to participate in simulation exercises and awareness of

practices in the view of standard and isolation precautions. Data collection was performed by principal investigator. Data were analysed using Statistical Package for Social Sciences, version 21 software.

Results

Response rate was 93.27% (n=l 11). Mean age was 36 years (SD=7.6). Of the respondents, only 31.5% (n=35) had a good level of knowledge on HPA1 with >70% of correct response rate regarding: the disease not being transmitted by properly cooked meat, (76.6%; n=85), Acute Respiratory Distress Syndrome being a clinical manifestation, (73.0%; n=81), oseltamivir being the treatment of choice, (70.3%; n=78) and notification of cases to relevant Medical Officer of health, (60.3%; n=78). Out of the respondents 39.6% (n=44) had good level of knowledge on EVD but <50% of the respondents were correct on the fact that the diagnostic tests for the disease are not performed in Sri Lanka. Overall knowledge was good among 36.9% (n=41) of the respondents and average among 49.5% (n=55).

Of the respondents, 64.0% (n=71) had favourable attitude towards working during a pandemic of HPAI but, 36.9% (n=41) were afraid of falling ill with the disease, (5.4%; n=6) stated that they will consider about resigning due to the risk; 59.5% (n=66) showed a favourable attitude on handling a situation of EVD. Of the respondents, 56.8% (n=63) perceived the risk as part of their job; 46.8% (n=52) were afraid of falling ill with the disease however 76.6% (n=85) stated that they would like to learn more about the disease conditions and 73.9% (n=82) would like to participate in simulation exercises based on pandemic situations.

Overall score on practices was average among 46.8% (n=52). Although 20.7% (n=23) has undergone training on Personnel Protective Equipment, only 14.4% (n=16) reported the correct sequence of donning PPE, however 60.4% (n=67) reported correctly where to get advice for it. Of the respondents, 75.7% (N=84) were aware about using separate patient care equipment but only 45% (n=50) reported correctly the minimum distance that the beds should keep to prevent airborne transmission.

Conclusions

Overall knowledge of the participants was of average level, specifically lacking in areas of recognizing causative organism and diagnostic tests. Although the participants elicited favourable attitude towards working in pandemic situations most of them were afraid of falling ill with the disease. There was good response

towards learning more about the disease and participating on simulation exercises. Average level of awareness on practices was detected with lapses in areas of using PPE and following isolation precautions such as, using negative pressure rooms and keeping a minimum distance between beds.

Recommendation

The study shows the need for implementing training programmes to address the gaps in knowledge attitudes and practices. There should be special emphasis on conducting training programmes on specific infection control measures that should be followed in pandemic situations regularly. Furthermore, simulation exercises should be carried out at least once a year based on managing a incident of such infectious disease.

0274.Leelaratne, K.H.P.
Assessment of knowledge and training needs in primary trauma care of mass burn casualties of medical officers of selected units of Colombo South Teaching Hospital.
Postgraduate Diploma in Health sector disaster management- 2017   D 4026

This is a study to assess the knowledge and training needs in primary trauma care of mass bum casualties of medical officers of selected units of Colombo South Teaching Hospital. This descriptive cross-sectional survey aimed to describe the socio-demographic profile of the medical officers of the sample population and to assess their level of knowledge and training needs in primary trauma care of mass bum casualties.

The study consisted of a total of 68 medical officers from the Accident Service Unit, Anaesthesia unit, Surgery unit and Emergency Treatment Unit.

Results showed that 25 (36.8%) of the medical officers had very good knowledge, i.e. percentage score >75%, while 39 (57.4%) of the medical officers had satisfactory knowledge, i.e. percentage scores between 50 and 75. Analysis of the scores for the sub-sections of the knowledge test showed that a considerable number of doctors scored poorly in the following areas: chemical bums (no=18, 26.5%), triage (no=16, 23.5%), admission criteria for bums (no=l, 16.2%), and primary survey-ABCDE (no=10, 14.7%).

Analysis of the Training needs section showed that there were 9 tasks that more than 25% of the sample population required training in: needle thoracotomy (50%),

suprapubic catheterization (42.6%), central vein cannulation (39.7%), admission of bum victims under admission criteria/guidelines (35.3%), rapid initiation of fluid resuscitation in bum victims (30.9%), use of rapid fluid infusers (28%), use of blood/fluid warmers (28%), decontamination of victims with chemical bums (27.9%) and being mindful of nutrition of a bum patient (25%).

In light of these results, it is clear that there is requirement for refresher courses/lectures and/or the implementation of regular in-service training programs for several aspects of primary trauma care such as central vein cannulation, suprapubic catheterization, endotracheal intubation and cardio-pulmonary resuscitation; and bum management such as bum admission guidelines, fluid resuscitation and chemical bums. There is also a need for better familiarization with equipment commonly used in the management of bum trauma patients such as rapid fluid infusers and blood/fluid warmers.

0275. Madarasinghe, H.P.
Knowledge and preparedness of public health midwives in NIHS area on maternal and child health during disasters.
Postgraduate Diploma in Health sector disaster management – 2015   D 3946

Introduction

In a disaster pregnant women and children are at a higher risk than other population, because they have special physical and psychosocial needs which require continued care despite the community circumstances. Therefore, it is essential a presence of an experienced health worker, who is more aware of disaster planning and preparedness to serve the needs of the pregnant women and children. As a grass root health care worker in Sri Lanka, Public Health Midwife (PHM) should have a good knowledge or how to handle their special needs in times of crisis and be prepared for the disaster; occur in their field. The study was done to find the knowledge and preparedness o PHM in National Institute of Health Sciences (NIHS) area on maternal and child can during disasters.

Objectives

To assess the knowledge, preparedness and associated factors of Public Heath Midwives in NIHS area on maternal and child care during disasters.

Methods

Between July to September 2015, all PHM in NIHS area (total of 74) were selected I the study to collect data by a self administered questionnaire. The participants we surveyed of their personal information, information about their field, history disasters occurred in their field, knowledge on maternal and child care in disaster level of disaster preparedness and trainings received on disaster management. ' knowledge and preparedness were analyzed in relation to the socio-economic; demographic characteristics of the participants.

Results

The study results revealed that only 47.3% of PHMs in NIHS area were having a g knowledge on maternal and child care during disasters and especially they nee improve the knowledge in natal care, newborn care and infant care. Relatively had a good knowledge on antenatal care and child care. There was no significant association between the age, educational level, field experience, MOH area and facing of disasters in the past with the knowledge, which reflects that every one should have a good knowledge in disasters in spite of any circumstances. The preparedness for disasters among the study population was 33.8% and most of them didn't think of the possible disasters that can happen in their fields and didn't have a response plan. The level of preparedness was not significantly associated with other factors like age, educational level, field experience, MOH area or previous exposure to disasters. 58.1% of the participants were not learned about disaster management in any instance in their service period and 94.6% not participated in any training programme.

Conclusion & Recommendation

The PHM in NIHS area should be promoted to get further educational qualifications to upgrade their knowledge. They should be encouraged to gain more knowledge and preparedness on disasters by giving service appreciation and awards for that field. The PHM should get involved in managing disasters and give them the exposure in camp management and disaster preparedness drills should be carried out regularly. When conducting knowledge improvement programmes it should mainly focus on improving knowledge on natal, newborn and infant care with the antenatal and child care. The PHM should be trained to be prepared for the disasters that can happen in their field with a proper response plan. Knowledge on disaster management and preparedness should be incorporated in to the basic PHM training

and regularly carryout training programmes in MOH, district, regional, provincial and national level for the health staff.

Keywords: Disasters, Disaster preparedness, Maternal & child care during disasters, Reproductive health in disasters, infant feeding in emergencies, grass root health care worker.

0276.Mahindaratne, R.C.N.
Frequencies of emergencies, psychological wellbeing and availability of health services for fire fighters in Colombo Municipality area.
Postgraduate Diploma in Health sector disaster management – 2016   D 4521

Background

Firefighters, like many other emergency service personnel provide vital services to the community by responding to fire related emergencies in dwelling houses, business premises, factories, vehicles accident fires, garbage dump fires and forest fires. In the course of their duties, firefighters are exposed to traumatic events such as badly injured people, deceased children and individuals who are highly distraught. The available literature on the subject clearly demonstrates that anxiety and posttraumatic stress disorders (PTSD) are prevalent among the professional firefighters which can affect job performance and overall wellbeing. The aim of the study was to describe the frequencies of emergencies, psychological wellbeing, and availability of health and psychological services of fire fighters working in Colombo Municipality area.

Methodology

A self administered questionnaire survey method was selected to gather relevant information as responding firefighters of Colombo Municipality could answer the questions at their convenience, without any interviewer biases once the objectives of the study and method of answering was explained to them. A cross sectional survey design was used. All the permanent staff (except trainees) attached to main station and other sub stations were included in the study. Secondary data were collected from various records (Occurrence book), registers and check lists maintained by the fire department of the Colombo Municipality. The types of

emergencies and disasters the firemen have attended and their frequencies in last one year period (year 2015) were assessed.

The questionnaire consisted of two parts and first part consisted of questions based on the general socio-demographic information (study variable such as age, sex, marital status etc.), questions related to the job, training, health and psychological service availability that can affect their psychological wellbeing and health of fire fighters. The second questionnaire, the validated General Health Questionnaire - 30 was used to assess the psychological wellbeing of actively participating fire fighters of Colombo Municipality. GHQ 30 was used since it has been shown as most stable and to have the highest validity in Sri Lanka. The questionnaires were provided in all 3 languages.

Results

The results of the frequencies of emergencies encountered by the Colombo Municipal firefighters indicate that they had responded to 253 emergencies during the year 2015 of which 86.5% were within Colombo city limits and the balance in the western province. The average number of emergencies responded per month in 2015 was 21 while the maximum number was 31 and minimum was 14. The commonest type of fires had been caused due to electrical short circuiting. As far as fires in building were concerned fire brigade had responded to 47 fires in dwelling houses, 40 in boutiques/shops, 8 in factories, 7 in offices, 6 in stores and 5 in hotels. They had also attended to 9 vehicles fires and 4 oil related fires during the year. Firefighters attended to more emergencies during the weekdays (71.1%) compared to weekends and holidays. There were no significant variations between day time and night for calls of emergencies.

Widely used self administered Sinhala version of GHQ-30 was used to test psychological distress among the firefighters .15.1 % (n=24) of the total of 159 respondents yielded a GHQ score of > 6 suggest severity of the problems and psychological distress. Of the 24 respondents who scored > 6, four obtained scores higher that 15 indicating distress while one respondent who scored more than 20 indicated severe problems and psychological distress. Those respondents with GHQ Score > 6 were equally distributed among all age categories except a higher percentage was seen in 41 - 50 year category (25%). When considering the rank, 16 firemen out of 118 (66.7%) had GHQ Score > 6. Motorman (12.5%) and 1st class fireman (12.5 %) had high percentages of staff scoring above GHQ Score > 6. Of

the non smoking firefighters 66.7% had GHQ Score > 6 while 33.3% of the smokers had GHQ Score > 6. 87.5% of firefighters with a GHQ > 6 had claimed that they have life stresses. Regarding types of stresses 33.3% had indicated financial problems, while 29% had two types of stresses and 21% had had three types of stresses. It was seen that when level of job satisfaction is increasing life is a struggle rating decreased.

The availability of psychological services designated to the firefighters was assessed in this research as the final objective and 55% of the respondents answered that no such services were available. At the same time in case of disability and death the only benefit they have is the Agrahara scheme.

Conclusion

As this study indicates, the optimal levels of requirements in terms of training, health and psychological health are not met by the administration of Colombo Municipality Fire Department. The degree of psychological distress may not be as very high compared to other countries however, it is important that these firefighters are physically and mentally fit at all times to face any serious situation as disaster situations are unpredictable and has a increasing tendency.

0277. Manamperi, R.S.
Safe use of electricity and electrical appliances in households among school teachers in Gampaha district, and its relationship with their knowledge on electrical hazards/ safety measures and socio-demographic characteristics
Postgraduate Diploma in Health sector disaster management - 2017   D 4393

Introduction'. People of the modem era are extremely dependent on the use of electricity in their day to day life. Despite its importance, it is often dangerous if electricity is not used safely by its consumers. Therefore, it is mandatory that safe practices are adopted when using electricity and electrical appliances for preventing electrical hazards.

General objective: To describe the safe use of electricity and electrical appliances in households among school teachers in Gampaha district and its relationship with their knowledge on electrical hazards/safety measures and socio-demographic characteristics.

Methods: A cross sectional analytical study was conducted among 139 school teachers selected from 5 schools in Gampaha district, Sri Lanka. Teachers were selected in a consecutive manner using the attendance register. A self-administered,

pre-tested questionnaire was used to collect data on; demographic and socioeconomic characteristics; practices related to safe use of electricity and electrical appliances in households; knowledge on hazards and safety measures. Significance of factors associated with practices was assessed using chi square test.

Results: Majority of the teachers consisted of females (n=116; 82.9 %). A total of (n=104; 74.8%) teachers have been educated beyond school level. The monthly income of (n=125; 89.3%) teachers was in the category of Rs 25,000 to Rs 50,000. Majority of the teachers (n=l 15; 82.1%) lived in their own house. A total of (n=121; 87.1%) teachers followed good practices in relation to safe use of electricity and (n=l 19; 85.6%) teachers in relation to electrical appliances. A total of (n=77; 57.4%) teachers showed good knowledge on hazards and safety measures. Associations of poor practice in relation to safe use of electricity were; being male; age >40 years; education level of beyond school level; monthly income less than Rs 50,000; currently taught subjects are related to science and good knowledge on hazards/safety measures, of which, being male and monthly income < Rs 50,000 per month were significant.

Associations of poor practices in relation to safe use of electrical appliances were; being male; age < 40 years; educational level beyond school, monthly income more than Rs 50,000; subjects currently taught are not related to science and poor knowledge on hazards and safety measures. None of the above factors were significant.

Conclusion: Teachers showed relatively good knowledge and practices (>50%) on the safe use of electricity and appliances. Males and low income showed vulnerability for poor electricity practices.

Recommendations: Educating the society especially for low income men, generic brochure for appliances in local language and registration of electricians are recommended.

Keywords : Electricity, Electrical appliances, Safe use, Awareness on hazards and safety measures

0278.Manoranjana, S.M.M.
Knowledge and experience on disaster preparedness in relation to management of health effects among primary health care workers in Puttalam district.
Postgraduate Diploma in Health sector disaster management- 2016   D 4522

Introduction

Disasters have received much attention in recent years. Disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economics or environment loss and impairments which exceeds the ability of the affected community or society to cope using its own resources. Staff of the Medical Officer of Health plays a unique role in the management of health effects following a disaster. Therefore, it is important to know how primary health care workers manage such a health effects.

Objective

To describe the knowledge and experience on disaster preparedness in relation to management of health effects among primary health care workers in Puttalum district.

Methodology

Community based, descriptive, cross sectional study was carried out among primary health care workers attached to all the medical officer of health officers in Puttalum district in 2015.A self administered questionnaire was used to collect data. Total of 206 primary health care workers responded. Both the knowledge and experience of primary health care workers on management of health effects following a disaster were assessed. Knowledge on disaster preparedness of health care workers were assessed in areas of disaster management plan, first aid treatment, relief works, internal displaced camp management, reproductive health management and mental health management whereas experience was assessed in areas of training, participation to develop disaster management preparedness plan and drills, engagement of real disaster responding activities and working with both local and international Non-Governmental Organizations. Scoring system was applied and data was analyzed .Total knowledge score for each areas of disaster preparedness were calculated. Those who scored >75 marks for each knowledge

areas were considered as having adequate knowledge whereas workers who scored <75 marks were considered as having inadequate knowledge on disaster preparedness. In addition to that, total number of experience was calculated.

Results

Male to female ratio is 1:4.Almost all the health care workers were Sinhalese (98.5%, n=204).Majority (76.7%, n=158) of the study sample were public health midwives followed by public health inspectors (14%, n=29), medical officers (7.35, n=15) and public health nursing sisters (1.9%, n=4).Majority (78.2%,n=161) of the sample were >30years of age and (85.9%, n=177) of primary health care workers educated up to advanced level. Only 35 % (n-72) of workers had <5years of duration of service.67% (n=138) of workers had used motor bicycle as commonest transport method to the office. 45.6% (n=94), 48.5% (n=100), 73.8% (n=152), 74.3% (n=153), 51.9% (n=107) and 67.7% (n=127) of primary health care workers had adequate knowledge on disaster management preparedness plan, first aid treatment, relief works, internal displaced camp management, reproductive health management and mental health management respectively. Total mean knowledge score for disaster preparedness was 76.5 with standard deviation of ± 9.45.

There was no significant difference in total knowledge level among primary health care workers except in medical officers who had the highest adequate knowledge (93.3%,n=14).There was no significant statistical association between knowledge on disaster preparedness and age of the workers, level of education and duration of service (p>0.05).

Majority (70.4%, n=145) of the sample had not participated even single disaster management training programes such as lectures, drills and disaster relief works. Hence, there was statistically significant association between total knowledge score and experience of workers on disaster preparedness (p<0.05).

Conclusion

Majority (68.4%) of primary health care workers had adequate knowledge on disaster preparedness. But, the experience of primary health care workers was low. However, the knowledge and experience of the primary health care workers on disaster in relation to management of health effects had acquired mainly from their primary health care service.

Re**commendation**

More and more both theoretical and practical disaster management training, like lectures, discussion and drills should be organized for primary health team. In addition to that, encouragement of Primary health care workers to engage in disaster relief works should be promoted

Keywards : Disaster, Disaster relief works, Drills, Experience, Knowledge, Preparedness

0279.Marzook, M.T.M.
Knowledge, attitude and practices of public health midwives on sexual and reproductive health services in disaster situations in Kalmunai RDHS region. Postgraduate Diploma in Health sector disaster management- 2015   D 4612

Reproductive health is the complete physical social and mental wellbeing not merely the absence or infirmary in all matters related to reproductive system and its function. The international mandates and policies addressed the right of reproductive health time to time since 1948. The awareness on sexual and reproductive health during emergency situations identified as one of the major necessary service after formation of interagency working group for reproductive, which subsequently became the minimum initial service package in late 1990s. In Sri Lankan health framework public health midwives are the grass root level service providers of reproductive health. This study analyzed the knowledge, attitude and practices of public health midwives in the provision of sexual and reproductive health services in disaster and emergency situations.

The title of the study is the Knowledge, Attitude and Practices of Public Health Midwives on Sexual and Reproductive Health services in Disaster situations in Kalmunai RDHS region.

The General objective of the study is to describe the Knowledge, Attitude and Practices of Public Health Midwives on Sexual and Reproductive Health services in Disaster situations in Kalmunai RDHS region.

This is a descriptive cross sectional study during April to November 2015. 140public health midwives who were working in the field of RDHS region Kalmunai, were studied, excluding who were on maternity leave.

Statistical analytically the majority of the participants are having the positive attitude and poor knowledge, therefore, all public health midwives need refresher

training on routine reproductive health Practices, all public health midwives need a regular training on sexual and reproductive health in crises situations. and the knowledge, attitude and practices of other public health staff also should be studied. The result concludes that their knowledge is deficient even though they showed very positive attitudes towards the practice of reproductive health in crises situations.

0280.Mendis, .A.N.H.
Post disaster mental health issues among flood and landside affected in Ayagama MOH area.
Postgraduate Diploma in Health sector disaster management – 2017   D 4387

Introduction

Flood and landslides are the most frequent and most economically vulnerable disasters in Sri Lanka. All disasters are physical and psychological traumatic incidents for affected personnel and may give rise to mental health issues. Even though it is known that it may give rise to mental health issues, very little weight is given to psychological first aid (PFA) during the management of disasters.

Objectives

To identify potential non-psychotic psychiatric disorders among those who were displaced following 2017 May flash flood and landslides in Ayagama MOH area.

Methods

This was a descriptive cross-sectional study including 280 individuals aged between 18 to 75 years from those who resided in displaced camps during 2017 flood and landslides in Ayagama MOH area. The sampling was done by cluster sampling technique. Pre-tested self- administrated questionnaires, including Sinhala translated GHQ30 and PTSD checklist (PCL- 5) was used to collect data. Data were processed and analyzed by using SPSS 20.

Results

In this population male female ratio was 2:3; literacy rate 94% and labour force participation rate 49.2%.

42.5% of the study population resided in a displaced camp due to risk of landslides. 27.5% of the population was still displaced from their original homes and 12.1% of them are still at camps and temporary shelters in Sinhalegoda and Gawaragiriya GS divisions. Among this population only 24.7% has physical or physiological damage due to this disaster and 41.2 *%* of them had partially or totally damaged their

houses.The point prevalence of potential non-psychotic psychiatric disorders and PTSD were 10.4% and 22.5% respectively.

Conclusions

The potential non-psychotic psychiatric disorders prevalence is lesser than other natural disaster affected communities. The PTSD prevalence is more or less similar to 2004 Indian Ocean Tsunami affected of the country, but it is higher than other natural disaster affected in other regional countries. There is no statistically proven relationship between Sociodemographic factors with prevalence of potential nonpsychotic psychiatric disorders and PTSD.

Recommendations

It is recommended by this research to establish organized Psychological First Aid services during disaster relief activities and to build community resilience.

Keywords: displaced, flood, non-psychotic psychiatric disorders, PTSD

0281.Mettananda, M.K.U.P.

Knowledge and practices on post-disaster medical rehabilitation of disaster management team of Hambabtota divisional secretariat area. Postgraduate Diploma in Health sector disaster management – D 3943

Disasters cause serious damage to a community with loss of life, physical injuries with property and environmental damage. Post-disaster medical rehabilitation is a very important aspect in disaster management in early return to normalcy for seriously injured survivors, individuals with pre-existing disabilities or chronic illnesses and to minimize psychological impacts. But the attention on post-disaster medical rehabilitation is very much less in most of the disaster management plans. The present research was carried out to assess the knowledge and practices on post disaster medical rehabilitation of the disaster management team of Hambantota Divisional Secretariat area. The disaster management team in Hambantota Divisional secretariat area includes the District Disaster Management Coordination Unit (DDMCU) staff members, District Secretariat, Divisional Secretariat and their officers and Grama 'Niladhari members. They are the front line actors in a disaster in the area. A descriptive cross sectional study was carried out. Self-administered questionnaire was given to all the team members (n=51).

Results showed overall knowledge on post-disaster medical rehabilitation was good while specific aspects of the medical rehabilitation were poor. Rehabilitation of pre-

existing disabilities or chronic illnesses, physical rehabilitation of seriously injured individuals from the disaster, referral for medical rehabilitation and the organizations which can help in medical rehabilitation were less recognized by the team. Most of the team members have neither involved in post-disaster medical rehabilitation and nor been trained on it. Practices on post-disaster medical rehabilitation were good only in less than a half of the population and very poor in the rest. Previous experience of disaster response and training on post-disaster medical rehabilitation showed a significant positive association with the knowledge. Factors associated with the practices could not elicit due to lack of trained or experienced team members.

Post-disaster medical rehabilitation should be improved to deliver a better service in disaster response in Sri Lanka. Proper frequent training of disaster management teams should be done. Further research and studies should be encouraged to develop this field.

0282.Munasinghe, M.D.D.S.
Knowledge , attitudes, practices and associated factors on prevention and control of communicable disease outbreaks in disasters, among hospital attendees in the outpatient department in General Hospital- Kalutara. Postgraduate Diploma in Health sector disaster management- 2017 D 4397

Introduction

Communicable diseases are easily transmissible from one person to another and favoring increased transmission in disaster situations due to environmental factors and population risk factors such as congestion, hygienic and sanitation.

In the recent past Sri Lanka has faced many natural and human- made disasters compared to the past. With changing weather patterns, industrial and technological advancement in Sri Lanka further favors negative outcomes of communicable disease outbreaks during disaster situations. Kalutara district is being one of the most natural disaster affected area such as floods and landslides in recent past, is considered as a risk prone area and it is also an important district to improve peoples' behaviors and practices on communicable disease prevention and control in disasters.

Communicable diseases are easily emerge and tend to spread in any disaster situations as the environment created in disasters are usually favoring the emergence and spread of communicable diseases.

In any natural or human-made disaster situations, people are affected and suffering in finding ways to normalize life styles. If the affected people are unaware of how to prevent communicable diseases and what to do in such situations, they will end up with double burden in disasters. Since the health care cost is borne by the government and the responsibility of health care provision is also borne by the government, it is utmost important to be ready in preventing communicable diseases in disaster situations to reduce the unnecessary health care cost which could be prevented through readiness in advance.

In fact, the study aimed to identify the gaps in knowledge, attitudes and practices on prevention and control of communicable disease outbreaks in disasters and the factors associated with those aspects that would help to improve provision of health care services in more effective manner.

Objectives

This study aimed to assess knowledge, attitudes, and practices and associated factors on prevention and control of communicable disease outbreaks in disasters, among hospital attendees in out-patient department in General Hospital-Kalutara. The study specifically addressed to identify knowledge on prevention and control of communicable disease outbreaks in disasters among hospital attendees in outpatient department in General Hospital-Kalutara, to identify attitudes toward prevention and control of communicable disease outbreaks in disasters among them and to describe their practices and factors associated for the knowledge attitudes and practices in prevention and control of communicable disease outbreaks in disaster situations. This expects to identify gaps and areas to be improved to recommend cost effective strategies in preventing communicable disease outbreaks in disasters

Methodology

A descriptive cross sectional study was carried out using systematic random sampling method to select participants from outpatient attendees at the General hospital- Kalutara. An interviewer administered questionnaire was used to assess the knowledge, attitudes, practices and associated factors targeting to identify

baseline elements on prevention and control of communicable disease outbreaks in disasters.

Results

Age range of the participants was 18 to 58 years with mean age of 35 years and the majority (64.4%) was above 30 years of age. The female to male ratio was 3:1 with majority (70%) of females. Of the total sample 75% had their highest educational level as G.C.E (O/L) or above. Majority (52.2%) of the participants had average monthly income above Rs. 10,000/-. The study revealed that 63.3% of study population had good knowledge on prevention and control of communicable disease outbreaks in disasters while 70% of the participants had good practices in prevention and control of communicable disease outbreaks. Considering the educational level on influencing knowledge on communicable disease prevention and control in disasters, no significant association observed (p= 0.087). A significant association observed between participation or listening for educational programmes regarding communicable disease prevention, control and the knowledge (p= 0.041) assessed and the previous exposure to communicable diseases and the knowledge (p= 0.01). A significant association observed between the level of practice on prevention and control of communicable disease outbreaks in disasters and prior participation or listening for educational programmes related to communicable disease prevention and control (P<0.05). Also there were significant associations between practice and interest in searching details regarding communicable diseases (p=0.011) and previous exposure to communicable diseases (p=0.001). Participation for communicable disease prevention programmes showed to have a significant relationship to level of practice (p=0.008). According to the study it showed a significant association between knowledge and practice of prevention and control of communicable disease outbreaks in disasters (p< 0.05). There was a significant association (p<0.05) between knowledge and practice on prevention and control of communicable disease outbreaks in disasters.

Conclusions and recommendations:

Majority of the study population had good knowledge and a good level of practice on prevention and control of communicable disease outbreaks in disasters. Their overall attitudes towards prevention and control of communicable disease outbreaks in disasters were favorable. Also this study concluded that there was a

significant association between level of knowledge and level of practice in prevention and control of communicable disease outbreaks in disasters. However there were some gaps regarding some aspects of knowledge, attitudes and practices on prevention and control of communicable disease outbreaks were identified and need further interventions.

Keywords: communicable diseases, Outbreaks, Disasters

0283.Pethiyagoda, C.J.B.
Assessment of students' and Institutional disaster preparedness in the University of Peradeniya.
Postgraduate Diploma in Health sector disaster management – 2017   D 4022

Disasters can occur in day to day life of any human being. While man-made disasters can be minimized, the natural disasters are impossible to prevent. Largescale disasters around the world demonstrate that no person and no country can escape from them. Improving the disaster preparedness, disaster knowledge and attitudes towards disasters in the community can minimize injury or damage or other health impacts. Higher educational institutions are a type of setting or location where individuals congregate. The graduates from these institutions will hold responsible positions in various institutions upon graduation and eventually be leaders in Sri Lankan society.

The main objective of this study is to assess the institutional disaster preparedness and disaster knowledge, attitudes and preparedness in university students. To achieve this, three faculties in the University of Peradeniya were selected. Using a multi-stage sampling method a survey questionnaire was administered on 380 students to collect information on disaster preparedness, disaster knowledge and attitudes towards disaster management. Study used a few statistical tests and descriptive methods to analysis the collected data to achieve the above objectives.

According to the study results of the research, overall students' level of disaster preparedness on a scale of one to ten, was 5.76. Preparedness was higher for females compared to males. Faculty of Arts averaged below the others. Disaster knowledge was measured on a scale of 1 to 15. Average overall disaster knowledge score was 8.87 out of 15. Agriculture faculty students on average scored the highest. Faculty of Arts students scored significantly lower than both Science and Agriculture students. There was no statistically significant difference among the

groups. Majority of the students felt there was a need to have a disaster management plan according to responses on attitudes. However, a high proportion felt that it was highly unlikely for a disaster to happen in their institutions. These results show the need of an attitudinal change in the group. A significant amount of Science faculty students felt it was not necessary to conduct regular disaster drills in an institution. Overall students' average score for attitudes was 30 out of 33, which can be an acceptable level of attitudes towards disasters. The high reliability consistency test score indicates that the survey questionnaire can be used as a tool to measure the disaster management attitudes of educational institutions.

Institutional disaster preparedness survey revealed that all the faculties' needed improvement particularly in fire and laboratory safety systems. Laboratory accreditation should be done and certificates should be issued to all the laboratories. Entire university should develop disaster management committees to all the faculties and each faculty should have disaster management plan and they should perform disaster drills regularly. Disaster management training, fire safety equipment training to all the members of the faculties is critical. The buildings should be disable- friendly. Old building should be renovated to ensure safety. This stresses the importance of implementing disaster preparedness awareness programs and continuous evaluation of these activities for all the universities and other educational institutes in Sri Lanka. Furthermore, incorporation of disaster management into the study curriculum can be the most appropriate step.

0284.Ranasinghe, N.R.
Knowledge and practices related to fire safety and their associated factors among factory workers at CEAT- Kelani International Tyres (pvt) Ltd. Postgraduate Diploma in Health sector disaster management – 2015   D 3944

Introduction

According to the World Health Organization estimates, more than 265,000 deaths occur annually due to fire in the world. Fire at work place has been one of its main contributory factors. Apart from death, work related fire injuries lead to substantial social and economic cost to the victim and employers.

Objectives

To describe the knowledge and practices related to fire safety, and their associated factors among factory workers in CEAT- Kelani International Tyres (Pvt) Ltd.

Methods

A cross-sectional study was carried out among 217 workers in the factory of CEATKelani International Tyres (Pvt) Ltd having minimum work experience of one year, selected using simple random sampling. A pre-tested self-administered questionnaire used to collected data on knowledge on fire safety, use of fire safety practices and socio-economic characteristics. Marks were given for knowledge: Very good (100-80), Good (79-60), Average (59-40), Poor (Below 40) and practices: Satisfactory (100-75), Unsatisfactory (below 75). Associations of knowledge and practices were assessed using chi-square test.

Results

Response rate was 81.2%. The majority were Sinhalese (97.7%), married (77.4%) and educated up to Ordinary level examination (66.4%). 51.2% have had fire related accidents while 58.8% had never participated in fire drills. 'Very good' knowledge was seen with fire safety practices (38.7%), fire-fighting and basics on fire (20.3%) and first aid during fire (18.9%). Workers' overall knowledge on fire safety was 'satisfactory' in 74.7%, with 17.1% having 'very good' knowledge and 57.6% having 'good' knowledge. None were in poor knowledge group. Majority of workers' (89.4%) overall practices related to fire safety was 'satisfactory'. Being a machine operator, more than ten years work experience, advanced level/ vocational training as highest education level, experience on fire accidents and their participation in fire drills were significantly associated with workers' 'good' level of knowledge on fire safety. However, a Significant association was not seen between the use of fire safety practices and knowledge on fire safety or any socioeconomic characteristic of the workers.

Conclusion

Tyre factory workers showed satisfactory knowledge on fire safety and use of fire safety practices. Though knowledge was associated with many characteristics of workers, practices did not. Conducting fire training sessions and fire drills are necessary to improve their skills in practices related to fire safety.

0285.Rathnasekara, L.D.T.P.

Disaster preparedness of rheumatology and rehabilitation Hospital, Ragama. Postgraduate Diploma in Health sector disaster management. – 2015 D 3940

Introduction

According to the World Health Organization estimates, more than 265,000 deaths occur annually due to fire in the world. Fire at work place has been one of its main contributory factors. Apart from death, work related fire injuries lead to substantial social and economic cost to the victim and employers.

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Results

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of knowledge on fire safety. However, a Significant association was not seen between the use of fire safety practices and knowledge on fire safety or any socioeconomic characteristic of the workers.

Conclusion

Tyre factory workers showed satisfactory knowledge on fire safety and use of fire safety practices. Though knowledge was associated with many characteristics of workers, practices did not. Conducting fire training sessions and fire drills are necessary to improve their skills in practices related to fire safety.

0286.Rathnayaka, R.M.N.N.K.
Knowledge on landslides and its preparedness among grade 12 students in Badulla Educational Division.
Postgraduate Diploma in Health sector disaster management.- 2015   D 4133

Landslides are one of the common and frequent natural disasters in Sri Lanka. Over past several years from 2003, occurrence of landslides gradually increased causing extensive damage for lives and properties. School is an ideal setting for health promotion activities and can be used as the focal points for transferring knowledge on landslides to the community.

Therefore this study was aimed to describe the level of knowledge on landslides and its preparedness among Grade 12 students in Badulla Educational Division. A descriptive cross sectional study was carried out among 660 students enrolled using cluster sampling technique with 97% response rate. Data collection was carried out using pretested self-administered questionnaire.

Majority of study participants was Sinhala (92.5%), Buddhists (92.2%) and representing Badulla divisional secretariat area (48.9%).

Level of knowledge on landslides and its preparedness, among students were assessed and associations between levels of knowledge with socio economic factors were assessed using chi-square test and statistical significance was tested at 95% confidence level.

The level of overall knowledge on landslides was satisfactory among 75.6% of students while 80.8% of students had satisfactory overall knowledge on landslide preparedness. Ninety-eight percent of participants knew that landslide occurs due to both natural and manmade causes, 99% of participants knew that heavy rains is one of the triggering factors for landslides and 93.8% of participants identified,

Grama Niladari as one of the responsible Government official to be informed, when warning signs of landslide appear.

The overall knowledge on landslides and its preparedness was significantly associated with ethnicity, level of education and profession of parents ($P < 0.05$). There was no statistically significant association between employment status of parents, having participated for exhibition or workshop, having watched or listened to news on television or radio and having personal experience regarding landslides. Even though the majority of Grade 12 students in Badulla Educational Division had satisfactory overall knowledge on landslides and its preparedness, knowledge gaps in areas such as landslide prone districts in Sri Lanka, manmade causes for landslides and people who need special attention during an emergency evacuation, was identified by this study. This gap could be filled by including more lessons on landslides and disaster risk reduction activities in the school curriculum. In addition, guidelines for schools need to be introduced in order to enrich the importance of preparedness for landslides among school teachers and students. Other than the theoretical approach, it is required to organize the landslide simulation exercises on school environment to achieve better preparedness. All these measures may help students to act as messengers to communicate and educate their families about landslides and its preparedness.

0287.Rupasinghe,M.C.S.
Knowledge and practices of Gramaniladhari of Kalutara district regarding camp management in disaster situations.
Postgraduate Diploma in Health sector disaster management – D 4059

Background: Food, clothing, housing and medical care are basic needs of a human being and thus provision of them in adequate manner is the aim of the humanitarian response in disaster situations. The Humanitarian Charter and the International Human Rights law provides the legal backdrop to maintain minimal standards in the humanitarian response. Today the Global Camp Coordination and Camp Management cluster co-lead by the UNHCR and IOM handles the camps in disaster situations worldwide. In Sri Lanka the camp management is done by multidisciplinary team approach where multiple stakeholders lead by the government will be handling the camp management during disaster situations in which the Grama Niladhari is the grass root level government official.

Objectives: To assess knowledge and practices regarding camp management in disaster situations among Gramaniladhari in Kalutara district.

Methodology: A descriptive cross sectional study was conducted in Kalutara district including Grama Niladhari working in the Kalutara district who has working experience of more than six months. Six divisional secretary areas were selected randomly to achieve the required sample size. There were 418 Grama Niladhari in the selected divisional secretary areas. Self-administered questionnaire was used for data collection and chi square test was performed to compare variables. Ethical clearance was obtained from the ethics review committee of the National Hospital

Sri Lanka. Overall knowledge and practices scores were calculated and categorized in to "Good" and "Poor" using the 25th percentile as the cut off value.

Results: Number of participants were 406 [response rate 97.12%] and the sample consisted of more females [58.6%] than males [41.6]. Average income was Rs.30199.00 [SD=6793.19] and 84% of the participants had not received any training on camp management. Only 30.5% had been engaged in camp management during their working years and 57.6% were not familiar with the computer based reporting formats. In assessment of the knowledge more than 35% of GNs had poor overall knowledge in camp management and in assessment of overall practices more than 25% of the GNs had poor practices in camp management.

Conclusions and Recommendations: Awareness programs aiming to improve the knowledge will be beneficial and close inspection of real situations of camp management during disaster situations is recommended to ensure standard camp management procedures as the practices was poor among 25.9% of GNs. Inclusion of experienced GNs (as a support team to the area GNs) in management of camps in real situations to share their knowledge with the younger generation will be beneficial to reduce pitfalls in camp management during disaster situations. The study identified the lack of training in camp management and lack of adaptation of the new technology into the scheme of work of GNs which emphasize the need of training on camp management as well as the need of a forum to share knowledge of the people who had training and experience in camp management

0288.Sathishka, A.M.D.R.
Knowledge, attitudes and practices of medical officers on managing and transferring casualty admissions during a disaster at Base Hospital Gampola in Kandy district.
Postgraduate Diploma in Health sector disaster management – 2016   D 3941

The study was conducted to describe knowledge, attitude and practices (KAP) of medical officers on managing and transferring patients admitted as casualties during a disaster, at Base hospital Gampola. In addition it was targeted to identify some factors that are associated with level of KAP of these medical officers. This study was conducted as a descriptive cross sectional study through a selfadministered questionnaire given to medical officers during September 2014 at Base Hospital, Gampola. All data were coded and entered into a database, which was created using the Statistical Package of Social Science (SPSS)

The results of the study showed that although the medical officers had an average understanding of the on basic principals in disaster management, this needs to be improved. Only 11.6% of study group had received training programs on disaster management. Overall they had good attitudes regarding the management of patients in disaster situation. The hospital practices were satisfactory.

The study revealed that disease (Epidemics), landslides and Road Traffic Accidents (RTAs)- were the commonest disasters encountered at Base hospital, Gampola and the major reasons for transfers were for specialized management ,for specific investigations and when the health staff is inadequate.

Improving the level of knowledge, attitude and practices (KAP) of medical officers on managing & transferring casualty admissions during a disaster is suggested. In addition improving facilities of base hospitals is recommended to improve the patient outcome and reduce the number of transfers.

0289.Senanayaka, S.D.L.B.
Knowledge, attitude and practices of nursing officers at Base Hospital Avissawella on psychological first aid during disaster response.
Postgraduate Diploma in Health sector disaster management – 2015   D 3945

Psychological first aid is becoming more popular as an alternative to psychological debriefing in a disaster situation. It has been recommended by many international expert groups, including the Inter-Agency Standing Committee (IASC) and the

Sphere Project. So it is worth to study on knowledge, attitudes and practices on psychological first aid among health care workers.

General Objective of the study was 'To assess knowledge, attitude and practices of nursing officers in BH Avissawella on psychological first aid during disaster response'.

This study was a descriptive cross sectional study, conducted among nursing officers at Base Hospital Avissawella using a self administered questionnaire. Data was analyzed by using SPSS version 20. Chi square test was applied to assess association between selected variables. A probability value of < 0.05 was considered as significant.

116 nursing officers and 3 nursing sisters responded to the study. Among them 111 (93.3%) were female and 112 (94.1%) had working experience for more than 5 yrs. Majority had relatively good knowledge on some aspects of PFA such as. definition of PFA. who need PFA, when and where PFA can be provided. However there were some gaps in knowledge that needs to be addressed. There was no statistically significant difference ($p > 0.05$) of knowledge between two age groups.

Majority showed a positive attitude towards some aspects of the PFA while majority had negative attitudes in some aspects of PFA such as, it is important to give PFA in the immediate aftermath of a disaster and everybody can practice PFA. There was no statistically significant difference ($p > 0.05$) of above attitudes between two age groups. There was a statistically significant difference ($p < 0.05$) between two age groups on the attitude of' need special training on PFA'. among the participants who had past experience on managing a disaster situation, majority had good practices on some aspects of PFA. However the study found that there were several incorrect practices of the study participants, when dealing with real situations. From the study it is recommended to arrange awareness programs to improve knowledge and attitudes on PFA. Simulation exercises and drills are recommended to improve practices on PFA. As the study was conducted in a Base Hospital, it is necessary to carry out a comprehensive study in multi-level setting to gain more information on knowledge, attitudes and practices on PFA.

0290.Senarathne, K.N.C.
Safe transportation of patients following road traffic accidents to the accident and orthopedic service at the National Hospital of Sri Lanka.
Postgraduate Diploma in Health sector disaster management – 2016   D 4025

Background:

Road Traffic Accidents are a leading a cause of death, hospitalization and disability throughout the world, accounting for 9% of all deaths and 16% of the burden of disability annually. Sri Lanka reported morbidity of 16.1% and a morality rate of 4% resulting from RTAs in 2007.The mortality rate subsequent to RTA reported in 2014 amounted to 6.75% indicating an increase of 68.75% during the 7 year period. Expedient transport of RTA victims to major trauma centers facilitates treatment and reduce mortality and morbidity. However there are considerable gaps in the knowledge on the mode of transport, pre-hospital and first aid care and the association between the mode of transport and impact of RTA among patients brought to the accident and orthopedic service of the major trauma centers of Sri Lanka.

Objectives:

To assess the mode of transport, type of injury, extent of injury, impact, and associated factors of safe patient transport following RTA's at the accident service of NHSL.

To evaluate the mode of transport. and associated factors on the injury severity score of the patient as gathered by secondary data.

Method

A descriptive cross sectional study was conducted among patients attending the accident and emergency service of the National Hospital of Sri Lanka. Simple random sampling was used as the sampling technique. A pretested self administered questionnaire was used to collect data. Data collection was performed by the principal investigator by meeting and inviting the patients or in case the patient being unable to provide adequate answers by inviting the bystanders. Data was analyzed by a computer using Statistical Package for Surveys and Solutions (IBM SPSS) version 15.0 package. Injury severity score obtained for each patient was cross analyzed to assess their association with selected factors. For description of variables descriptive statistics was used. A probability value of < 0.05 was considered as significant.

From the respondents 84% (n=281) of the patients were below the age of 40 years and 69% (n=231) of patients were between the ages of 21-40 years. There were preponderance of male patients and most of the patients were daily wage earners. 58% (n=195) of patients were transferred to the hospital in three wheelers compared to 33% (n =111) of patients in four-wheelers.61% (n= 188) of the RTAs involved two wheelers while 30% (n=92) involved three wheelers. Patients receiving ore hospital care were 6% (n=20) During intra and inter hospital transfer there were skilled medical or nursing attendance in 40% (n=134) of instances and 38% (n=128) of patients received care while in the ambulance. Limb injuries amounted to 53% (n=l 78) of injuries.38% (n=74) of victims transported to the hospital in three- wheelers reported an injury severity score of 21 or more compared to 12% (n=13) of patients transported in four wheeler vehicles.

Conclusion

The mode of transport to hospitals and pre hospital care were found to be below desired levels with majority of patents being transported in a relatively unsafe mode i.e. three-wheelers. Pre hospital care received during intra hospital and inter hospital transfer is inadequate. A significant increase in the injury severity score of patients transported in three wheelers were observed.

Recommendations.

Strict implementation of rules of safe road use is recommended. Increasing knowledge, attitude and practice of safe road use among all strata of road users is highly desirable given the high morbidity and mortality incurred by road traffic accidents. A government sponsored ambulance service would be beneficial if implemented since there was a significant increases in the injury severity score among patients transported to the NHSL in three wheelers as compared to four wheeler vehicles. The prehospital care, care received in the ambulance during intra and inter hospital transport was found to be inadequate. Measures need to be undertaken to increase the knowledge attitude and practice among all strata of road users in pre hospital care (first aid) and safe transportation of patients. The study recommends ambulance staff to be trained in prehospital care and safe transportation of patients.

Since baseline data as to the injury severity score of the patients who participated in this research was not available this study recommends that further studies should

be conducted cross analyzing injury severity score prior and after transportation to the hospital.

Keywords :Safe transportation, Pre hospital care, Injury severity score, Transport mode.

0291.Serasinghe, K.S.
Knowledge, attitudes and practices on disaster preparedness in chemical emergencies among security officers at Sri Lanka Ports Authority, Colombo. Postgraduate Diploma in Health sector disaster management – 2016   D 4027

Introduction

Sri Lanka Ports Authority Colombo, which was founded in 1979, is a state-owned major commercial port in Sri Lanka. Sri Lanka Ports Authority, Colombo handles cargo storage facilities, including dangerous cargo warehouse operations involving dangerous chemical raw materials. There is a risk of an unexpected chemical emergency leading to a disaster due to these reasons. The aim of this study was to assess knowledge, attitudes and practices on disaster preparedness in chemical emergencies among security officers at Sri Lanka Ports Authority, Colombo, since security officers will be the first responders in an emergency.

Methodology

A descriptive cross sectional study was carried out using a self administered questionnaire. The questionnaire consisted of questions under three main sub topics namely, knowledge, attitudes and practices on disaster preparedness in chemical emergencies. The study population was security officers of security division in Sri Lanka Ports Authority, Colombo. The study period was from 1st of November to 31st of November 2016.

Results and discussion

The response rate was 75.5% (n=453). Among the respondents, majority 36% (n=163) were within the age group of 31-40. According to the data received, 74% (n=335) had a working experience more than ten years. Over 80% of the respondents had identified the hazard label (IMDG code) and the use of the hazard label correctly, while only 51% had answered correctly on question regarding adult cardio-pulmonary resuscitation. Among the respondents, 50% (n=226) had selected the wrong answer regarding irritant gases. Overall knowledge on decontamination and decontamination procedure was satisfactory. Majority had positive attitudes on their roles and responsibilities in disaster preparedness in chemical emergencies at

Sri Lanka Ports authority, Colombo. When considering the practices, majority believes that the amount and the training received on personal protective equipment's (PPE), training on chemical emergencies and basic first aid is inadequate.

Conclusions & Recommendations

The knowledge and attitudes on disaster preparedness in chemical emergencies among security officers at Sri Lanka Ports Authority, Colombo was satisfactory, while attention should be focused more on practices.

The security officers should be given training on giving basic first aid, dealing with chemical emergencies, and handling on personal protective equipment's (PPE) at the beginning of their service and periodically while on service.

0292. Shanmugarajah, S.
Comparative study on knowledge, attitude and practices on control of dengue breeding sites, garbage collection and disposal among heads of household between high and low dengue incidence GN divisions in Batticaloa MOH area. Postgraduate Diploma in Health Sector disaster management – 2016   D 4388

Introduction

Epidemics are public health disasters. Dengue is a major public health problem in Sri Lanka. The aim of study is to assess the knowledge, attitudes and practices towards control of dengue vector breeding sites and garbage collection and disposal among heads of household in high and low dengue incidence GN divisions in Batticaloa MOH area.

Methodology: A community based comparative descriptive cross sectional study was carried out among 100 heads of household from 9 high and low GN divisions of Batticaloa MOH area using random sampling method. A pre-tested interviewer administered questionnaire was used to collect data. Descriptive methods of statistical analysis was undertaken in presenting the findings in relation to the stipulated objectives.

Results: From the respondents 56% (n=56) were from high dengue incidence GN divisions and 44% (n=44) were from low dengue incidence GN divisions. Out of the 100 heads of household involved in study 79% (n=79) were male headed households. The majority of heads of household (61% , n=61) belonged to the age group of 26- 45 years in both high and low dengue incidence GN divisions. The

majority of them were Tamils in both high and low incidence GN division (82% n=82). The majority 77% (n=77) were working in the private sector. The majority of study population (46% n=46) studied up to grade 6-11. The Majority (97.7%, n=43) of study participants from low dengue incidence GN area knew the cause of dengue disease and about 75% among them knew Aedes mosquitoes are vectors for dengue disease. All of the study participants (100%) were aware of importance of knowledge on waste management particularly segregation of waste, proper disposal and recycling of old tires and plastic bottles.

Mean attitude score towards household's responsibility and control measures were slightly higher among low dengue incidence households than those of high dengue incidence area (2.72 and 2.48 respectively)!/? = 0.702). Mean attitude score towards responsible government stake holder was higher in high incidence GN division compare to low dengue incidence GN division (10.34 vs. 7.84) {p = 0.934). About 91.1% (n=51) of the participants from high dengue incidence GN area and 95.4% (n=42) of participants from low dengue incidence GN area had good practice on committing actions to reduce household waste. Flower pots and vases (64.3%) and pet dishes (57.1%) were commonest potential breeding sites in high dengue incidence GN area while discarded coconut/ king coconut shells (56.8%) were commonest potential breeding sites in low dengue incidence area.

Conclusion: In overall this study concluded knowledge of households on cause, symptoms, transmission, waste management and prevention was slightly higher in high dengue incidence GN division. On the other hand household from low dengue incidence area had much positive attitudes towards prevention of disease, self responsibility and control measures. Overall it shows households of high dengue incidence GN division had much more good practice compare to those from low dengue incidence GN divisions.

0293.Siriwardena, S.M.A.D.K.

Assessment of knowledge and attitudes on fire safety among factory workers in large scale garment factories at a medical officer of health area in Puttalam district.

Background

Annually there are over two million fatalities occurring worldwide due to work related injuries and diseases and among those 350,000 are related to work related accidents. Fire is considered to be a significant threat for work related accidents, particularly in textile, toy and similar kind of industries. Fire safety is a field that has been addressed significantly in developed countries. However, evidence on implementation of fire safety measures in Sri Lanka is scarce and needs urgent attention.

Objectives

To assess the knowledge and attitudes on fire safety among large scale garment factory workers at Mahawewa MOH area in Puttalam District

Methods

A descriptive cross sectional study was carried out in two large scale garment factories among 460 operational staff workers selected according to probability proportionate to size of worker strength in each factory. Workers were allocated within a factory according to probability proportionate to size of worker strength at each section of the factory. Data was collected using a pre tested, self-administered questionnaire and was analyzed using SPSS version 16.

Results

Age of respondents ranged from 16 to 70 years with a mean age of 32 years (SD ± 10 years). Majority of them were Sinhalese (79%, n= 366) and Catholic (51%, n= 236). There was an equal distribution of males (50.7%) and females (49.3%).

Thirteen percent of the respondents had good knowledge on fire safety symbols and 19% had good knowledge on fire safety information. Eighty-three percent of the study population had poor overall knowledge on fire safety.

Fifty-seven percent of the respondents had got fire safety training and 17% of respondents have experienced one or several events of fire during work. Knowledge on fire safety showed a significant relationship with level of education, area of work, attitudes on fire safety, fire training and past experience of fire events.

Most of the respondents (82%) had favourable attitudes on fire safety.

Conclusion

The overall knowledge on fire safety of the study group was poor. However most of them had favourable attitudes on fire safety.

Level of education, area of work, attitudes, fire training, past experience in fire showed a significant association with knowledge on fire safety.

Recommendations

Measures should be taken by the relevant authorities to establish standards and prepare guidelines on fire safety for garment sector industries. Training on fire safety has to be conducted at a regular basis. A system should be established to monitor fire safety training in large scale garment factories by relevant authorities.

0294.Sivapathamoorthy, S.
Factors associated with knowledge and attitude of natural disaster awareness among grade 10 school students in Maruthankerny divisional secretary area. Postgraduate Diploma in Health sector disaster management- 2015   D 4134

Factors associated with among grade -10 school students in Maruthankerny Divisional Secretary area.

A disaster can take place anywhere in the country and some areas are more vulnerable to disaster due to geographical and climatic condition. The impact of disasters considerably affected our economy, society and environment. Therefore it is important to update the knowledge and attitude of Disaster awareness and preparedness among members of the community. Maruthankerny area is situated in the North Eastern Coastal Belt of Sri Lanka and it is often affected by natural disasters.

The descriptive cross sectional study was carried out to assess the selected factors associated with knowledge and attitude of disaster awareness and among grade 10 school students in Maruthankerny DS area in Jaffna District. Data was collected from all 201 Grade l0 students who were present at school during the study period from June 2015 to November 2015.

In this study, the students with average knowledge of natural disasters were most common (59.1%) and 29.1%study population had good knowledge. Regarding attitude of natural disaster situation 99.4% were agreed disaster awareness is important of community. The knowledge of the students on natural disaster was

significantly associated with technological factors and there were lack of understanding an environmental and social related factors.

The knowledge of natural disaster was considerably high and attitude towards the natural disaster was good among the students, knowledge of the students on natural disaster awareness was significantly associated with technological factors such as habit of watching news on TV, listening the news on radio , read newspaper and disaster education in schools.

Recommendations are Students need to discuss with family members regarding disaster and to learn lessons from their previous experience. Everyone in the family should know their role and responsibility is if disaster strikes. Students must know the importance of environmental factors such as natural barriers and reforestation help to minimize the effects of disaster. Awareness activities for Student should be more practically oriented with disaster drill, so that their disaster preparedness is increased.

0295.Surasinghe, R.U.K.
Knowledge and practices on triage and advanced life support among the Medical Officers at the Base Hospital Homagama.
Postgraduate Diploma in Health sector disaster management- 2017   D 4394

Introduction: Triage is the process by which disaster casualties are categorized per their need for first aid, resuscitation, emergency transportation and definitive medical care. The key principle of mass casualty incident Triage is to provide the best possible care to the most possible number of patients in a situation where the available resources are very limited.

Advanced interventions following Basic Life Support are known as the Advanced Life Support (ALS) including use of a defibrillator when appropriate. When ALS is provided at the right time, it will greatly improve mortality in medical emergencies.

Objectives: The aim of the study was to assess the knowledge and practices on Triage and ALS among medical officers at the Base Hospital Homagama Methods: The study was a descriptive cross-sectional study conducted among medical officers at the Base Hospital Homagama including the entire study population. A standard, validated, pretested self- administered questionnaire was utilized. Data was analysed using statistical package for social sciences version 21. The level of

statistical significance was set at p=0.05. Ethical principles of autonomy, justice, beneficence, nonmaleficence were safeguarded throughout the study.

Results: The total number of potential study population was 157 medical officers whereas the response rate was 87.9% (n=132). Fifteen-point two percent (n=20) of the participants had had a structured training on both Triage and ALS and among them 61.9% (n=60) received that training more than 2 years ago. The percentage of having a good knowledge in triage and ALS was 25% (n=33) and 32.6% (n=43) respectively whereas the percentage of having an average knowledge on Triage and ALS was 52.3% and 51.5% respectively. Twenty five percent (n=33) and 29.5% (n=39) were very confident respectively in performing triage in a mass casualty incident and providing ALS. Moreover, 21.2% was confident in triaging patients in a mass casualty event whereas 18.2% was confident in providing ALS. Concerning the statistical associations analysed, a true statistical association was identified between the level of knowledge on triage and place of work as well as between the level of knowledge on triage and years of work experience after the internship. Moreover, there was a true statistical association between confidence in triaging and place of work.

Conclusions and Recommendations

The level of knowledge on both triage and ALS was inadequate and the confidence on performing triage and ALS was unsatisfactory. Only a small percentage of the participants had received a structured training on Triage and ALS. Therefore, conducting structured training programmes on triage and ALS is of utmost importance to upgrade the emergency health service delivery of the institution.

Keywords : Triage, Advanced Life Support, Knowledge, Practice

0296.Swarnamala, H.H.T.S.
Risk perception regarding landslides among affected inhabitants in Meeriyabedda,
Postgraduate Diploma in Health sector disaster management – 2015   D 3947

Introduction: In Sri Lanka occurrence of landslides are on the rise. There is a need to understand risk perception in victims and general population regarding natural hazards to implement successful disaster mitigation strategies.

Objective: To assess risk perception and risk mitigation intentions regarding landslides among affected inhabitants of Meeriyabedda - October 2014 landslide.

Methodology: A descriptive cross-sectional study was conducted among 103 victims affected from 2014 October landslide of Meeriyabedda, who are currently residing in an abandoned tea factory in Makanda, Poonagala until resettlement. Participants in 15-75 year age group were selected. An interviewer administered questionnaire assessing sociodemographic characteristics, risk perception, trust towards stakeholders, psychological vulnerability and risk mitigation intentions, was used for data collection,

Results: Largest percentage of participants was in 31-45 year age group (35%, n=36), 44.7% (n=46) were educated up to grade 5 and 42.7% (n=44) were employed as labourers. The impact of landslides (mean score= 3.78) was perceived more than the sense of controllability of a landslide (mean score=2.04). Only 38.9% (n= 40) were clear about mitigation actions and 12.7% (n=13) had a sense that landslides can be controlled. The victims trust the capability of stakeholders like government (58.3%, n=60), experts (74.8%, n=77) and media (70.8%, n=73) in a disaster situation. The psychological vulnerability of the study group is high and 94.2%% (n= 97) of the population often worries about the threat of a landslide. There was a positive attitude towards mitigation intentions like alerting on hazard potential areas (85.4%, n= 88) and information seeking (94.2%, n=97). But the victims are not ready to accept inconvenience (58.2%, n=60) or financial loss (60.2%, n=62) due to government's mitigation plans or take mitigation actions in their own expense (73.8%, n=76). Only 45.6% (n= 47) are willing to relocate if it is affordable. Socio-demographic factors like age, gender, educational status, occupational status and personal monthly income and other factors like previous exposure to landslides are not associated with the mitigation intentions in this population.

Conclusion: There is opportunity to carry out awareness programs effectively and community based disaster mitigation programs, as the sense of "perceived impact" of landslides is high in this study group after experiencing a fatal landslide. Even though people understand the importance of carrying out mitigation programs they are not willing to take mitigation actions on their own with the low socioeconomic background. Government should implement programs to improve standards of living in this estate population and focus more on increasing the acceptability of disaster mitigation activities.

0297. Tathsaranga, T.D.P.
Knowledge and practices of laboratory workers in Medical Research Institute (MRI) on chemical, biological, radio-nuclear (CBRN) emergency situations.
Postgraduate Diploma in Health sector disaster management – 2017   D 4520

Introduction

Medical Research Institute Colombo, which was founded in 1900's and initially named as "The Soysa Bacteriological Institute" which play a unique vital role as a major service provider for island wide with special and specific diagnostic laboratory facilities. At present Medical Research Institute (MRI) consists of seven departments with 21 sections, so there is a high risk of an unexpected Chemical, Biological, Radio-Nuclear (CBRN) emergencies leading to a disaster due to this reason. The aim of this study was to assess knowledge and practices of laboratory workers in MRI on CBRN emergency situations.

Methodology

A descriptive cross-sectional study was conducted in MRI Colombo including laboratory workers who has work experience at least one year. There were 268 laboratory workers excluding administrative officers and clerical staff. Self-administered questionnaire was used for data collection and chi square test was performed to compare variables. The questionnaire consisted of questions under two main sub topics namely, knowledge and practices of laboratory workers in MRI on CBRN emergency situations. Ethical clearance was obtained from ethics review committee of National Hospital Sri Lanka. Overall knowledge and practices score were calculated and categorized in to "Good" and "Poor" using the 50th percentile as the cut off value.

Results

Number of participants were253 (response rate 94.40%) and the sample consisted of more females (71.5%) than males (28.5%). Among the responders, majority (31.5%) were within the age group of 31-40.Only 44.66% of laboratory workers had experience on CBRN emergency situation while they are on work. In assessment of the knowledge around 49% of laboratory workers had poor overall knowledge on CBRN emergency situations and in assessment of overall practices nearly 40% of laboratory workers had poor practices on CBRN emergency situations. First person to be inform in a CBRN emergencies, "Biosafety manual for medical laboratories" and guidelines for surveillance of laboratory workers are

the areas to be considered in poor knowledge. While considered in poor practices, emergency fire drill practices and CBRN emergency drill practices are the weakest areas.

Several socio demographic and work related factors such as females, graduates, consultants and laboratory safety training were associated with knowledge and practices. A statistically significant was observed between good knowledge and good practices.

Conclusion and Recommendation

The knowledge and practices of laboratory workers on CBRN emergency situations in MRI Colombo was satisfactory, while attention should be focused more on practices because MRI is the leading laboratory in Sri Lanka. Awareness programs aiming to improve the knowledge will be beneficial and compulsory laboratory training before they start their work in lab recommended to ensure safe laboratory environment as the practices were poor among 39.9% of laboratory workers. Conduct stimulation exercise, fire drills and CBRN emergency drills, workshops annually will beneficial to reduce pitfalls and update their knowledge on CBRN emergencies.

0298.Warnakulahewa, K.M.

Knowledge, attitudes and preparedness to protect infant and young child feeding in emergencies among public health midwives in Ampara district. Postgraduate Diploma in Health sector disaster management – 2018   D 4396

Infant are one of the most vulnerable groups in disasters/emergencies. So their nutrition should be a major concern area during a disaster. If concentrate on infant and young child feeding on emergencies (IYCF-E) there are several manuals released by infant and young child feeding core group (IFE Core group) on infant feeding in emergencies which is an expert advocacy and resource group on infant and young child feeding (IYCF). It discusses the optimum feeding practices, risk of suboptimum feeding practices and requirements for minimum response in order to deliver a better standard care to infant and young children during a disaster/emergency situation.

In Sri Lanka Public Health Midwives (PHMM) are the grass root level workers who involve in infant and young child nutrition. Therefore, assess knowledge, attitudes and preparedness among PHMM on IYCF-E is an utmost important to protect

infant and young child nutrition during an emergency/disaster situation. This study was conducted to assess knowledge, attitudes and preparedness to protect infant and young child feeding in emergencies among public health midwives in Ampara district.

A descriptive cross sectional study conducted from August 2017 to November 2017. All the PHMM who were attached to Medical officer of health (MOH) offices in Ampara and Kalmunai Regional Director of Health Service (RDHS) areas were included while who were in maternity leave and PHM who were having experiences in field less than six months excluded. Pre tested self-administrated questionnaire employed to collect the data with prior informed written consent. The total population was included without any calculation (260) among which only 93% (243) participated in the study. Data analysis was done using SPSS 21 statistical software.

Median age of the sample population was 42 (Inter quartile range 32-46years). Among PHMM 45,7% were Buddhist. Majority (76.1%) of them educated up to G.C.E A/Level.58.4% of the participants had field experience as a PHM for more than 10 years.

Overall knowledge on IYCF in a disaster seemed to be satisfactory among 74.1% of the study population that is > 75% percentage score, while 25.9% were with poor knowledge. Though majority of the participants were trained on IYCF only 1.6% knew about IYCF in a disaster response which is part of the IYCF programme. There was a statistically significant correlation between overall knowledge and age (p<0.05), overall knowledge and education qualifications (p<0.05), overall knowledge and being train on IYCF (p<0.05) and overall knowledge and service experience in the field (p<0.05) while there was a statistically significant positive correlation between the day of duty reporting after a disaster and PHM residence in the working field (p<0.01).

Among all participated PHMM 99.2% were with overall positive attitudes, while only 0.08% with overall negative attitudes. Statistically significant association found between overall attitudes and age (p<0.05), previous personal experience on disasters (p<0.05) and past disaster experience at working field (p<0.05).

More than half (56.4%) were with poor preparedness on IYCF in an emergency/disaster. Only 26.3% of PHMM had a disaster response plan for their

respective PHM area. Preparedness on IYCF were significantly associated with age ($p<0.05$), previous personal experience on disasters ($p<0.05$) and past disaster experience at work ($P<0.05$). Inadequate training on disaster management was identified as the reason for poor preparedness by most of the PHMM (92.2%).

0299. Wedamulla, A.
Knowledge on cardio pulmonary resuscitation and practice of drowning prevention activities among active patrol lifeguards in Colombo district. Postgraduate Diploma in Health sector disaster management- 2016   D 3909

Background: Since 1998, occurrences of floods have gradually increased in Sri Lanka with the highest number of deaths related to a flood recorded in 2006, with 170 deaths. Prognosis of a drowned victim depends on a shorter submersion time, early initiation of Cardio Pulmonary Resuscitation (CPR) and early establishment of spontaneous breathing. Lifeguards are deployed as first line rescuers in flood disasters. There are regular patrolling services in high risk areas along the coast and lakes. Therefore it is very important to have an updated knowledge on basic life support. In addition, enhancing life-saving skills in local communities by appropriate training programmes and co-ordination with other organizations in drowning prevention efforts are some of the policy recommendations in Sri Lanka.
Objective: To describe the knowledge on cardio pulmonary resuscitation and practice of drowning prevention activities among active patrol lifeguards in Colombo District.
Methodology: A descriptive cross sectional study was carried out among lifeguards who have been on active lifeguard patrol duty for the last six months in all 19 lifesaving clubs in Colombo district. A self-administered questionnaire was used to assess knowledge on CPR and practice of drowning prevention activities. Univariate descriptions presented with multiple linear regression for selected factors. Continuous variables were compared using student t test while chi square was used for comparison of discrete variables. Ethical clearance obtained from ethics review committee of National Hospital of Sri Lanka.
Results: There were 307 participants (response rate 96.5%) from four categories of life saving clubs; Tri-Forces 89 (29%), Clubs & Societies 85 (27.7%), Departments 79 (25.7%), and Schools 54(17.6%). Majority were males (278, 90.6%). Age group

of 30 to 40 years comprised of 102 (33.2%). Most (192, 62.5%) have passed General Certificate of Education (Ordinary Level).

During last one year period 247 (80.5%) had undergone training on CPR. The knowledge on CPR was satisfactory in 196 (63.8%). Most participants knew the initial number of rescue breaths (282, 91.2%) and what needs to be done if the air way was blocked (268, 87.3%). However the knowledge was inadequate on the correct order of CPR (68, 22.1%), seeking help (97, 31.6%) and technique to check the airway (98, 31.9%). Knowledge was significantly associated with age, level of education, duration of service and use of CPR on duty ($p<0.05$).

With regard to prevention activities, 40% of the lifeguards on active patrol duty have conducted drowning prevention public awareness campaigns to risk groups during past one year and 42% had contributed to developing safety warnings to control access to unsafe water areas. Lowest participation (47, 15.3%) is in development of monitoring and evaluation guidelines.

Conclusion: Majority of active patrol lifeguards had satisfactory knowledge on CPR. With regards to prevention activities, lowest contribution had been to activities that required a technical involvement rather than a physical involvement such as preparing guidelines for disaster preparedness to manage floods and developing monitoring and evaluation framework. They should be given more opportunities to get involved in planning and developing of monitoring and evaluation framework.

0300. Weerasekera, N.N.
Knowledge, preparedness and associated factors for home accidents among mothers of preschool children in Medical Officer of health area Maharagama. Postgraduate Diploma in Health sector disaster management – 2016   D 3908

Background

Home accidents are more prevalent among preschool aged children around the world, probably due to their nature of high physical activity and tendency to explore the environment. Mothers are the primary care givers and first hand best evident person to get accurate information on home accidents of pre-scholars. In fact, the knowledge and preparedness assessment of the mothers of preschoolers considered a current requirement for future prevention of home accidents among them.

Objective

To describe knowledge, preparedness and possible associated factors for home accidents among mothers of preschool children in MOH area Maharagama.

Methods

A descriptive cross sectional study was carried out among mothers of preschool children in MOH area Maharagama. Cluster sampling method was used and the sample size was 606. Self-administered questionnaire was used for data collection and was analyzed to identify the knowledge level which was identified by giving a score value and their preparedness for prevention and to attend early for any home injury was analyzed by variables with frequencies.

Results

There was a significant relationship between knowledge score and All the mothers in the study group were Sinhalese and all had some level of school education. Out of them 40% were employed. About 58% of the mothers knew that the home would be the commonest place the child meets with an accident. Further 80% of them identified falls as the commonest type of accident.

education level (P<0.05) of the mother. The preparedness on home accidents had a significant relationship with education level (P<0.05) and age of the mother (P<0.05).

Conclusion

The mothers of preschool children in MOH area Maharagama had good knowledge and preparedness on home accidents but there were some knowledge and preparedness gaps for burn injuries.

0301.Wickramaratne, S.G.K.
Knowledge and practices of public health inspectors regarding prevention of diarrheal diseases among internally displaced persons due to floods in Kalutara district.
Postgraduate Diploma in Health sector disaster management- 2015   D 3939

Floods are the commonest type of disaster which affects thousands of people worldwide. The main health impact of floods is due to disease outbreaks. South West monsoon rains causes floods in most areas in Sri Lanka, and Kalutara district is one of the most affected.

In flooding situations, affected people are deployed in temporary camps (i.e, Camps of Internally Displaced Person (IDP)). The health aspects of these people is a responsibility of the Medical Officer of Health (MOH) of the area. The Public Health Inspector (PHI) is an important member of the health team who will actively involve in the prevention and control of communicable diseases. Over 40% of deaths in a disaster setting and a refugee camp setting cause by diarrheal diseases. Therefore the knowledge and practices for prevention of diarrhea should be assessed and updated.

Objectives of the present study is to assess the knowledge and practices of PHII regarding prevention of diarrhea in IDP camps and assess the association of selected covariates and the knowledge and practices of PHII relevant to the prevention of diarrhea in IDP camps.

Descriptive cross sectional study was conducted in District of Kalutara which includes Kalutara Regional Director of Health Service (RDHS) area and the field practice area of National Institute of Health Sciences (NIHS). All PHII attached to MOH offices in Kalutara district was taken as the study population.

A self-administered questionnaire which includes basic questions relevant to the knowledge and practices of prevention and control of diarrheal condition during a disaster was used as the study instrument. Permission was obtained from the RDHS, Kalutara and Director, NIHS. Ethical clearance was obtained from the Ethics Review Committee of the NIHS.

Principal investigator visited on monthly conference date to each MOH office and distributed the questionnaire to PHII. Data was presented as percentages and associations were assessed. Chi-square test was used assess the association between the knowledge and the covariates.

The response rate was 85%. The mean age of the study participants was 40 years with standard deviation of 8.2 (minimum age is 27 years and maximum is 58 years). About 43.6% of the participants were having experience as a PHIT for less than 10 years. About 75 % of the participants have experienced in controlling diarrheal conditions in floods situations. Most of the PHII knew about the disaster register. About 87% of PHII knew that there should be a disaster plan. Knowledge on alarming signs of diarrhea which should be referred for medical advice was known only by a smaller proportion of the study population. About 92% knew that

dehydration is a complication of diarrhea. Only 14.5% knew seizure is a complication. Knowledge about bacteriological testing for water samples and water sample collection for chemical parameters was satisfactory. Almost all (96.4%) stated dysentery is a water bom disease.

In conclusion, the present study shows that the knowledge and practices of PHII regarding their daily routings were satisfactory; however there are knowledge gaps relevant to the needy procedures and activities pertaining specifically in disaster situation. It is recommended conducting a similar study with a representative sample of PHII from the entire country. An in-service program should be planned on this subject based on the identified training needs.

0302. **Wimalaratne, K.D.C.**
Knowledge and attitudes, of public health inspectors of central province, regarding food and water safety in emergency camps.
Postgraduate Diploma in Health sector disaster management -2017 D 4389

Background: Sri Lanka was known to be a country which was less prone to natural disasters, and mainly dealt with man-made disasters, due to the 30-year civil war, which originated in the 1980's. But recent statistics show that, since 1998, natural disasters have increased dramatically, whilst the man-made disasters have gradually subsided, with the resolution of the civil war. This upward trend in natural disasters are a direct result of human urbanization activities, unregulated development, etc. in the country, as well as in the region, resulting in freak weather patterns and so on. Most disasters will result in a large number of victims, who will have to be temporarily housed in emergency camps, until measures to relocate may be undertaken. During that time, the main health services providers will be the Public Health Inspectors, working under the Medical Officer of Health, at the grassroot level. Their knowledge and attitudes, in provision of safe food and water to the camp occupants, will be of great importance, in minimizing morbidity or mortality, and providing healthcare to the victims, at an optimal level.

Objective: To assess the knowledge and attitudes of public health inspectors of Central province, regarding provision of safe food and water, in emergency camp situations.

Methodology: A descriptive cross-sectional study was carried out, involving all public *health* inspectors on active *duty, in the* central province. A self-administered

questionnaire was used to assess the knowledge and attitudes in provision of safe food and water, in emergency camps.

Results: There were 135 participants (response rate 96.4%), from all three RDHS divisions in the Central province; RDHS Kandy 56 (41.5%), RDHS Matale 37 (27.4%), and RDHS NuwaraEliya 42 (31.1%). All participants were males (n=135, 100%), and out of which, the majority (79, 58.9%), were above 40 years of age. 128 (94.1%) of all responders have a minimum education up to diploma level, whereas the remaining 7 (5.9%) have passed General Certificate of Education. (Advanced Levels).

During their active service period, 87 (64.4%) had worked in emergency camps, following disasters. The basic knowledge on disasters, and provision of safe food and water in emergency camps were satisfactory 115 (85.9%). Majority were aware of the food safety measures, minimum water requirements, and water sanitations measures in an emergency camp. However, most of the PHIs' 118 (87.4%) had not heard of the international SPHERE standards of emergency camp management, whereas 61(45.2%) had not heard of the WASH principle in provision of safe water. Although the knowledge score was slightly better in those who were aware of the SPHERE standards and WASH principles, there was no significant association between them.

With regards to the attitudes, majority 115 (85.2%) said that a special coordinator was required to coordinate safe food and water provision activities in emergency camps. Overall attitudes regarding their role in an emergency camp, and its impact in minimizing morbidity and mortality of the occupants, and promoting their health, was excellent 71 (52.6%).

Conclusion: All participants were males, out of which the majority were between 40 to 50 years of age, with completion of their secondary education. Majority of public health inspectors had a satisfactory basic knowledge on disasters and provision of safe food and water in emergency camps, with regards to food sanitation, water sanitation, minimum requirements, etc. Majority of PHIs' who participated, also had excellent attitudes towards their role, in ensuring better healthcare for the camp inmates. The main issue identified was the lack of awareness regarding international standards in disaster management. They should be given more opportunities for training and knowledge exchange programs with

international exposure, which would further expend their knowledge, and help them in providing an improved healthcare service for their country.

0303.Wijesinghe, R.P.
Knowledge, attitudes and practices of grade 12 students on influenza prevention in Homagama educational zone.
Postgraduate Diploma in Health sector disaster management – 2017   D 4391

Introduction

Influenza, a respiratory tract disease which can cause serious outcomes has become an unpredictable threat to developing countries as Sri Lanka. School going students belong to a specific category which is at risk of spreading the disease. Further, they play a crucial role in health education. The present, study was conducted to assess the knowledge attitudes and practices on influenza prevention and their associated factors among grade 12 students in Homagama educational zone.

Method

A descriptive cross sectional study was conducted among grade 12 students in Homagama educational zone over the period of June to November 2017. All government schools in Homagama educational zone which had advanced level classes were included in the study. Self-administered questionnaire was applied for assessment of knowledge, attitudes and practices of 420 students. The total sample size was calculated according to a formula, by Lwanga and Lemeshow (1991). The sample size from each school was calculated using probability proportionate to the number of total grade 12 students in each school. The calculated number of students from each school was selected randomly from all subject streams. Informed written consent was obtained from students and parents. Confidentiality was maintained throughout the study. The data was entered and analysed using SPSS 20 software. The knowledge, attitudes and practices were assessed separately via a scoring system. The mean scores with standard deviation or median scores with inter quartile ranges were calculated depending on the distribution. Associations of categorical variables with knowledge, attitude and practices were identified using chi-square test at the level of significance of $p<0.05$.

Results

The response rate was 100% with 233 females and 187 male students. Out of all responders, 64% (n= 267) had learnt on Influenza prior to the study. That was mainly from media (n=193:57. 6%).The median score for knowledge was 47.72,

with an Inter quartile range of 36.36-61.36. Only 10% (n=42) had satisfactory level of knowledge >70. Knowledge was associated with subject stream (p<0.05). The students from Biological Sciences and Maths streams performed better than others. The median score for attitudes was 30.00, with an inter quartile range of 20.0045.00. Only 2.9% (n= 12) had a satisfactory level of attitude > 70.There was a significant association between attitudes and subject stream as well as attitudes and monthly family income (p<0.05).The median score for practices was 45.45 with an Inter quartile range of 36.36-63.63. Out of the study population 20.2% (n= 85) had scored >70 for preventive practices. Did not significantly associate with socio demographic factors (p>0.05). The most practiced measures for prevention were hand washing

(n=267:63.6%) and washing handkerchief regularly (n=268: 63. 8%).Isolation was practiced by 42.6% (n=179). Usage of face mask was practiced by 35% (n=149) and vaccination of family members was practiced by 27.4% (n=l 15) of the students.

Conclusions

Present study shows the inadequacy of knowledge, poor attitudes and practices on prevention of Influenza in the school community. This reflects their difficulty to handle an outbreak of Influenza. Study recommends incorporation of more interventions targeting behaviour changed communication among school children on prevention of influenza.

Keywords: Influenza, knowledge, attitudes, practices, school students, Sri Lanka

0304.Wimalasuriya, J.R.W.
Knowledge, attitudes and preparedness on chemical disasters among grade medical officers at district General Hospital Gampaha.
Postgraduate Diploma in health sector disaster management - 2016   D 4156

Chemical disasters in Sri Lanka have increased during the past three decades due to rapid industrialization. Therefore, the capacity of hospital staff to manage chemical disasters is important.

Objective:

"To assess knowledge, attitudes and preparedness on chemical disasters among grade medical officers at District General Hospital Gampaha".

Methods:

A descriptive cross sectional study, was conducted among Grade Medical Officers at District General Hospital Gampaha using a self-administered questionnaire. All Grade Medical Officers with three or more months of service at the current unit was considered for the study. Data was analyzed by using SPSS software and Chi square test was applied to assess correlation between selected variables. A probability value of < 0.05 was considered as significant.

Results:

Total sample was 232 Grade Medical Officers and the response rate was 80.6%. The knowledge on chemical disasters among 136 (72.7%) participants was not satisfactory and there was no statistically significant difference ($p > 0.05$) of knowledge with age, sex and the work experience.

Among the participants 144 (77%) had favorable attitudes towards chemical disasters.

There was no statistically significant difference ($p > 0.05$) of attitudes with age, sex, grade and the work experience.

In 98.9% of the participants, the total preparedness for chemical disasters was inadequate. Almost all the participants had not attended simulation drills regarding chemical emergency, not underwent any kind of training on chemical disasters, didn't know how to triage victims of a chemical disaster and not had a training on using personal protective equipment.

Conclusion:

Majority had relatively poor knowledge on chemical disasters in the aspects of characteristics of hazardous chemicals and their effects on humans, decontamination techniques and patient management.

Majority had favorable attitudes towards chemical disasters in the areas of risk perception, gaining more knowledge and training, patient handling and preparedness.The preparedness for chemical injuries was grossly inadequate among the majority.

Recommendations:

From the study it is recommended to build the capacities of Grade Medical Officers on chemical disaster management. As the study was conducted in a small sample, it is necessary to carry out a comprehensive study in a larger sample in multi-level

setting to gain more information on ; knowledge, attitudes and preparedness on chemical disasters.

Information Management

0305.Karunasekara, H.C.
Bibliometric analysis of theses, dissertations and casebooks submitted to the Library of the Postgraduate Institute of Medicine (PGIM), University of Colombo, Sri Lanka.
MSc. Information Management (MIM) – 2014   **D 4231**

A Bibliometric study was carried out concerning the Theses, Dissertations and Casebooks submitted to the PGIM by those aspiring for their Doctor of Medicine (MD) and Master of Science (MSc) degrees. The data collecting methodology consisted of counting the annual submissions of theses, dissertations and casebooks classified according to subjects. Data analysis was mainly carried out through graphical representations. Secondary data such as frequency classes in production among the subjects, quartiles of production and absolute and relative growth rates of production were calculated using the graphical representations.

The results of the research project showed that the largest number of theses, dissertations and casebooks have been submitted in the sub disciplines of Medicine (33%) and Surgery (16%) for the MD's while Community Medicine gave the highest score (64%) for the M.Sc. theses. The time wise distribution of thesis submission showed an accelerating growth with the last 6-7 years of the period under study (1982 - 2011) producing more than 50% of the total number of theses. Calculation of absolute growth rates showed that there was not only a growth in production over time but that the rate of growth was itself steadily increasing.

0306.Weragala, L.K.
Evaluation of usage of e-resources for writing dissertations in Postgraduate Institute of Medicine, Sri Lanka.
MSc. Information Management (MIM) – 2015   **D 4232**

A citation study was carried out with the objective of analyzing the references cited in the dissertations submitted by candidates aspiring for their MSc. in Community Medicine at the PGIM during the year 2012.

The references given were listed out and were differentiated according to selected criteria such as print resources versus e-resources, the type of e-resource and the type of print resource etc. The frequency of each such category used was computed and the results are presented in a graphical format. Also, a study was carried out to observe and quantify the adherence of the formatting of the citations to the 'Harward Style Referencing Guide. The results of the research project showed some unexpected outcomes. In the first instance the frequency of print resources used (87%) vastly exceeded the e-resources used (13%). When analyzing the usage of various categories of print resources it was found that the highest score was for journals followed by books. The usage of reports and dissertations was low. The analysis of usage of e-resources according to similar criteria showed that the highest frequency goes to e-books followed be e-reports. The usage of e-journals and e-conference proceedings was low The analysis of the usage of WHO e-books to other e-books showed that usage of WHO e- books vastly exceeded the other categories at a score of 68% .

The analysis of adherence of formatting of citations according to the 'Harward Style Formatting Guide' showed that in the e-books category adherence was very good in the formatting of year, title, web addressing and accessed date while adherence was poor in quoted , summarized , and paraphrased categories. Formatting adherence in the e-journal category showed a very good adherence in year and title, place etc. while it was very poor quoted and paraphrased categories.

Medical Administration

0307.Adikari, A.M.P.S
Interventional study to improve report delivery of microbiological investigations done at MRI with concern to turn-around-time.
MD Medical Administration – 2018   **D 4608**

Background

This is an interventional research project carried out to improve report delivery sys of the Clinical Bacteriology Laboratory (CBL) of Medical Research Institute (M which is a National Reference Laboratory that provides services to the entire coin The intervention is earned out to overcome gaps in report delivery system including

turnaround-time (TAT), which is a recognized gap when serving widely geographic separated hospitals.

Aims

Aim of this study is to identify the gaps in present report delivery system at CBL of to design a suitable intervention to address the gaps and to assess the effectiveness process by improvements with a special reference to TAT that will lead to increase user satisfaction and better clinical outcome for the patients.

Methods

Both qualitative and quantitative approach was used to study the process. Qua techniques were mainly used for gap identification and designing of the intern Quantitative methods were used for the assessment of effectiveness of the improv A continuous quality improvement package was designed with extensive li review and full stakeholder participation.

Results

Qualitative findings confirmed delay in sample transport due to poor common lack of established mechanism and weak coordination between transport unit ai The paper-based report generation process is disorganized, unreliable and err The paper-based report delivery to Base Hospitals was dependent on ambulance or government postal service. This system was delayed are coordinated.

The interventions consisted of improving communication mechanism with transport division and weirds by means of an internal circular. WHONET, a free windows based Laboratory Information System and database software, developed by World Health Organization for microbiology laboratories was introduced to generate reliable and accurate automated reports. Reports in pdf format were delivered to end users by secured email.

The end-users revealed timeliness, accuracy, quality and uniformity of reports and quantitatively, statistically significant ($p<0.05$) improvement in TAT postintervention.

Conclusion

The structured quality improvement package that was designed with stakeholder participation helped to improve the delay which is the main gap in our report delivery process. Automated report generation and electronic-based transmission was found to be feasible and effective solution in local setting. The end user satisfaction was found to be high with reference to timeliness of getting results,

reduction of errors, completeness quality and uniformity of reports. At CBL of MRI the end users were mainly contented over the minimal documentation.

Keywords :Microbiology report delivery, Turnaround time, WHONET, Laboratory information system, Medical Research Institute

0308.Adikari, A.M.P.S.
Project to improve human resource record management system of nurses in a Teaching Hospital.
MD Medical Administration – 2018   D 4609

This was an interventional research project carried out to improve the office record management system linked to Human Resource (HR) related records of nurses at National Hospital for Respiratory Disease at Welisara (NHRD), which is the largest referral center for patients with chest diseases in Sri Lanka.

This research project aimed to identify the gaps in the process. To develop and implement appropriate interventions to overcome these gaps and to evaluate the outcome by assessing die improvements in management of HR-related records of nurses.

Grade promotion and annual increment HR processes were selected by a panel discussion with the experts and were prioritized according to average transactions that took place within a month for this project, both qualitative and quantitative techniques were chosen to understand the selected records management. Qualitative approaches were mainly applied for gap identification and planning of interventions. Quantitative methods were employed for die assessment of the effectiveness of the interventions. A continuous quality improvement package was worked out following an extensive literature review and comprehensive stakeholder participation.

Not having updated instructions, specimen forms and all necessary forms in a single bundle to complete the task; incompleteness of submitted forms; not knowing the responsible person to contact at office; and delay for approval along the document flow were identified as the main gaps by the stakeholders. The record processing time was 30.83 days with an SD of ±4.84 for completion of annual increments and 24.33 days with an SD of ±4.21 for authorization of grade promotions.

A package of interventions was developed which included designing an e-based and paper- based guides for the two selected processes supported by specimen request forms. Online printable applications for both operations, arranging a whiteboard displaying duty arrangements of the office staff and setting up a movement register to easily track the records were also included in the interventions.

The project outcome showed increased accessibility, accuracy, improved quality, timeliness and, improved traceability of submitted forms. The interventions have improved the average time spent for annual increments to 17.52 days with an SD of ±3.39 and grade promotion to 12.13 days with an SD of ±2.33, which was a statistically significant reduction (p<0.05).

Evaluation of the project shows that a structured quality improvement package designed and implemented with stakeholder participation has improve the two selected HR-related records management processes significantly at NHRD. Therefore, the same methods and processes could be applied to other Teaching Hospitals to improve the effectiveness of HR- related office records management of nurses.

Keywords: record management, hospital office, quality improvement, National Hospital for Respiratory Disease Welisara, human resource, annual increment, grade promotion

0309.Arachchi, K.A.N.L.K
Factors affecting integration of mental health care into primary health care services in Kalutara district.
MSc. Medical Administration – 2016   D 3965

Background: Mental health care is a growing need and a public health concern. Changing demography, aging population and increasing trends in chronic noncommunicable diseases are some of the aggravating factors of this concern. Resources are scarce. Scarcity of resources urge health systems to make rational choices in satisfying needs and demands. Hence, we need to think of rational usage policies with in our health system. One such policy to meet growing demands is health system integration. This is applicable in primary mental health care as well. Integrated mental health services into primary health care settings has been a long

recognized rational approach in providing primary mental care. In fact, it has been a fundamental health care reform recommended by many public health care experts including WHO. However, health care integration needs careful planning and implementation to gain expected outcomes. Therefore, studying factors that affect such integration is important and justifiable.

Objectives: This study was intended to describe the factors that affect integration of mental health care into primary health care services in Kalutara district. The study explored knowledge, attitude and practices among primary health care workers in addition to exploring challenges and opportunities in integrating mental health care into primary health care settings.

Methods: A cross-sectional descriptive study was designed with two research components; Quantitative and qualitative. A self-administered questionnaire was used to collect quantitative data, whereas semi-structured focus group discussions were used to collect qualitative data. Study population was primary health care workers attached to preventive sector institutions in the district and the sample size was 424. Response rate was 76.4%. The data was analyzed statistically with SPSS v 16 using Chi-square, one-way Anova and student t-tests.

Results: This study found that the primary health care workers in Kalutara district to hold a positive attitude towards mental disorders. However, it is of great significance that this study found their knowledge and practices related to community mental health is inadequate.

Conclusions: The most crucial factor in integrating mental health care into primary health care settings was human. Knowledge, attitudes and practices among primary health care workers have significant impact over integrated care for mental health in primary health care settings.

Recommendation: Continuous professional development of primary health care workers through continuous medical education and generating training opportunities to those who are willing to get such trainings are therefore recommended from this study to improve integrated care for mental health further.

Keywords: Integrated mental health care, primary health care, public health care.

0310.Attanayake, A.M.H.

Managerial aspects and quality perceptions of outsourced janitorial services of district General hospitals of Gampaha district.
MSc. Medical Administration - 2017   **D 4168**
Abstract not available

0311.Bandara, Y.M.A.S.K.Y

Knowledge of injury prevention among teachers involved in student sports activities, and available facilities to minimize sports injuries in the schools situated in the Municipal Council area, Kandy.
MSc. Medical Administration - 2017   **D 4320**

A sound knowledge and training on sports injury prevention of the school teachers, who are directly related to the school sports activities, is imperative for the future development of school sports and there by the national sports. In the meantime, the available facilities in schools are vital in relation to prevention or reduction of school sports injury. Hence these two areas have to be addressed and developed at any time to mitigate school sports injuries. Taking Kandy municipality area as a sample Knowledge of injury prevention among Physical training instructors (PT1) and master in charge of Sports (MIC) and the facilities available in the schools was studied.

Among 41 schools 9 schools did not had any PTIs or the MICs. Remaining 32 schools were included for the study. The 32 schools were categorized into four groups. There were 7 national schools, 22 Provincial schools and 3 Private schools. There were no PTIs for the schools categorized as other group. 70% of the teachers engaged in school sports had done any kind of a sport in their school days however only 37.74% are currently taking part in any kind of a sport or physical activity. Among the teachers currently engaged in sports, majority do it as a hobby and average 3 days per week they do sports. 70% of the PTIs gained training on sports injury prevention while only 21 % of the other teachers involved in school sports activities had gained any kind of training on sports injury prevention. Majority of the teachers who gained training on sports injury prevention had obtained the training either by sports institute of Sri Lanka or training programs organized by the Sports medicine units of teaching hospitals Kandy and Peradeniya. Among 70 PTIs participated in the survey 64.3% had obtained training or first aid while only 38.5% other teachers had a training on First aid suggesting that the trainings should be organized targeting MICs as well. 77.46% of the teachers stated that they are

little satisfied or unsatisfied about the training they have obtained fc sports injury prevention. However, only 12% said that they are unsatisfied to training on First aid. Hence the future training programs has to be addressed more on injury prevention.

Knowledge on first aid, sports injury prevention and the decision making in the ca of a sports injury and the planning of the transportation of injured students to t hospital was surveyed. Only 54.86% of the teachers said that they knew the basic fi aid or RICE treatment and only 49.80% knew the correct steps of the treatment Among the study group 37.71% had the recommended level of knowledge or judgment to seek the doctor's advice in the case of a emergency critical sports injury. Practices for the sports injury prevention, only 45.14% of the teachers could write at least two correct practices. 70% of the teachers in the study group stated that they have a prior plan to take an injured child to the hospital in a accident during games or practices. Most of them said they will take the student by the school van. The second choice was the three-wheeler which is not suitable for major injuries. However some teachers suggested that they will use the ambulance makes it a positive image on their awareness. For the subjective evaluation. 91% of the study group selected satisfactory choices for the necessary awareness on the sports injury prevention. Facilities available for the sports practices and games play a vital role in sports injury prevention. The required facility list was prepared using the American school safety guidelines, Clinical sports medicine by Brukner and Khan and international sports medicine association (FIMS) guidelines. The required facilities were divided into two categories as general safety facilities and specific safety facilities for the study. Every school had safe drinking water facilities in the playing area. Among the 32 schools participated for the survey only 68.7% schools had a dedicated ground for the sports activities. However, only 7 schools had a safe play area with even and grassy surface free from any items susceptible for other injuries. 43.7% schools had a dedicated First aid centre with proper hygienic facilities. However all the private schools in the study group had a dedicated First aid centre with a first aid trained teacher assigned all the time. 40.6 % of the schools had a trained teacher for First aid. 78.2% schools had a well maintained first aid box. Splinter, stretcher, spinal board and cervical collar are the items considered as special facilities. These are life saving equipment's needed if a major injury occurs during practices or a competition. Among 32 schools only 4 schools had splinters,

3 schools had stretchers, 1 school had a spinal board and no school had a cervical collar. The private schools in the study group did not have any of these equipment's.

0312.Basnayake, B.M.O.V.
Responsiveness in maternity wards in a Government Hospital and semi government hospital.
MSc. Medical Administration – 2016   **D 3900**

Present study was aimed to describe levels of responsiveness in maternity wards in a government hospital and semi government hospital.

A Hospital based descriptive cross sectional study with comparative analytical components among patients was conducted to achieve above objective. The study was conducted in a District General Hospital representing the government sector and a semi government hospital which are tertiary care hospitals. The sample comprised of patients who received care in each of the post-natal maternity wards during a specific time period by non-probability consecutive sampling who were discharged on the day of data collection using the patient register during the period of data collection. Data collection was carried out by an interviewer administered questionnaire and a Check list supported with observations.

Results propose that the socio demographic and economical characteristics of the two sectors display many differences in age (mean age of mothers in the government sector as 27.41 and the mean age of mothers of semi government sector as 30.76) education levels and income status. Majority of patients of the semi government sector were more educated and obtained higher monthly income than the government sector patients.

The level of responsiveness in the government sector was lower than the semi government sector and the difference was significant. The findings indicated shortages of the difference in the government sector in comparison to the semi government sector as plausible explanations such as over crowdedness, and poor bed conditions that prevents maternity patients receiving adequate rest. An added constraint in the government sector to responsiveness was that the service providers were perceived as more unfriendly.

Most of the mothers in the semi government sector were willing to attend a public sector maternity ward if available. Most patients traveled more than 30 km to attend

both sectors of hospitals which imply the need to improve maternity care in peripherals to the main tertiary care institutions.

It is recommended that the government sector needs to improve infrastructure and reduce over crowdedness in tertiary care institutions as well as staff express more friendliness in order to achieve the health system goal responsiveness.

Keywords : Responsiveness, Maternity Ward, Government Hospital, Semi Government Hospital.

0313.Chaminda, J.L.P.
Knowledge, skills and practice of information and communication technology among public health midwives in the Hambantota district.
MSc. Medical Administration - 2017   D 4314

ICT makes significant contributions to public health sector. Developing of using ICT in the public health sector is seen in all over the world, which helps them to increase their efficiency, improve their service quality, reduce work overload and many others. PHM is the "front line" healthcare worker for domiciliary care to mothers and children in the community. PHMs have evolved to a professional cadre and play a major role in the preventive healthcare more than midwifery. The main aim of this study was to assess the knowledge, skills and practice of information and communication technology among public health midwives in Hambantota district, Sri Lanka.

A descriptive cross sectional study was carried out in Hambantota district. The total population of 184 PHMs were taken for the study. This was a mixed study, which contains quantitative and qualitative analysis. Self-administered questionnaire and focus group discussions were used to collect data. Statistical package for social services (SPSS) version 21 was used to analyze obtained quantitative data. Qualitative data were analyzed by thematic analysis.

More than half (51%, n= 93) of the PHMs in the districts were older than 51 years. Majority (90%, n=163) of PHMs believed ICT is important but they were not able to acquire sufficient knowledge due to the lack of available training centers (22%, n= 39) and time (24%, n=44). Financial factors (2%, n=3) were not a major constrain for gaining knowledge. Very few PHMs were using ICT related items such as smart phones (17%, n=30), desktop computer (13%, n=23) and laptop computer (12%, n=22). The data storing items were used only by 30% (n=24),

while internet was used only by 18% (n=32). Knowledge was found to be positively associate with age, service years and current grade at 95% significance level. Very unsatisfactory level (93%, n=169) of practices were observed among the PHMs with respect to ICT related items, facilities such as internet, emails, internet banking. Lack of skill on usage of ICT related items and spreadsheet (47%, n=13), word process (86%, n=24), graphic and multimedia (100%, n=28) and data security (86%, n=24) also common for the majority of PHMs. Most of them (86%, n=24) were not used to operate password protected environment for data security. It was found that 68% (n=19) of them were willing to take the responsibility to move forward with the ICT environment.

PHMs believed that the computer knowledge as an important factor for improvement of their career and service. Their willingness to take the responsibility even with lack of knowledge and practice in ICT related items and facilities should be make use for better future of the grassroots level of health sector. It is important to design the training programs targeting competencies to provide necessary knowledge and skills for public health workers. Need to give much attention for the attrition of this elderly population and sustain solution.

Keywords: Information and Communication Technology, Public Health Midwives, Hambantota district, Knowledge, Skills, Practice.

00314.Francis, U.M.G.S.
Utilization of employer health benefits by employees in selected private sector organizations in the Gampaha district.
MSc. Medical Administration - 2017   D 4317

Introduction

Importance of financial risk protection has increased with rising out of pocket expenditure for health care. Constraints on increasing the government contribution to healthcare financing and the rising burden imposed by demographic and epidemiological transition are necessitating exploring other financing avenues such as Employers' contribution to ensure financial risk protection. Paucity of data regarding Employer health benefits provided to 3.3 million private sector employees, has limited the use of these alternative financing mechanisms optimally. Hence, this study aimed to assess the Employer health benefits including

in-house health care facilities provided to private sector employees and their utilization in contrast to alternative financing mechanisms.

Objectives

To assess utilization of Employer Health Benefits by employees in selected private sector organizations in the Gampaha district

Methodology

The study had qualitative and quantitative components. Component 1 qualitatively assessed the different Employer Health Benefit Schemes provided by the three selected organizations. In-depth interviews were carried out with the Human Resource Managers of the respective organizations. Component 2 was achieved using the observation method to identify in-house health care facilities provided by the three selected organizations. Component 3 involved a survey to quantitatively determine the utilization of Employer health benefits and-alternative financing mechanisms for health care. A self-administered structured questionnaire was used among employees of the organizations. Sampling for component 3 was done at three levels adopting proportionate stratified sampling technique.

Results

Employer Sponsored Health Insurance (ESHI) was identified as the major Employer Health Benefit scheme adopted by the selected private sector organizations. Exclusion of manufacturing workers from ESHI was observed in two organizations out of three. Annual Coverage Limits for inpatient care varied among eligible staff categories; highest for managers and lowest for supervisor/Staff category or manufacturing workers if they were covered. Similar trend was observed for outpatient care annual limit in one organization while the others had same limit for all employees. Basic physical health facilities such as sick room with beds, examination bed and facilities for wound dressing were provided. Doctors visited the organization twice a week. A nurse was available whenever workers were within the premises. ESHI was used to pay for 50%, 35% and 17% of inpatient encounters, outpatient encounters and medical device purchases respectively. There was no utilization of ESHI for disease screening. Rate of utilization of ESHI was highest among managers and declined to a lowest in manufacturing workers in OPD encounters, long term care for chronic illnesses and admissions to private hospitals. Out-of pocket expenses were incurred on most occasions. ESHI of a family member and Private Health insurance were utilized negligibly.

Conclusion

ESHI plans lacked equitable provision of health benefits in terms of coverage of staff categories and Annual coverage limits. Basic in-house health care facilities involved only limited access to medical care. Out of pocket payment was the commonest method of payment for health care. ESHI also contributed significantly. Use of 'ESHI of a family member' and Private health insurance was very limited.

Recommendations

Designing ESHI schemes taking the equity principle, financial risk protection, employee needs and utilization pattern into consideration is recommended to the employers and the insurance companies. Policy makers should formulate policies and regulations relating to employer health benefits. Fiscal incentives should also be used to encourage employers to provide ESHI. Further research on establishing more comprehensive in-house health care facilities in the work places and factors affecting the utilization pattern of employer health benefits is recommended as this is clearly a significant source of health financing.

Keywords: Employer Health Benefits, Employer Sponsored Health Insurance, Financial risk protection, Alternative financing mechanisms

0315.**Gajanayake, C.**
Factors affecting the availability of drugs in regional medical supplies division in Gampaha district.
MD Medical Administration - 2015   **D 3904**

Medical supplies are a vital part in the healthcare provision of the country. Supply of medical consumables is the second largest component of the health budget. Complain of out of stock items in health facilities is a very sensitive issue for the public. However, the government policy to provide healthcare for "free' has not changed and may not change. Out of stock situations of medicine is not only a problem in Sri Lanka but also a problem everywhere in the world.

The current study was done to understand the current situation and to improve the drug availability of the RMSD Gampaha. The study consisted of four parts; Situational analysis, problem analysisimplementation/intervention and evaluation after the intervention. Situational analysis showed multiple reasons for out of stock

situations in the RMSD. After a feasibility analysis, some actions to address those reasons were identified as feasible and some as not feasible. Only the feasible actions were included in the action plan.

The study showed that after the training there was a clear improvement of the knowledge and practice of the RMSD staff on drug stores management. Drug and Therapeutic Committees play a vital role in the institutional drug management. DTCs were established in all three major hospitals that are supplied by RMSD Gampaha. Additionally, there was a significant reduction in out of stock situations in the RMSD Gampaha.

Study shows that after the training, the level of knowledge has improved in minor staff too. Therefore, the study recommends including those who are directly involved in the process in future trainings. It is recommended to conduct similar studies in other RMSDs. Additionally, those studies should span for more than one year as the drug supply cycle takes more than one year.

0316.Gajanayake, C.
Measurement of the effectiveness and the cost of using fissure sealant in school children.
MD Medical Administration – 2015   **D 3905**

Like most other developing and middle-income countries, Sri Lanka also has a very high prevalence of dental diseases. With the improvements of economic development, sound oral health in general and teeth in particular have a greater social importance.

High-income countries have well organized public oral-health care systems. However, most of the developing countries offer treatment to patients based on demand for care. Moreover, most low and middle-income countries limit their public dental treatment to emergency oral care and pain relief.

This study was carried out with the objective of measuring the effectiveness and identifying the initial cost of applying fissure sealants by school dental therapists. Glass Ionomer Cement (GIC) which is used as the fissure sealant material is an adhesive material that bonds to enamel and dentine through a chemical reaction. It was introduced to the world in 1974. Fluoride releasing property of GIC is an additional advantage in caries preventive perspective.

The study presented here was conducted in three representative districts of Polonnaruwa, Nuwara Eliya and Colombo in both Mobile and clinic settings. Selected School Dental Therapists (SDTs), who were to carry out the fissure sealant application was given a training on clinical procedure. They were also served a self-administered questionnaire to identify their attitude towards this treatment procedure.

The retention level of the filled teeth were measured six months after the application. Further the number of applications done by using a single pack of fissure sealant was measured, both in clinic and mobile settings separately. Moreover, the knowledge attitude and practice with regard to fissure sealant and caries prevention was measured among SDTs in all three districts. Retention levels were high in both mobile and clinic settings and in all three districts. Clinic settings had a higher retention level than the mobile settings. Retention of the upper teeth were better than the lower teeth. Knowledge attitude and practice levels of SDTs on fissure sealants and caries prevention were good. More applications of fissure sealants were done from a single pack in the clinic setting. Material cost for one fissure sealant application was in the range of Rs 110 to Rs 120/- in both clinic and mobile settings. High retention levels of fissure sealants in both settings; recommends adopting application of fissure sealants by SDTs as a preventive measure for dental caries in Sri Lanka.

0317.Gamalathge, P.U.
Cost minimization strategy in rabies post exposure therapy in selected vaccination units of Colombo district.
MD Medical Administration – 2016   D 4017

Rabies is a fatal zoonotic disease which is 100% preventable with appropriate and timely administration of prophylaxis after exposure. It is prevalent all around the world except Antarctica.

According to 2013 statistics of Public health veterinary service of Sri Lanka, 351 million Sri Lankan Rupees(LKR) were spent for Post Exposure Prophylaxis (PEP) activities. Therefore Sri Lanka is in a position to find out cost minimization strategies for rabies PEP while assuring the Quality of service provided. This study was conducted in 3 study settings of Colombo district considering secondary level PEP in order to implement cost minimization strategies.

Improvement in rational decision making through enhancement of awareness and adherence to the national guidelines (NG) were identified as strategies to reduce cost.

A series of training sessions to improve adherence to the NG for all medical officers(MO) who are involved in rabies PEP decision making activities in 3 study settings and an user-friendly single page aid with decision making criteria on NG to be used during decision making were provided as an intervention.

Statistically significant improvement in adherence could be observed in Base Hospital Homagama (BHH) and Base Hospital Awissawella (BHA) while the improvement in National Hospital of Sri Lanka (NHSL) was not significant. At the same time cost reduction from LKR 772 to 692 in BHH, LKR 716to 609 in BHA and LKR 812 to 747 in NHSL were observed. In addition, statistically significant difference between pre and post intervention in decision making pattern in all 3 study settings was observed.

Existing situation of NHSL is an already improved one since it is a separately functioning unit which is led by a well experienced MO in charge. At the same time service providing MOs are well experienced, well trained and well supervised. Therefore, less improvement was observed in NHSL.

Improvement of training access for all the service providers of rabies Post Exposure Treatments(PET), distribution of an user-friendly aid for quick references during practice and establishment of separate units for rabies PET were raised as recommendations.

0318.Gamalathge, P.U.
Development of an effective record keeping system for patients attending clinics in National Hospital of Sri Lanka.
MD Medical Administration – 2016   **D 4018**

Record keeping is an integral part of patient care and it is really important in several aspects such as facilitating communication between diverse health professionals to develop team approach in order to provide better healthcare. At the same time in the aspects of patient safety and legal implications patient record keeping is really important.

National Hospital of Sri Lanka (NHSL) is the major tertiary care providing hospital in the country in which 32 types of clinics are functioning. The annual average

clinic patient visits are around 1.2 million and it is gradually increasing. Existing PRKS of MC of NHSL is an ordinary system in which Medical Officers (MOO) have to keep records in two ordinary type exercise books per patient or a book and a card. There is no structured way of entering records.

The existing ordinary clinic Patient Record Keeping System (PRKS) is running with many constraints with overcrowding of clinics.

In order to address the above constraints such as less patient satisfaction due to high waiting time and less completeness of record books, shortage of space to store records, and staff dissatisfaction due to high workloads with unnecessary steps of the process such as selecting and distributing books.

As an intervention up gradation of PRKS including structured record book made of carbonized papers was developed and implemented. In this system patients can come and registered in clinics directly and they don't have to waste time for collecting books since the book is with them. Furthermore, MOO have to write only once since it is a carbonized book and original pages are stored in the hospital.

Results

Through this system elimination of record book selection from the process resulted reduction of waiting time. In addition, improvement of completeness of hospital as well as patient copies of record books was resulted due to structured system with carbonized pages of the record book and thereby increasing patient satisfaction could be obtained.

At the same time reduction of required space to store records and elimination of selection and distribution of books from their work load led increased satisfaction of clinic staff.

In the developed system handling a single document is more convenient for doctors. Elimination of handling heavy loads of record books and easiness of tracing records were identified as the other factors of increasing staff satisfaction.

In addition, establishment of a good retrieval system leads to convenient data gathering for research purposes and other special requirements.

Recommendations

This system could be recommended to implement in all the clinics of NHSL Printed list of drugs can be included into the record book to reduce consultation time. Based on the methodology of this system NHSL can go for a computerized system in the future

0319.Gunathilake, U.

Analyzing the effects of job satisfaction and attitudes on the organizational commitment of clerical employees at the Ministry of health, Sri Lanka.
MSc. Medical Administration – 2017 **D 4319**

Employees tend to have different attitudes or perspectives about many aspects related to their careers and their organizations or employers. The intense dedication displayed by employees is considered as being more influential than their best intentions, determination or situations. It is undoubtedly the commitment of the workers that gets the job done in any organization which influences in organizational efficiency in achieving the corporate objectives. Commitment is considered as an emotional response as well which can be measured through employees' attitudes, beliefs, behaviour, job satisfaction and a variety of other factors. Studies on organizational behaviour has led to the buildup of many interesting and thought provoking theories, ideologies, findings, concepts which currently have an impact on the modern management styles, of the greatest asset of an organization i.e. human resources. From a local perspective this study is focused on the clerical employee segment, employed at the head office of the Ministry of Health in Sri Lanka and to evaluate their commitment towards the organization. From a research perspective, there are various identified factors affecting the concept of "organizational commitment". However, this study is specifically focused in identifying the impact and association of the individual attitudes and job satisfaction of the ministry's clerical staff with regard to their organizational commitment levels.

Method

Following a detailed analysis of requirements and the research domain, it was decided to adopt a descriptive cross sectional research methodology comprising of qualitative and quantitative analysis. Considering the key objectives of the study, the segment of clerical workers attached to the different units at the head office of the Ministry of Health were selected, as the study population and the research was carried out during the last one-year period (i.e. 22nd August 2016 to 22ndAugust 2017). A self-administered, validated questionnaire (quantitative) and an interview guide (qualitative) were used to gather the required information.

Results

Overall results of this study indicated majority of the clerical staff displaying a positive attitude towards their job, commendable level of job satisfaction and having a higher level of commitment towards the organization. Considering the current employment environs in the country, the findings of this research displayed an acceptable, progressive level of employer-employee work relationship for a government entity. Further it was also observed that, socio demographic characteristics of clerical employees were not related with their organizational commitment and attitudes. This study also revealed that the level of job satisfaction and attitudes of clerical employees, were positively correlated with their commitment towards the organization**.**

Conclusion

Attitudes and job satisfaction can be considered as interrelated aspects which have a mild to moderate correlation impact with regard to organizational commitment, as evidenced by this study. Interestingly, it should be noted that there are certain other factors which could have a much stronger impact and correlation towards organizational commitment and thus this subject matter needs to be further researched and studied in detail.

Keywords: Organizational commitment, Job satisfaction, Attitudes, Clerical employees, Ministry of Health

0320.Hettiarachchi, S.N.
Efficiency of operation theatre utilization at Base Hospital Horana.
MSc. Medical Administration - 2016   D 4139

Operation theatre is a very costly asset of a hospital to maintain. Large amount of funds from the hospital budget is spent to maintain it. With the increasing trend of non-communicable diseases and injuries the expenditure will likely to increase. Therefore, maximum utilization of theatres is a necessity because public funds are spent upon them. Studies regarding theatre utilization has been conducted all over the world but in Sri Lanka they could not be found. This study was carried out to find out the operation theatre utilization at base hospital Horana in Kalutara district in western province. A descriptive cross sectional study was carried out for a period of one month at the theatre complex at base hospital Horana. Theatre utilization was studied with respect to the starting time of the list, finishing time of the list,

allocated time for the list, patient waiting time prior to and after the operation and the reasons for the cancellation of operations. The theatre was functional on 26 days performing 439 operations giving it a mean of 16.88 surgeries per day. The total operating time utilized was a staggering 135.58% going well beyond the ideal utilization rate of 80%. Apart from few days the list ran in to late afternoons. Only a single operation (0.2%) was postponed during the whole study period and that was due to the patient not been fasting. Patient waiting time was an average 99 minutes before the surgery and an average 27 minutes after the surgery. In only 7 days out of the total 26 days the starting time was delayed, and the maximum delay was 25 minutes. Even with the delayed starts, interruptions by emergencies and shortage of some categories of staff the operations merely got postponed or cancelled. The gross over utilization of the theatre complex is due to the increase number of operations that were taking place. Two separate theatre complexes for surgical and gynecology & obstetrics units, sorting out the shortage of staff and conducting periodical audits could ease the situation.

0321.Jayakody, J.A.P.
Limitations and barriers of government health care Institutions for obtaining environment protection license in general, base and divisional hospitals in the regional director of health services of Gampaha district.
MSc. Medical Administration – 2017   D 4055

Improper handling of medical wastes could adversely affect the hospital environment and community at large and poses a serious threat to public health. Since 1980 the Environmental Protection License (EPL) has been introduced to control environmental pollution and it has been made compulsory for prescribed activities. In the government sector forty hospitals have already obtained the EPL out of 1076 health care institutions.

Objectives

To identify the limitations and barriers of government health care institution in obtaining EPL in General, Base and Divisional hospitals in the Regional Director of Health Service Division (RDHS) Gampaha.

Methodology

All healthcare institutions with inward patient care and OPD patient care were selected in the RDHS Division Gampaha. Study comprised of two components and

data was collected using six instruments. First component studied the facilities, performances and geographical situation using check list in the context of waste management. Second component consisted of qualitative study among operational level people, policy implementers and policy makers and data were collected using focus group discussions, key informant interviews. Additionally, a selfadministered questioner was used to identify the prevailing limitations and barriers to obtain EPL.

Results

Health care workers and most of the Heads of institutions were unaware about the EPL and regarding the basic criteria that should be completed to obtain it. DGH Gampaha was the only hospital which has obtained EPL out of the fourteen health care institutions. Lack of equipment for final disposal, inadequate human resources, improper policy guidelines, and geographical situation were identified as the top five barriers. Serious gaps and deficiencies were observed related to segregation, collection, storage and disposal of the hospital wastes, hence proving to be hazardous to the patients as well as to the visitors.

Conclusion

As the hospitals did not have capacity to manage and treat their waste themselves they had to depend on the recyclers and waste transporters. Waste was stored for long periods until waste was collected by recyclers. There were gaps in collecting general waste from some hospitals by local authorities. Poor safety, insufficient budget, lack of trainings, weak monitoring and supervision system, and poor coordination has eventually resulted in improper waste management in the RDHS Gampaha.

Recommendations

A national programe to manage healthcare waste is needed. Waste management committee should be established within all the healthcare institutions and capacity building of healthcare staff should be conducted. Strengthen inter sectoral coordination with Central Environmental Authority to streamline the EPL system in healthcare institutions.

Keywords: Central Environmental Authority, Environmental Protection License, Health Care Waste

0322.Jayasinghe , D.S.A.

Compliance of person's attending follow up clinics for chronic kidney disease/ chronic kidney disease of unknown etiology after being screening positive in Polonnaruwa district.

MSc. Medical Administration – 2016   **D 4058**

Introduction

Chronic Kidney Disease (CKD) has emerged as a global public health challenge. It has affected 10% of the world population. Recently identified new form of CKD of un-known etiology (CKDu) has added an extra burden. More than one million people die annually due to End Stage Renal Disease (ESRD) and every ten years time the burden is becoming double.

Sri Lanka is recognized as a high risk country. Screening for CKD/CKDu has been conducting for several years in high risk areas of Sri Lanka.

Objective

To identify the level of compliance of persons attending follow up clinics for CKD/CKDu after being screening positive and the reasons for poor compliance in the Pollonnaruwa district.

Methodology

A descriptive cross sectional study was carried from November 2015 to July 2016. The first component of the study was to identify referral procedure after field screening and this was done by FGD with key public health officers who are involved in CKD/CKDu screening.

The level of compliance, socio demographic characteristics of screened positives, their knowledge on CKD, their satisfaction at referred hospital if attended for follow up, and reasons if not attended were also studied. This was done by studying randomly selected 388 screened positives for CKD/CKDu in Polonnaruwa district within the study period by using an interviewer administered questionnaire. Data collection was done by trained field officers at the house hold level. Further, facilities available in different level of hospitals for secondary evaluation and initial follow up of CKD/CKDu also assessed by using a check list.

Results and discussion

Screening and referral system is done in a systematic way, but there is no feedback mechanism. The messages transmission to screened positive persons from MOH seems to be not a reliable method.

Out of total study group (338), only 174 (44.8%) had attended for follow up after being screened positive. From total participants 221(57%) were female. Most affected age group was 51-60 years. There were 121(31%) farmers. Education level of 50% was below grade six. Overall knowledge on CKD was poor in majority 224(57%). However, their knowledge on common causative factors of CKD was satisfactory. Two hundred fifty-one (64%) knew diabetes as a causative factor and 223(57%) knew hypertension as a causative factor. Most of them 333(86%) were aware of the need to use personal protection when using pesticide as a preventive measure for CKD. Only 45% knew correct time period for repeating the screening when screened negative.

Majority of people are satisfied about their first clinic visit at referred hospital (DGH Polonnaruwa).

The main reason for non-compliance was not receiving the message 64(30%) from MOH office that they are positive for screening. Next reason was "No physically feeling illness" (16.8%). All screened positives are sent the DGH Pollonnaruwa which has all facilities necessary to manage a referred patient. But there are nearby hospitals which can handle these patients if the facilities are improved.

Conclusion and recommendation

Compliance of clinic attendance after screening positive for CKD/CKDu is less than 50%. Main reason for non-compliant is absence of reliable message sending mechanism. Asymptomatic nature of disease is the second common reason. Overall knowledge on CKD is not satisfactory. Strengthening of message delivery system and community awareness on CKD are essential to improve the sys

tem. Also a feedback system from referral hospital to MOH need to be developed.

Keywords: CKD/ CKDu, screening, compliance

0323.Jayasinghe, P.K.C.L.
Critical analysis of disaster preparedness status at the government hospitals of the Eastern province of Sri Lanka.
MD Medical Administration – 2016   D 3913

Disaster management is a very important and essential facility of any hospital in the world. Civil war for 30 years, Tsunami in 2004, Coastal erosions, Frequent Floods, droughts, significant landslides, and cyclones are the disasters that happened during recent history of Sri Lanka and the reported deaths and burden to

health of people is significant. Eastern province is a province which has been affected by natural and manmade disasters thus the preparedness of hospitals for such situations is important. Being a small island nation, Sri Lanka falls into the UNFCCC and IPCC's category of 'vulnerable' small island nations under serious threat from various climate change impacts, such as sea level rise and severe floods and droughts (UNFCCC 1992; IPCC 2001). Assessing and improving the quality of care is a major problem in any disaster situation in any health care system from Preliminary medical care units to teaching hospitals. There is a trend to improve the quality of care at any disaster situation in Sri Lanka. But the assessment done for the quality and quantity of healthcare institutions and employees is much less. This study was done in order to fill up these gaps to assess the disaster management preparedness in Eastern province along with the purpose to ascertain the knowledge, and perception of hospital management in Eastern province of Sri Lanka on disaster preparedness and the current status of disaster preparedness activities as well as capacity inventories.

The study was conducted from 01/05/2016 to 10/07/2016. A pre-tested questionnaire was randomly given to 20 staff members including 4 doctors, 8 nurses and 8 assistant service members and interviews were done with 376 employees who works in health service as doctors, nurses, matron, sisters, para medical staff members in selected hospitals in Eastern province according to the criteria of hospitals.

The study was conducted utilizing an interview questionnaire with close ended questions after obtaining consent. The available facilities and equipment's were checked with using a check list of disaster management facilities and capacity records.

Findings: The management at the hospitals surveyed was aware of the disaster preparedness of the hospital and its plans, and disaster management preparedness. Their knowledge to the plans and structure including the committee were largely positive. However, the perception was deficient and work still needs to be done with regard to ongoing training, performance of drills and the frequency of regular updating of the plans, so that the satisfactory level of health workers could be highly enhanced in all disaster preparedness aspects.

0324.Jayathilake, A.D.H.
Survey on knowledge, attitudes and practices on medical near misses among medical officers in the Colombo South Teaching Hospital.
MSc. Medical Administration – 2016   **D 4057**

Introduction

Near-misses are the most valuable elements in prevention of potentially unintentional harm in patient-care giver. In developed economies, medical services embarked upon a new era in health services and policy makers started turning their attention to quality of health care services. Patient safety became one of the six constituents of the quality package.

Vulnerable health care delivery systems incubated these potential errors that ultimately triggered a patient harm. During latent or incubation period, these potential near-misses are undetected or noticed and not-considered. Surveillance of the near misses would disclose them and avoid triggering patient harm. Favorability of excising practices, knowledge, and attitudes on near misses are important determinants of a successful safety culture initiative. Survey of these parameters is the scope of this study.

Methods

Cross sectional descriptive study was carried out at the Colombo South Teaching Hospital (CSTH). A stratified sample of medical officers was selected out of those involved in the patient care services. Sample was stratified according to the service category (Specialists, Grade Medical Officers, and Intern Medical Officers). The most reason salary sheet used the sampling frame to select medical officers randomly from each stratum. A pretested self-administered questionnaire was used as the study instrument and contained three sections namely knowledge, attitudes and practices. Data analysis was done using SPSS Software.

Results

Over all response rate was 90% and lowest (82%) response rate was from specialist grade medical officers. Over 94% of the respondents had satisfactory/good level knowledge. Overall a majority of respondents had positive attitudes towards prevention of near-misses and patient safety. A majority (88%) did not routinely report near misses. Overall a considerable percentage (n=168, 53%) had poor level of practices. Only 5.9% (n=19) had good level of practices. In the specialist grade medical officers 41.1% had poor practices despite none of the specialists having a

poor level of knowledge. Highest level of poor practices (n=128, 70.8%) was seen in Grade II Medical Officers.

Conclusions and recommendations

The study reveals that a majority of medical officers at CSTH have a satisfactory knowledge and favorable attitudes towards near misses as a safety culture component. However, the practices were not satisfactory in a majority. Since the knowledge and attitudes of medical officers are favorable it is recommended that to a system approach be made to initiate near-miss management as a safety culture in the hospital.

Keywards: Near misses, safety culture, incident reporting, surveillance

0325.Jayathilake, K.A.R.P.
Variations in hospital length of stay: Their relationship to profiles of patients treated at district General Hospital, Nawalapitiya.
MSc. Medical Administration – 2016   D 3964

Average length of hospital stay (ALOS) is an important indicator of resource utilization and quality of care in hospitals. There are many factors that affect ALOS. There are few computational methods to generate ALOS. One of the frequently used equations to calculate ALOS has been presented.

$$\text{ALOS} = \frac{\text{Total inpatient days of care}}{\text{Total admissions}}$$

Ministry of Health Sri Lanka has generated national figures for different categories of hospitals over the years. It has been 3.9 days, 3.2 days, 2.9 days and 2.3 days respectively for National, Teaching, Provincial and District General Hospitals in Sri Lanka (Ministry of Health and Indigenous Medicine, ,2013, pp.201-202), which happen to be very low figures in comparison to those reported from OCED countries for acute care hospitals in the same year (OECD, 2016).

Objective of the study

To describe the length of hospital stay in relation to patient profile for in ward patients treated at medical wards District General Hospital, Nawalapitiya (DGH Nawalapitiya).

Methodology

Study was a hospital based cross sectional descriptive study. It consisted of two Components. Patients included in the first component of the study were those who were admitted prospectively to medical wards under the management of two medical units in the selected hospital. Sample size was 265. Sampling procedure

was systematic sampling which required no prior listing of sampling units (Abramson and Abramson, 2008, p.81). An interviewer administered questionnaire, Data extraction form for BHTs and a self-administered questionnaire were developed as study instruments.

Second component included secondary data extracted from Bed Head Tickets (BHTs) of already treated patients in the aforementioned medical units during September 2015. Sample size was 808. All patients who were admitted to medical wards during the selected month were included in the sample. Data extraction form developed for component was altered to suit component 2. Length of stay, socio demographic and economic details, social support, family care, prehospitalization treatment seeking, mode of admission, care received by patients during the hospital stay, mode of discharge and readmission rates were the factors studied.

Nonparametric significant tests were used in the statistical analysis.

Results

There were 47.2% males and 52.8% females in the study population selected for component one containing 40.0% patients over 60 years of age. Component two which comprised of a BHT based sample contained 51.6% males and 48.4% females. Patients over 60 years of age constituted 40.1% of the sample. There was no significant difference between the two samples.

ALOS for the patients included in component one was 2.38±2.06days. It was 2.02±2.27 days for the patients included in component two.

Age of the patients, level of education, taking treatment before admission to DGH, Nawalapitiya, mode of admission, receiving combinations of drug treatment or medical procedures, mode of discharge, and designation of the medical officer who ordered discharge, final diagnosis of the disease have been identified as factors which significantly influenced changing ALOS of the study population in component mode of admission, receiving combinations of drug treatment or medical procedures, mode of discharge, and designation of the medical officer who ordered discharge and final diagnosis of the disease were significant factors which influenced the ALOS in BHT based sample in component 2. In addition, Emergency Treatment Unit care on admission and medical unit in which patients were treated were found to be significant in BHT based sample. These two factors were not significant in the sample included in component 1.

Response received in administration of self-administered questionnaire was 64.5%. Readmission rate was 6.45% in the study population.

Conclusions and Recommendations

Average length of stay in the study population was 2.38days±2.06. It was close to the ALOS reported for all District general Hospitals in Sri Lanka 2013. National figure for Sri Lanka in year 2013 was 2.3 days.

There were several identifiable factors which significantly influenced the ALOS of patients included in the study population. Age of the patients, level of education, taking treatment before admission to DGH, Nawalapitiya, mode of admission, receiving combinations of drug treatment or medical procedures, mode of discharge, designation of the medical officer who ordered discharge and final diagnosis of the disease were the factors which significantly influenced the ALOS. Component 2 of the study provided confirmatory evidences for the significance of these factors. Readmission rate was 6.45% in the study population. Resources available in government hospitals were plentiful for the study of average length of stay and associated factors. Minor interventions in generating health related statistics have the capacity produce sound statistics for ALOS and to improve use of it to decision making at institutional or national level.

0326. Jayawardana, D.B.A.S.
   Intervention to strengthen the pap smear reporting in Kalutara district.
   MD Medical Administration – 2016   D 3925

The demand for high quality, efficient and better health care is increasing with the vast improvement in information technology and increasing access to the internet. Many developed countries have experienced in implementing computerized laboratory information systems in order to deliver high quality, accurate and timely reports to the patients.

The second commonest cancer deaths in women were due to cervical carcinoma in Sri Lanka. The cervical carcinoma incidence can be reduced by early detection and prevention programmes conducted in Well Woman Clinics especially with the cost effective cervical cytology screening. Some countries have installed electronic cervical cytology reporting systems successfully.

This study was conducted to strengthen the availability of Pap smear laboratory reports done at the Well Woman Clinics conduct at the MOHs in Kalutara district.

Objectives of this study were to describe the current practice of pap smear reporting at the MOHs in Kalutara district, to develop a software on computerized pap smear laboratory reports entering system, to implement this newly developed computerized pap smear laboratory reports entering system at the National Institute of Health Science (NIHS) cytology reporting laboratory and MOHs and to assess the effectiveness of the intervention. This was an institutional based experimental study consisting. of pre and post assessments with an intervention to the identified gap. The Pap Smear Information System (PSIS) was implemented as an intervention. This study was conducted at the Well Woman Clinics conduct at the MOHs in Kalutara district as well as at the National Institute of Health Sciences (NIHS) laboratory doing pap smear reporting in Kalutara district. Out of the MOH areas, seven were selected. All the staff at Medical Offices of Health (MOHs) conducting WWCs in their MOH divisions, cyto-screeners at the NIHS included in this study. Three independent data collector were involved with the PI to collect data from self- administered questionnaires and observation chart. A community survey was conducted to collect data on issues faced by the women on Pap smear testing. Quantitative data was analyzed using Statistical Package of Social Sciences (SPSS). The accuracy of data entry was ensured by introducing valid checks and re-entering a selected sub-sample and comparing them with the original data set. Basic descriptive analysis was presented by frequency distribution tables and graphs. After analyzing pre intervention data, the PI designed and developed new Pap Smear Information System (PSIS) to the study area. The user satisfaction on PSIS was assessed using SAQ the study (intervention) areas. The ethical approval was obtained from the Faculty of Medicine, University of Kelaniya and the MRI Colombo.

The results showed that, the low utilization of WWCs and most of the women have not received Pap smear reports on time. A software which was a web-based electronic Pap Smear Information System and introduced to the selected MOHs in study area to address the identified gap. The post intervention assessment revealed that, the PSIS was easy to use and generated Pap smear reports easily.

Keywords: Electronic Laboratory Reports; Pap Smear Reporting System; Cervical cytology screening

0327.Jayawardena, D.B.A.S.
Introduce healthy food menus for the provision of refreshments at official meetings conduct at the Ministry of Health, Nutrition and Indigenous Medicine.
MD Medical Administration – 2016   **D 3924**

Nutrition and health are interrelated and inter connected. Foods are mainly divided into healthy and unhealthy food according to their content of calorie, fat, sugar, carbohydrate, salt and fiber. Choosing the right food helps a person to live a better life. Over the past few decades the incidence of Non-Communicable Diseases has risen mainly due to sedentary life styles and poor dietary habits. Most of the people do not plan for their daily calorie intake according to their activity level. Participants at meetings usually are working at offices for eight or more hours and spending most of the time sitting and physical immobile. Therefore, eating at meetings would add additional calories to what they eat for a day. At the same time refreshments provide at meetings are mostly unhealthy with high content of calorie, fat, sugar and salt. In Sri Lanka, the provision of food at meetings was not studied in detail with a view to baking them NCD friendly. Therefore, it is a timely need to evaluate the health status of participants and type of food delivered at meetings at the Ministry of Health.

This interventional study was developed with the objectives of describing health status of participants, the current practice of food delivered at the meetings at the Ministry of Health and Indigenous Medicine, to develop and introduce healthy food menus for the provision of refreshments at official meetings.

All the participants at meetings organized by the Director (Health Information) or Acting Senior Assistant Secretary (Medical Services) during the study period were included irrespective of their staff category. A self-administered questionnaire was used to describe the health status of the participants and current practice (before intervention) of food delivered at the meetings at the Ministry of Health. Key Informant Interviews were used to develop healthy food menus for the provision of refreshments at the official meetings. After introducing the healthy menus a self- administered questionnaire on client satisfaction was given to the participants at the meetings. The ethical approval was obtained from the Faculty of Medicine, University of Kelaniya.

There were 386 participants for the pre intervention study. Majority (72.3%) was of the age group of 41-60 years and 66.3% were males and 44.8% were having working experience of fifteen years or more. Out of the total, 42.9% (n= 158) were having some type of NCDs. Diabetes (30.4%) was the most commonly found NCD. Out of the total, 105 (28.5%) were having more than one NCD. Two hundred and eighty five (77.4%) were engaged in exercise. Almost all of them had calculated their BMI but most (76.2%) had lack of knowledge on their daily calorie intake for their activity level.

Majority (95.7%) agreed that, they were not or very rarely inquired on their dietary preferences by meeting organizers. Out of the total, 332 (90.2%) have not received fresh fruits at official meetings they participated. Most of them have received Chinese rolls, and milk packets at the meetings. According to the participants they were served mostly unhealthy food at meetings.

Out of the total of 587 participants inquired during the intervention (serving healthy menus at meeting) most of them (88.2%) appreciated the idea of serving healthy food at meetings. Some of the participants (17.6%) were not satisfied with the portion size. The PI found that the calorie value of healthy food menus were very much low compare to unhealthy menus. The cost of providing healthy menus was also less costly than giving unhealthy menus.

Following the intervention, the PI formulated a guideline to deliver healthy food at official meetings.

Keywords: Healthy foods, Non-Communicable Diseases, Calorie content

0328. Kajaenn, S.
Assessment of work related road safety management among the state health sector drivers in all five districts of Northern province, Sri Lanka.
MSc. Medical Administration – 2017   D4158

Background

An institutional based descriptive cross sectional study was conducted in Northern Province to assess the work related road safety (WRRS) management among the state health sector drivers in all five districts of Northern Province, Sri Lanka. Entire state health sector driver population in the Northern Province was studied, which was 234 health care drivers, out of which 232 responded with the response rate of 99.1%.

Objectives

This study was carried out with objective to assess the work related road safety management among the state health sector drivers in all five districts of Northern Province, Sri Lanka.

Methods

Data to calculate the prevalence of RTC was collected from the Accident Registry of PDHS office Northern Province. The driver, vehicle, journey related factors promote or impair work related road safety management was assessed by self-administered questionnaire to the state health sector whole driver population in the Northern province after obtaining permission form the PDHS, RDHS, Directors and medical superintendents of hospitals. Key informant interviews were carried out with all RDHS. Ethical clearance for the study was obtained from the Post Graduate Institute of Medicine.

Work related road safety variables were identified and given in descriptive statistics and was compared between different socio demographic and service related categories of drivers of total population and with those reported crashes by using chi-squared (x^2), and Z score tests.

Drivers' behaviour, attitude, Knowledge, skills, safety climate of the organization and journey related factors were measured to assess how they influence the work related road safety. Percentages, mean median, SD were used to describe the factors related to WRRS. Chi-squared (x^2), and Z score tests were used to assess the sociodemographic factors and work related factors on work related road safety management and to assess the factors influence the WRRS to compare the drivers reported with RTC with the rest of the study population.

Results

Prevalence of road traffic crashes among the state health sector drivers while on work from 2011 to 2016 in the Northern province was 2.3%, 1.4%, 2.9%,2.1%, 7.0%, 6.7% respectively. This shows that a clear upward trend of steady increase of RTC in the Northern Province for the period of 2011 to 2016. The district prevalence of RTC was comparatively high in Vavunia. Mannar and Mullaitivu districts.

Prevalence of the self-reported crashes in Northern Province for last one year was 8.11% with the district prevalence of 6.33%, 6.67%. 4.89%, 18.42%, and 6.52 % in Jaffna, Kilinochchi, Mannar, Mullaitivu and Vavunia districts respectively.

Socio demographic majority (69.8%) of the study population were 36-55 years old. Three Quarter of them (78.4%) were married. Most of them (86.7%) studied up to GCE (O/L) or more than that. More than two third of the drivers (67.3%) worked in DGH and RDHS offices. Majority of drivers (79.8%) were holding driving license for more than 10 years. Nearly three quarter of them (74.2%) had >10 year service experiences. Most of the drivers' spouses were unemployed (71.1%), and most of the drivers (84.9%) were having more than 3 dependents in their family. Prevalence of NCD was low (6.9%) among this study population. Even though departmental circulars were sent, 31.9% of them did not do the eye checkup for the year 2016/2017.

Drivers reported with RTC, majority (73.7%) comes under the age category of 36-55-year-old. 78.9% of them were married. 89.5% of them were studied up to GCE (O/L) or more than that. 72.7% worked in DGH and RDHS offices. 84.3% of them were holding driving license more than 10 years, 42.1% of them had >10year service experiences.

The victims of more than half of the crashes (67.3%) were the drivers working in the DGH and RDHS offices. This may be due to the fact that they need to travel more frequently to far distances, and exposed to the risk of crashes than others. At the same time BH and DH drivers transfer patient to DGH. As they are running short distances, optimum service is not obtained from them to support the main workforce. Being the professional drivers, no association shown between those with more experience as driver and the crash occurrence.

Work related road safety was assessed by distance travelled in km per month, nine (3.8%) drivers were driving more than 7000 km per month. More than half of the drivers (52.6%) of total population were driving more than 3000 km per month. Nearly three fourth (73.7%) involved in major crashes were driving more than 3000 km per month.

Ten percentage of the drivers were traveling out of district more than 11 times a month, nearly one third of drivers (33.6%) were not given tasks to drive out of the district (> 100km). Closer to half of the study population (47.6%) were given tasks to travel out of the districts less than 5 times a month. This shows that work load is not equally distributed among the study population.

Among drivers who met RTC (63.2%) were those category driving less than 5 times out of district a month, which shows that their long trip travel frequency also do not show any influence on RTC occurrence. More than half of the drivers (70.3%) pointed out that after a long distance driving, they were not given adequate time to rest before next journey.

Driver, journey related factors promote or impair work related road safety

Most drivers in the study population were less aggressive on road. Only 15.5% have shown aggressive behaviours. Obeying road rules and regulations was appreciative among this driver population, where only 3.5% engaged in ordinary violation of road rules and lapses. Seat belt not worn on 5.6% of the population. Distraction found in 14.2% of the population. There was no significant association between RTC and behavior. Fourteen percentage said that they were engaged in drunk driving. One third only do close following, participated in risk overtaking. Majority of the drivers' attitude toward speeding is negative. There is no association observed between mean scores of attitudes and RTC.

There is significant association found between RTC and mean scores of knowledge (P=0.008). There is no significant association found between safety climate and RTC, factors related to journey and RTC (P>0.005). There are some weak correlations observed between behavior-attitude, behavior-safety climate, safety climate-journey, attitude- safety climate.

At the time of the study, 11.0% of the vehicle engines were not in good condition. Eight percentage of the vehicle brakes were not functioning properly, 16.5% of the vehicles dashboard lights and hood lights were not working. Ten percentage of the vehicles did not possess vehicle insurance certificate, and 16.6% of the vehicles do not have revenue license. Most of new ambulances do not have lifesaving equipment provided.

Conclusion

Work related road safety maintenance among the state health sector drivers in the Northern Province is identified as a major administrative problem. Road traffic crashes among the health sector drivers in the Northern Province while on work was showing a steady increasing trend from 2011-2016 period. This driver population showed work overload and inadequate rest during the long distance travel. It was recommended to take appropriate measures to improve and maintain the WRRS, and the human resource distribution should be updated based on

current health care demand, and the work load to be evenly distributed among the drivers.

Keywords: Road Traffic Crashes, Work Related Road Safety (WRRS). Northern Province, Health Sector Drivers

0329. **Karunarathne, P.G.P.S.**
Improvement of the accessibility of circulars in the office of PDHS- Western Province.
MD Medical Administration – 2016   **D 3916**

Rule of law and accountability are main components in good governance and circulars and guidelines are part of it as -transparency- openness- allowing knowing what is happening. Information-seeking behavior and information utilization are two vital concepts that can be assessed to measure the usage of circulars and guidelines in organizations. Information accessibility and availability are the two main components of information utilization. Will the information technology-based solution in information management increase the utilization was the research question of this study. This is an interventional type research project to check the effect on accessibility to circulars by establishing a web-based circular inventory and conducting a training programme to improve the use of IT-based system.

Study setting was the office of PDHS - Western Province by which 155 curative and preventive care institutes in the Western Province are administered. Senior and middle level managers constituted the study population of this study. Qualitative as well as quantitative methods were utilized in achieving the objectives. Pre and post intervention effects on respondents were assessed through pre-validated questionnaires on the variables of information utilization and through case scenario-based model. Main intervention was the circular inventory which consisted of health-sector related circulars issued by the provincial authorities since year 2000 and the training programme conducted was to improve the use of it.

Accordingly, it was identified that the awareness and capability on information utilization in their daily routines were high among senior and middle level managers (over 3). The overall performance for the case scenarios was very low (average 22) and only 7 (7 of 23) have responded. After the intervention,

respondents were increased to 31 (n=35) and the average scores for case scenarios were upgraded to 22 from 57 with a statistical difference. Variables of the information accessibility and availability showed an increase and some had shown statistical significant difference. Following this intervention, information utilization showed an improvement and it can well be recommended other provinces as well.

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0330. Karunarathna, P.G.P.S.
Evaluation of employee satisfaction through ' A grievance handling committee' at the National Hospital of Sri Lanka.
MD Medical Administration – 2016   D 3917

Human resource is the most valuable asset among all other belongings of an organization and motivation is the key dimension in developing employee loyalty. Organizational justice is essentially a key factor that determines the affection and all elements of job satisfaction. Dealing with the grievances of employees ensures organizational justice. 'Will the establishment and involvement of a Grievance Handling Committee (GHC) ensure the expected justice and improve the level of job satisfaction of employees?' was the research question of this interventional research project. This study consisted of three main components namely pre-intervention, intervention and the post-intervention. Study setting was the Accident and Orthopedic Department of the National Hospital of Sri Lanka, the leading health care institution of the country. Both qualitative and quantitative methods were applied in achieving the objectives. GHC was established following necessary references made on research projects carried out in other countries. The models in such countries were implemented as an alternative grievance hearing mechanism. GHC was an independent body which consists of selected employees of the hospital who have earned a good image and a reputation for their contributions of goodwill. During the evaluation period (3 months), 14 cases were presented and out of them, 11 cases were within the scope of the committee. Satisfaction for the employee grievance hearing and for the job satisfaction were assessed before and after the intervention through a pre-validated test tool.

Results showed that multiple mechanisms were in place for the grievance hearing of the employees while the open door policy is predominant. The awareness about the grievance hearing mechanisms was poor (mean - 2.9) among employees. Working environment-related causes were the commonest contributor in employee grievances (87.3%). The job satisfaction of employees (32.8) and the

satisfaction towards the grievance hearing (35.1) were low compared to findings on post-intervention (33.5 & 42.1). There was a statistically significant difference in the overall satisfaction, related to grievance hearing. GHC, as an alternative grievance hearing mechanism has helped to improve employee satisfaction and thus, recommended to establish in other sections of the NHSL.

Keywords:Employee job satisfaction, Grievance hearing mechanism, Employee grievance

0331. **Karunaratne, M.H.U.I.**
Feasibility study in introducing a generic model for developing hospital master plans for type B base hospitals in North central province in Sri Lanka.
MD Medical Administration – 2016   D 3920

Hospital master plan (HMP) is a blue print guide to identify capital improvement needs of future growth of health care facility. Flexibility, adaptable to accommodate contextual changes by cost effective implementable and logistically feasible methods are key characteristics. Layout design, baseline capacity calculation, utility plan, projection plan, implementation phasing are key components of HMP. Generic or modular HMP and guidelines are baseline levels adhering on above characteristics to meet described components.

Non availability of generic guidelines and baseline at national level allows devolved provincial health administration to allocate resources and develop BH without adhering to uniformity. This particular interventional research project was conducted in type B BH in North Central Province to study criteria for development of generic modular HMP. The developed generic model was utilized to assess and improve existing HMP in one BH, BH Tabuttegama. NCP demography and trends, performance and facility survey, studying available HMP were done by using existing information and checklists. Serviceable land use and building analysis, functional analysis, zooning and layout modeling on generic criteria were done by observational method, key informant interview and focus group discussion of relevant stakeholders by using structured guide and open questionnaire. Matrix modeling, functional relationship modeling techniques was adopted in developing generic HMP and layout design .Baseline capacity and generic layouts were compared with existing HMP.

Total population of NCP was 1.27 million with 2nd lowest population density. The overall District level BH type B hospital average core functions performances are around national average. However the inter district variation was very much deviated from above national average figures. In addition some of BH T'gama figures were exceeding average BHA performances.

Out of total serviceable lands, generic zones were identified as general and critical inward hospital core, OPD, emergency and ambulatory care area, disposal and utility service area, residential, public community area and green zone with area percentage 25-30%, 81 -22%, 12- 15% %, 20%, 5% and 40% respectively.

T'gama zones was too spelled out into above zones except public, ambulatory, diagnostics and the land area was different in residential, hospital core, green zones. The relative location of critical, maternal, operation theater, surgical and specialized care and diagnostic, ambulatory emergency care zones developed by matrix modeling in generic model were different from T'gama.

Baseline capacity level was described by number of beds and specialties as two levels with forecasting period divided into three 10 year horizons. The BH that belong to level I was of below national average performing hospital that will have minimum prescribed beds and specialties. Distance to tertiary' care center more than 40 km, population cater exceeding 100000, catering area more than 1500 sqkm and location of hospital in between major accessible roads were taken as key potentials determinants for scale up by specialty and bed number. The 5year implementation phase 1 was given by enhancing 180 beds and theater facility to accommodate second high performing general specialties and in cooperate specialized care.

Discussion

Conducting this research project was a new experience to the NCP provincial level and national level too. The focus of designing generic HMP made to give baseline prescription layout and projection with giving room for flexibility rather than tailor made one was successful. Land availability of above 20 archers with flat low lands and high serviceable land area in all BH was opportunity for free style zooning that may be difficult in other provinces. However the strengths and opportunistic assessment of using existing building land area for development was carefully done considering past flow of financial resources.

Identification of all generic zones especially public community, ambulatory were focused on state of art. The novel approach practiced in international and local architecting in keeping green land area more than 40% was adopted in generic model. Assessment of BH T'gama zones which were not by adhering with generic model were ended up with feasible solution with in generic model room and was able to advocate relevant stakeholders.

Underutilization of some of BH while others performed average was the overall picture. The staff availability is one of the most important challenge faced by BH in NCP now as well as in future. Therefore, use of functional relationship modeling and matrix modeling to locate ambulatory and inward similar functional units in one departmental scope area while maintaining it's original belonging zones and proximity to the utility supplies was very much applicable for generic BH design. Development of baseline data collection format was very useful for provincial authority for sustainable approach for HMP development process. The overall objective of adopting generic model in developing HMP in BH in NCP was feasible. Modification of implementation phases by uplifting A&E, Obstetric ward and theater, general ward complex will facilitate initiation from accessible bare land which would settle major priorities of the current need.

0332. Karunaratne, M.H.U.T.

Development of performance measurement guideline to monitor performance of fully auto biochemistry analyzers at secondary care hospital in Kalutara district.
MD Medical Administration – 2016 **D 3921**

0333.Koggalage, P.D.

Medical travelers' perspectives in selecting in-patient services in private hospitals in Colombo, Sri Lanka.
MSc. Medical Administration – 2015 **D 3967**

Introduction

Medical tourism is simply defined as "travelling across international borders to receive some form of medical treatment". It is not a new concept to Sri Lanka and with the availability of high quality medical professionals and accredited hospitals, Sri Lanka is geared to expand this industry which demands identification of the perspectives of medical travelers in selecting destinations.

Objective

The purpose of this study was to describe medical travelers' perspectives in selecting in-patient services at selected private hospitals in Colombo, Sri Lanka

Methods

A descriptive cross-sectional study was conducted in 2015 at four purposively selected private hospitals; Lanka Hospitals, The Central Hospital, Western Infirmary and Nawaloka Hospitals. Foreign nationals who sought in-patient care from above hospitals for a duration of at least 48 hours were defined as medical travelers and all eligible and consented medical travelers (n=235) during the study period were included. A structured pre-tested interviewer administered questionnaire was used to collect data. Data were analyzed using SPSS version 21 software. Data have been presented using frequency distributions. Types of care sought were cross tabulated with age categories, sex and the country of origin and Chi square test was used to assess the statistical significance of the associations. A 'p' value of 0.05 was taken as the level of significance.

Results

The response rate was 93.25% (235 out of 252). The majority (68.1%) were Maldivians followed by Indians (20.4%). Of the adults, 38.9% were in the age category of >18-30 years. Thirty-one percent of adults had more than 10 years of schooling and 45.4% were not employed. Of the population, 40.4% had an approximate monthly household income of US$ 1001-3000. The total estimate for the entire medical travel was > US$ 3001 in 51.1% medical travelers. The majority, 56.6% were accompanied by family member/s and 42.1% had stayed in a room in a hotel in Colombo. The majority, 51.1% sought surgical care followed by medical care (31.5%). There were statistically significant associations between the type of care sought and the country of origin (p<0.0001), sex of the travelers (p=0.00619) and age groups of adult travelers (p=0.019). High quality medical professionals (94.2%), accredited hospitals (81.3%), easy Visa (90.2%) were the top reasons to select Sri Lanka. The majority, 59.1% expected to engage in sight-seeing during medical travel. The medical travelers faced some difficulties in communication (37.4%), finding transport (31.9%), accommodation (57%) and quality food (41.7%). Not having racial discriminations (58.7%) and safe to travel (55.7%) were some of the top

expectations of them. They liked Sri Lanka due to health facility (41.6%) and health professionals (32.6%) related reasons. They disliked due to other support services related reasons (56.2%). Interestingly, 99.6% were happy to recommend Sri Lanka as a medical destination to others.

Conclusions and Recommendations

The majority of the study population were Maldivian nationals followed by Indians. The most demanded specialty was surgery. The leading reasons to select Sri Lanka were its high quality medical professionals, accredited hospitals and convenience in obtaining Visa. However, they faced difficulties in communication, finding transport, accommodation and quality food. Therefore, this study recommends improvement of infrastructure and support services for medical travelers and also recommends that private hospitals obtain international accreditation to improve the medical tourism potentials in the country.

Keywords; medical tourism, medical travel, medical traveler, medical destination, expectations of medical travelers and destination choice

0334. Liyanage, D.H.
DOTS seeking behavior and the factors affecting DOTS seeking behavior among new smear positive pulmonary tuberculosis patients during intensive phase who were registered at Colombo chest clinic.
MSc. Medical Administration – 2016   D4137

One-third of the world population is infected with *Mycobacterium tuberculosis* (TB). Directly Observed Treatment Short-course (DOTS) has been identified as the key strategy in tuberculosis control and prevention. Little research exists on DOTs seeking behaviour in Sri Lanka. The study objectives were to identify DOTS seeking behavior and the factors affecting it during the intensive phase (IP) among new smear positive pulmonary tuberculosis (PTB) patients to assess the duration of direct observation and describe patient and health service related factors. This was a descriptive cross-sectional study. Study population was all new smear positive pulmonary tuberculosis patients registered at Colombo Chest Clinic, who had already finished the intensive phase (IP) and were currently on the continuation phase (CP). Data was collected using interviewer-administered questionnaires. SPSS and *MS Excel* were used to analyze data. Of the study sample, only 86.4% commenced treatment on the day of diagnosis. 43.3% were

on daily DOTS and 65.9% swallowed drugs in front of DOT providers only on medication collection. Treatment interruption rate was 8%. 75.8% of the defaulters were males, who were belonging to low-income groups (75%), had an O/L or below education (86.4%) and were > 35 years of age (78.6%). A significant association existed between "DOTS seeking behaviour" and age category (p=0.027), distance (p=0.000), time to visit (p=0.000) and selection (p=0.000) of DOT center and between "Treatment interruption" and time spent at (p=0.000) and type of DOT center (p=0.013). Tuberculosis is associated with low socio-economic status and education. A high proportion of patients smokes and/or consumes alcohol. A history of close contact and chronic ailments are common. Health workers must prioritize patient convenience and avoid marginalization to avoid treatment interruption.

Keywords: "DOTS Seeking behavior", "Tuberculosis", "Colombo".

0335.Malalasekara, L.I.
Costing of hemodialysis and continuous ambulatory peritoneal dialysis procedures performed at National Institute of nephrology, dialysis & transplantation, Sri Lanka.
MSc. Medical Administration – 2017 **D4157**

Introduction

Chronic Kidney Disease (CKD) is a rising epidemic in Sri Lanka. It is estimated that annually 1000 patients of End Stage Renal Failure (ESRF) are newly diagnosed. For survival they require dialysis therapy, until kidney transplantation.

Haemodialysis (HD) is the widely practiced dialysis method used today. The Continuous Ambulatory Peritoneal Dialysis (CAPD) is the other dialysis option available.

Though there are studies done on costing of haemodialysis, no such studies are available for CAPD. The aim of this study is to fill that void.

General Objective

To compare the provider cost of Haemodialysis and Continuous Ambulatory Peritoneal Dialysis processes performed at National Institute of Nephrology, Dialysis and Transplantation during the month of February 2016.

Methodology

Study was designed as a descriptive cross sectional retrospective study, conducted among patients who underwent HD and CAPD for one month, using the records available at NINDT, Maligawatta. Step down approach was used to calculate the costs.

Data analysis and Results:

The results of the study show that the cost for a patient who undergo haemodialysis for one month is Rs. 102,420. Cost for CAPD procedure for a patient during the 1st month was Rs 87,485 including the five-day training. From the second month home based CAPD cost per month is Rs. 77,520. Discussion &

Conclusion

Most Asian countries adopt 'CAPD first policy' for Renal Replacement Therapy (RRT) due to its economic viability. With the increasing number of ESRF patients in Sri Lanka need of rationalizing RRT has become vital.

According to the study that annual cost for a HD patient is Rs 1,229,040 and the same for CAPD patient is Rs 940,205. Final conclusion of the study is CAPD is 25% less costly than HD.

Recommendation

Increase the facilities available for CAPD at more hospitals.

Keywords: Haemodialysis, Continuous Ambulatory Peritoneal Dialysis, Provider Cost

0336. Mallawrachchi, S.M.N.S.M.
Knowledge and practices of grade medical officers on management of bed head tickets in regional directorate of health services area, Gampaha, Sri Lanka.
MSc. Medical Administration – 2014   **D 3899**

Introduction and justification: The bed head ticket is the medical record of the in-ward patient in Sri Lankan health system. Bed head ticket is one of the main sources of health information in Sri Lanka. Deficiencies in the management of bed head tickets have to be studied and corrected as a measure to improve health information system.

Objectives: The aim of the present study was to study the knowledge and practices of grade medical officers on management of bed head tickets in the area

of Regional Directorate of Health Services (RDHS), Gampaha. The research was carried out in Divisional, Base and District General hospitals in RDHS area, Gampaha.

Methods: Two hundred and forty six grade medical officers participated in the study. Their knowledge regarding management of BHT was assessed using a self-administered questionnaire. The practices were studied both by the questionnaire and a survey of BHTs with the help of a check list. The survey was carried out in a District General Hospital and a Base Hospital in RDHS area, Gampaha. Five hundred BHTs were studied.

Results: Seventy percent of grade medical officers were not aware about the general circular pertaining to maintenance of medical records. Sixty six percent of grade medical officers were aware that the final diagnosis should be written in block capitals.

Seventy six percent of grade medical officers were aware that writing the final diagnosis in abbreviated form was not acceptable. Only 17% grade medical officers were found to be aware of the requirement in sending the BHT to the record room in the following morning after discharging the patient. Fifty one percent of grade medical officers were not aware that the BHT is the sole source of information for IMMR.

It was found that 65.5% of BHTs did not have the final diagnosis written according to ICD 10. Among BHTs studied, 10.6% had the final diagnosis written in block capitals. Final diagnosis was written in abbreviated format in 38.4% of BHTs. Entries were legible in 63.8% of BHTs. It was noted that 68.4% of BHTs had reached the record room after three days or more since the discharge of the patient.

Conclusion: The knowledge regarding the guidelines pertaining to management of medical records was poor among the grade medical officers. Their basic knowledge on timeliness of record keeping and flow of medical information system was also not satisfactory according to the study. Selected aspects in practices in the management of BHTs also reflected the same deficiencies.

Keywords: Bed head ticket, medical records, health information

0337.Mathan, F.P.

Occupational health injuries among healthcare workers at secondary and Tertiary Care Hospitals in Batticaloa district.
MSc. Medical Administration – 2016   **D 3903**

Background

Occupational injuries are more common among healthcare workers (HCWs). Healthcare workers are exposed to occupation related injuries in their working places. Measuring the prevalence, nature, causes and knowledge of the injuries can help facilitate better risk management for HCWs as we have inadequate human resource in health sector.

Objective

To determine the magnitude of occupational injuries among healthcare workers at the secondary and tertiary care hospitals in Batticaloa District.

Methods

I used the cross sectional descriptive design with stratified random sampling technique and involved three categories of health care workers from the secondary and tertiary care hospitals of Batticaloa district; the doctors, nurses and minor employees. Sample size was 384 and information regarding the prevalence, nature, causes, knowledge and immediate actions following occupational injuries was collected with the help of a self-administered pretested questionnaire.

Results

A total of 384 HCWs were participated and the prevalence of occupational injuries among HCWs was 86.3% and the females had more occupational injuries than males. The injuries identified were lower back pain 37%, needle prick injury 34.6%, cut injuries 25.5%, infectious disease 40.1%, splash of blood from patient 42.7%, and the stress 57%. Most Common cause for the back pain was 'bending and twisting while handling the patients'. It was 48.6% and most common cause for the needle prick was 'while disposing the sharp'. It was 23.3% of the HCWs. Injuries reported rate was 24.1%.

Conclusion and recommendation.

Occupational injuries were high in prevalence among healthcare workers in Batticaloa hospitals. Most common occupational hazards were stress, splash of blood from patient, needle prick injuries, back pain and cut injuries. Occupational injuries reporting behaviour was found to be poor. HCWSs were identified of

having high knowledge on occupational injuries and preventive measures. Adequate personal protective equipment should be provided to HCWs to minimize occupational injuries.

Keywords : **Occupational injuries, healthcare workers, Batticaloa district, prevalence of Injuries.**

0338. **Nawaneliya, M.M.S.S.K.**
Contributory factors on underutilization of healthy lifestyle centers (HLC) in Medical officer health area Galaha.
MSc. Medical Administration - 2017   **D4161**

Introduction:

Non communicable diseases account for more than 70% of the disease burden in Sri Lanka. Since secondary and tertiary prevention of NCDs have been identified as very expensive, it is cost effective to identify the presence of risk factors in people through screening in view of preventing the occurrence of NCDs by early intervention. In view of identifying the people at risk of NCDs, Ministry of Health Sri Lanka initiated to establish Healthy Lifestyle. However, poor participation of clients specially the males have been identified as a main challenge in the screening programmmes. Therefore, it is important to identify the attitude of the people on screening, awareness on the HLCs and the contributory factors for the under-utilization of HLCs.

Objective:

The aim of the study was to assess the knowledge on NCDs, attitude on screening, awareness on Health Lifestyle Centers and contributory factors for underutilization of Health Lifestyle Centers among 40 - 65 year old adults who have not attended HLCs in MOH area Galaha.

Methodology:

A descriptive cross-sectional study using pre tested interviewer administered questionnaire was carried out. Simple random sampling method was used to select the participants from randomly selected 8 PHM areas in the Galaha MOH division and one eligible participant was selected from each identified household. Data was collected by the Principal Investigator and another Medical Officer fluent in Tamil and data was analyzed using SPSS software.

Results:

Of the total participants 62.6% (n=244) were females and 29.2% (n=114) were in the age group 46 - 50 years while 77.2% (n=301) were Sinhalese. Overall knowledge reveled that 43.8% (n=171) of the participants had average knowledge and 24.1% (n=94) had very good knowledge on NCDs. Overall knowledge reveled that 43.8% (n=171) of the participants had average knowledge and 24.1% (n=94) had very good knowledge on NCDs. Further, more than 90% (n=364) participants had very good knowledge on NCDs screening. However, only 55% (n=215) participants had positive attitude on NCD screening.

Main contributory factors identified for underutilization were unawareness on the availability of a service as HLC (82.3%, n= 321). Perceiving that the participation at HLCs is not important (11.7%) and thinking that HLC is a place that give treatment for patients who have already go the disease (5.8%,n=23) found to be other contributory factors for the underutilization.

Other factors that participants thought would have contributed for the underutilization were distance to HLCs, financial constraints, difficulty in getting public transport, family related problems, job related issues and staff related issues.

Conclusion and recommendation:

Although the knowledge of the participants on major NCDs were satisfactory knowledge on some risk factors were found to be not sufficient highlighting the gaps in the knowledge on risk factors and need to do more awareness programmmes targeting the community. Although participants had a good attitude on the screening for NCDs majority were found to be unaware of the availability HLCs. This will further draw the attention toward the need to give priority in conducting programmmes in making community aware on the HLCs and the facilities available at HLCs.

Keywords: Knowledge, Attitude, Underutilization, Healthy Lifestyle Center

0339.Patabendige, A.T.N.D.
Knowledge, attitudes, practices and factors affecting the practices on standard precautions among nursing officers in selected Base Hospitals in the Southern Province of Sri Lanka.
MSc. Medical Administration – 2016   **D3938**

Introduction

Standard precautions in patient care are minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection states of the patient, in any setting should be followed by all healthcare workers in all patients at all times.

Objectives

The objectives of the present study was to describe knowledge, attitudes, practices and factors affecting practices of standard precautions in patient care among nursing officers in the selected Base hospitals in the Southern Province of Sri Lanka and to assess the availability of resources to practice standard precautions in wards and units.

Methods

A descriptive cross-sectional study was conducted during the period of 03rd August 2015 to 06th of August 2016 among a representative sample of (n=422) the nursing officers working in Base Hospitals in the Southern Province selected using multistage sampling technique. A structured, pretested, self-administered questionnaire collected information on knowledge, attitudes and practices on standard precautions.

All the wards and units (n=68) in the selected Base Hospitals where participating nursing officers work were observed for availability of resource to practice standard precautions using an observational checklist. Observations were done by the principal investigator and a trained research assistant. Data analysis was done using the Statistical Package for Social Sciences (SPSS), version 21.0, software. Participants scored for their responses on knowledge, attitudes and practices and were categorized into good and poor levels.

Availability of infrastructure facilities, supplies, human resources were described and presented as frequency distributions.

Socio-demographic factors (age, sex, marital status), duration of service in the government sector as a nursing officer, period of service in the current station,

level of knowledge, level of attitudes, whether received training,, period of time since last training on standard precautions where the factors, were assessed for their association with levels of practice of standard precautions. Chi-squared test was used where ever appropriate to assess their association. A p value of 0.05 was used to determine significance.

Results

Response rate was 92.6%. Most of the study population (93.6%, n=366) were females, married (91%, ^=356) and Sinhalese (99.7%, n=390) and mean age was 37.5 years. A great majority (92.6%, n=362) had poor level of knowledge, 53.5% (n=209) had favorable level of attitudes, 69.6% (n=272) had poor level of practice of standard precautions. Having a service in the government sector more than 10 years was significantly associated with having 'good' level of practice of standard precautions. (p=0.032). Having received a training on standard precautions was significantly associated with a 'good' level of practice of standard precautions. (p=0.002). Availability of infrastructure facilities and supplies to practice standard precautions in wards/ units revealed gaps.

Conclusions and recommendations

Levels of knowledge, attitudes and practices were poor, and the study identified several gaps in knowledge and practices to be addressed. Training programs on standard precautions are recommended on regular basis to improve the knowledge and practices of standard precautions among nursing officers in the Southern Province of Sri Lanka.

Keywords: Standard precautions, knowledge, attitudes, practices.

0340.Pathirana, G.P.N.
Factors affecting the timeliness of procurement process of selected medical equipment in the regional directorate of health services of Gampaha during 2014/2015.
MSc. Medical Administration - 2016   D4056

Medical equipment is essential in quality service delivery of any health care organization. Timely provision of medical equipment has greater impact in improving health care services. Regional directorate of health services Gampaha caters seventy-eight health institutions and fulfil technology requirement of these health institutions. In order to accomplish this requirement, the regional directorate of health services annually procure a considerable amount of medical

equipment. It was apparent that timely provision of medical equipment has not occurred in several instances in the previous years.

Hence, this area need to be further explored to identify the factors affecting the timeliness of medical equipment procurement process. All the equipment purchased during the year 2014 and 2015 and selected sample of key stakeholders involved in this process were included for this study.

There were two components in this study. Component one intended to get data for two study instruments. Twenty-eight key informant interviews were carried out among selected group of expertise from three categories of stakeholders. The sample represented institutional heads, suppliers, planning teams of regional, provincial and provincial health ministry, provincial biomedical engineer, accountants and regional and provincial health authorities. Self-administered structured questionnaire was used to get the perception of this expertise to determine the standard predicted time for identified stages of equipment procurement process. Knowledge and experience of the key informants was used to formulate standard predicted time.

A qualitative assessment was done for the data collected through interviews to identify the factors affecting the timeliness of medical equipment procurement process.

Component two was designed to obtain actual time taken for procurement process during the year 2014 and 2015. The data was collected from past records of 243 equipment purchased in the same period.

The highest pointed out factors that affect medical equipment procurement process are late project approval, delays in technical evaluation and suppliers, delays to send equipment. The average times calculated were longer than the predicted time by expertise. The financial progress of projects take place around November to December while tendering take place around September.

There is a delay in medical equipment purchasing process, but the staff commitment to finish these projects was adorable. Mostly external factors affect this process like project approval and supplier related factors. The policy makers must consider these facts in reform of procurement policies.

0341.Pathirathna, K.G.R.V.
Study on inter hospital patient transport system in district General Hospital-Nuwaraeliya.
MD Medical Administration – 2016   **D 4019**

Inter Hospital Patients Transportation (IHT) is an important event in patient care. It helps to provide specialized care for patients in need by reducing some service barriers. Therefore it improves quality of care and equity.

The IHT has its own risks. Making correct decision at correct time, availability of standard facility, preparation of the patient, availability of skill full staff to accompany the patients and monitoring during the transportation are some factors needed to reduce these risks. Aim of this study was to improve the IHT of District General Hospital Nuwara-eliya attempting to address the above by applying total quality management techniques and to assess the effectiveness of the new system.

This study is an interventional project done by applying both qualitative and quantitative methods. The study has three components.

The 1st component was assessing the available system and designing a new system. It was developed by series of focus group discussions and Key informant interviews with relevant stakeholders.

The new structured quality improvement plan is based on the guideline prepared by college of Anesthesia and critical care school in Sri Lanka and it consist of formation of transport management committee to monitor the system, identification of training needs, development of the pre-departure readiness assessment, monitor minimum standard drugs and equipment and best practices. Component two was implementation of the project using structured quality improvement plan.

The component three was to evaluate the effectiveness of new system. It was done by both qualitative and quantities methods. Focus group discussions and interviews with stakeholders were used to assess the level of perceived satisfaction of service providers with regard to improvement of effectiveness of the patient transport system. In the 2nd evaluation method, predeparture administration time before and after the intervention was compared.

Perceived satisfaction of study participants (service providers were improved in all assessed thematic areas. Pre-departure administration time after the intervention has improved significantly (p<0.05).

The results proved the feasibility of implementation of the structured quality improvement programme for improvement of patient transport system in DGH Nuwaraeliya. Further, results also showed that the new intervention leads to increased level of effectiveness of patient transport system.

0342.Pathirathna, K.G.R.V.
Study on inter hospital patient transport system in district General Hospital-Nuwaraeliya.
MD Medical Administration – 2016   **D 4020**

Introduction

Vital signs observation is an important function performed in in-ward settings. It is critical for better outcome of patients. Early identification and appropriate response for deteriorating vital signs ensure the effectiveness of patient care. When the number of patients in critical conditions or in risk of deterioration is high, the efficiency and effectiveness of the techniques and tools which are used for monitoring of vital signs should be improved and user friendly. Therefore, this study was planned to improve the monitoring of high-risk patients by introducing an improved vital sign monitoring tool, and assess the effectiveness of it by satisfaction of users and efficiency by measuring the response triggering time.The objective was to improve the vital sign monitoring system by introducing a newly developed system and to assess the effectiveness of it in NHSL.

Methodology

The study has two components and both qualitative and quantitative research methods were used. The 1st component was to assess the present patient observation and response chart, designing of a new system and piloting it. New system was developed by adopting a format developed by the commission of quality and safety for health ca discussions and key informant personal inters in Australia, which has been tested successfully. Series of focus group reviews were used to collect consensus which was adjusted to the study setting. The second component was to assess the effectiveness of the system by user satisfaction on contextual factors and content of the system by qualitative

Methods.

The efficiency of the new intervention was quantitatively assessed by three methods. One is to measure statistical difference of response triggering time and

second is to measure statistical difference of correction rates of responses in OSPE by staff in addition to that, feasibility of applying the new format was assessed by measuring the correction rate of recording in new format in real ward setup for two week period.

Results

Results of quantitative analysis proved significant statistical difference between responses triggering time and correction rate of recordings for current monitoring chart and new ORC format. Results of paired t-test fall in to a The qualitative assessments showed a satisfactory level of improvement regarding recording, interpretation and effectiveness of triggering response processes of vital sign observation of patients after implementation of new Observation and Response Chart(ORC). significant level below 95% confidence levels (p<0.05) in both.

Results of implementation of new ORC format in real ward setup for two week period showed 93% correction rate compared to the recordings of current monitoring chart.

Conclusion -The study results proved that the new ORC format is a more efficient and effective technique compared to the existing observation format of vital signs observation of high risk patients of the inward setting. This study processes and tools can be applied to similar settings with the consideration of local contextual factors.

0343.Perera, U.A.A.S.
Factors affecting the completion of construction projects identified in annual plan in regional directorate of health services of Gampaha district during year 2014/2015.
MSc. Medical Administration – 2016   **D3971**

Introduction

Regional health authorities play an important role on implementation of the development projects in both preventive and curative health sectors at district level. In each year, many construction projects are implemented to keep up with the requirement and increasing demand of healthcare services. A considerable amount of renovation and new construction projects are carried out annually consuming nearly 50% of the capital budget from various funding sources at District level. However, it is apparent that delays and partial completion of

construction projects have resulted undesirable consequences including time and cost overrun. Hence, factors associated with effective completion of these construction projects need to be explored in health sector of Sri Lanka.

Objectives

To identify and determine factors affecting the completion of construction projects identified in annual plan in Regional Directorate of Health Services Gampaha during year 2014/2015.

Methodology

The Study consisted of qualitative and quantitative study components. The Qualitative component intended to describe the different stages of the current process of construction project completion and to identify factors affecting it in the RDHS division Gampaha. Focus Group Discussions and Key Informant Interviews (KIIs) among stakeholders in different disciplines including health, engineering, contractors and provincial authorities were carried out. Quantitative component intended to determine the timeliness of completion of construction projects in relation to planning, procurement and implementation stages. A Descriptive study design was adopted based on the secondary data embracing purposive sampling technique, a total number of 124 construction projects carried out during 2014 and 2015 was taken as study population. Data was collected retrospectively using structured data sheet.

Results

Study revealed that the unavailability of master plans for health institutions, poor adherence to medium term plan, delay in designing and estimation, poor phasing out of projects, lack of prioritization, lack of assessment of technical feasibility of projects were main considerations in the planning stage. Unavailability of a procurement plan and selection of inappropriate contractors were identified in the procurement stage. Provision of inadequate time period for construction, bad weather, lack of technical supervision, were factors widely agreed in implementation stage.

During 2014 and 2015, a total number of 124 projects were carried, 45 and 79 projects respectively. Most of the projects, 83.9% (n= 104) were renovations while 16% (n=20) were new out of the total projects in both years. Timeliness of stages was compared with National Procurement Manual. Average project approval time was 121 days which was one third of the year. Average time taken

for project estimation (114days) was threefold higher than the standard time. Most of the project estimates were received and awarded (38 %, n=47) in months of October and November respectively. The Average time taken for the whole construction process for all projects was 208 days. One fourth of the projects had time overrun (26 %.)

Conclusion

Many factors such as the unavailability of master plans for health institutions, delay in designing and estimation, poor phasing out of projects, unavailability of procurement plan and selection of inappropriate contractors were revealed. Multi sectorial coordination was the key factor for ultimate project success. Poor timeliness in estimation process was the main delay for the whole project completion resulting late initiation of proceeding stages with time overrun. Financial and technical inadequacy of the contractors and late awarding of the projects hindered the progress of projects.

Recommendations

Timely initiation of planning cycle and preparation of project estimation need to be encouraged. Inadequate manpower in the engineering organization must be addressed to avoid undue delay at all stages. Furthermore, preparation of master plan for major health institutions is recommended. Preparation of a procurement plan should be encouraged. Organization of regular workshops for stakeholders regarding available guidelines and review to improve stakeholder coordination must be encouraged

Keywords: Construction projects, Project planning, Construction delay.

0344.Prathapasinghe, I.D.
Reduction of needle stick injuries among nurses and health care assistants through an intervention: changing attitude and improving awareness, in the National Hospital of Sri Lanka. (NHSL)
MD Medical Administration – 2017   D 4143

A needle sticks injury (NSI) means the skin is accidentally punctured by a used needle. Some staff members attached to the healthcare institutes are at a higher risk of NSI (Carry A; 2016). Refrain from NSI is a must of any blood related infection control programme in the work place. All hospitals or healthcare settings should have regulatory measures in place through a working nosocomial

infection control team. This study addressed the burning issue of NSI and aims at determining the occurrence of NSI among various categories of staff. The study setting National Hospital of Sri Lanka (NHSL) is the largest tertiary care government hospital in Colombo, Sri Lanka.

Methodology: Pre tested self-reporting questioner and Check list was adopted for collecting data from selected 386 Nursing officers and Health care assistants (HCA).193 from each category. In The Designing phase also the same tool was applied to develop new structure intervention to address the identified issues regards to knowledge, attitude and practices in NSI. FCD was conducted for identification of existing gaps (Gap analysis). The study was conducted in three components, Pre interventional, Interventional and post interventional component. A Training module and WHO approved Injection safety tool kit was introduced to Accident wards as interventions.

Results: It was. Evident from the study about gaps related to NSI management. Both Groups (NO and HCA) evident with a highly significance different after interventions. Improvement of reporting culture for NSI (0.05, 0.001) evident with a significance difference. Awareness on PEP was also improved significantly (0.003, 0.049). Some variables tested on the attitude of HCA on further training need were statistically significant in pre and post intervention ($p < 0.05$).

Limitation of the study:

The time gap between the intervention and post interventional assessment was two months which was not enough to change the attitude and practice. Only the Knowledge component of HCA showed a significance difference. To achieve a satisfactory result from application of Injection safety tool kit i: is needed at least one year. To avoid observational bias (Hawthorne effect) during application of the Check list researcher had to apply Video techniques.

Recommendation:

In service training programme should be conducted continuously. Regular monitoring and evaluation measures should be taken. WHO injection safety tool kit should be generalized all over the Country.

0345.Rajakaruna, I.M.S.M.
Health systems responsiveness and associated factors at outpatient clinics in Base Hospital-Dambadeniya.
MSc. Medical Administration – 2016   **D3912**

It is widely accepted that assessing performance of any health system, as mentioned in World Health Report 2000 by WHO, should be centered on three fundamental goals of which are improving health, enhancing Health Systems Responsiveness and assuring fairness in financial contribution. But many countries, both developing as well as developed, are falling far behind of their potential, and most are making inadequate efforts to achieve Responsiveness and fair financing. Researches, therefore, oriented on generating new knowledge to make health services more Responsive to users' non-health expectations are becoming much more important.

In order to assess the level of Responsiveness in outpatient clinics and identify factors affecting the perceived level of Responsiveness by patients attending clinics at Base Hospital Dambadeniya, a descriptive cross-sectional study was designed exploring the experiences of 405 clinic participants in four basic specialties through structured, interviewer-administered close-ended questionnaire. Participants were sampled using systematic random method following stratification with respect to their attending clinic. Three focus group discussions with eighteen health service providers were carried out in the same setting to identify factors among healthcare workers affecting Responsiveness in selected clinics.

The measurements produced excellent results compared to that of previous work. The overall 'Very good' or 'Good' Responsiveness was 95.3% while the remainder concluded that it was 'Average'. None of respondent rated it as 'Bad' or 'Very bad'. The rating of Responsiveness being 'Very good'/ 'Always' or 'Good'/ 'Often' in relation to each domain were 98.8% for 'Confidentiality', 97.2% for 'Quality amenities', 96.5% for 'Dignity', 95.0% for 'Social support', 94.6% for 'Communication', 89.4% for 'Prompt attention', 86.6% for 'Autonomy' and 58.2% for 'Choice' in descending order. Moreover, the effort to reveal associated factors of Responsiveness showed that the only significant patient related factor was

'current position' of respondents. Results demonstrates that Base Hospital Dambadeniya caters its mainly rural population of poor socio-economic background through four basic outpatient clinic services with remarkably high Responsiveness, in its level as well as distribution, with respect to patients' nonhealth enhancing expectations even with constrained resources, though few pitfalls are there. Study indicates the

potential to achieve excellent improvements in both level and fair distribution of Responsiveness in government health institutions regardless of constraining resources if due attention was paid by service providers.

Keywords: Health Systems Responsiveness, Base Hospital Dambadeniya, outpatient clinics

0346.Ranasinghe, G.S.P.
Study of out of pocket expenditure for laboratory investigations incurred by patients attending the diabetic clinic at Base Hospital Panadura.
MSc. Medical Administration – 2015   D 3770

The Sri Lankan healthcare system is a combination of public health - the main driver enabling universal access which is financed by general revenue sources - and the private sector which is financed through fees levied for service arrangement. As per the Sri Lanka National Health Accounts (2009), household Out of Pocket (OOP) expenditure on health in Sri Lanka rose from just Rs. 5.2 billion in 1990 to 76.1 billion in 2009. The share of OOP expenditure in Total Health Expenditure was 46% while the share of OOP expenditure in Private Health Expenditure was 89%. Prevalence of diabetes in Sri Lanka has gradually increased over the last two decades.

Sri Lanka is going through a demographic transition, increasing the proportion of elderly population. Further it is also going through an epidemiological transition with the disease pattern shifting from Communicable diseases to Non

Communicable Diseases (NCD). Diabetes mellitus is one such disease which needs lifelong care and require regular investigation and follow up. The public sector hospitals are unable to provide the necessary laboratory tests and patients are compelled to seek the services of private laboratories at a cost. Most of these patients who belong to lower socioeconomic groups go into catastrophic spending due to this.

This descriptive cross sectional study was conducted at the Diabetic clinic of the Base Hospital Panadura (B H Panadura) to determine the out of pocket expenditure for laboratory investigations related to diabetes and the reasons for such expenditure being incurred by the patients utilizing the diabetic clinic at B H Panadura.

A Systematic Random Sample of 422 diabetes patients was selected for the study. A pre tested structured interviewer administrated questionnaire and a check list was used as study instruments for collecting data. Principle investigator interviewed the patients.

The out of pocket expenditure for laboratory investigations incurred by the diabetes patients who were attending the diabetic clinic Base Hospital Panadura was Rs 392. It ranged from a minimum of Rs 16 to a maximum of Rs 3640. The reasons for such expenditure being incurred by the patients utilizing the diabetic clinic at B H Panadura were due to the long delay in obtaining the services and the inconvenience of utilizing the public laboratory due its inefficiency. Most of the diabetes patients attending the clinic were among the lower socioeconomic groups. All the patients who were utilizing the clinic in this study were type II diabetes. Most commonly occurring co-morbid diseases were Hypertension (68.5%) and Hyperlipidemia (61.8%). Significant numbers of Ischemic Heart Disease patients (16.4%) were present.

All the patients (100%) were ordered the FBS (Fasting Blood Sugar) by Medical Officers at the clinic and the next most commonly ordered test was Post Prandial Blood Sugar (64.2%). Majority of patients (64.5%) utilize private laboratory. Public lab usage was 28.7% and very small portion (4%) use both public and private laboratory

The mean cost for food was Rs 209 and mean cost for travelling was Rs 217 respectively. The cost for indirect cost represents the largest share is 289.00 mean (Min Rs 16 to Max Rs 2800). Mean direct cost borne by the person with diabetes for all lab tests which is Rs 229 (range from Rs 100 to 3400). The average out of pocket expenditure (direct + indirect) for laboratory investigations was Rs 392. With the increased health budgets it is recommended that the laboratories at

secondary and tertiary care public hospitals should be equipped with modem technology and made more efficient.

Key words : Out-of- Pocket-Expenditure, Diabetes, Laboratory Investigations

0347. Rathnayake, R.M.D.W.
Develop a new OPD form & OPD return to incorporate morbidity data and assess feasibility in hospitals within Colombo RDHS. Area.
MD Medical Administration – 2016   D3922

Introduction: Health status is often measured using a range of indicators of mortality and morbidity. Morbidity data is recorded only for patients seeking treatments as inward-patients of government hospitals in Sri Lanka. Morbidity data of patients attending the Out Patient Department(OPD) are not routinely collected. Since manual records carry many inherent limitations, developing a user friendly manual OPD form with diagnosis is a challenge.

Objectives: A study was conducted to develop a new OPD Form & return to incorporate morbidity data and assess feasibility of implementation in hospitals within Colombo Regional Director of Health Services (RDHS) area.

Methodology: An Intervention study design was formulated with three consecutive phases.

PHASE 1 - To develop the OPD form & return with a training plan

PHASE 11 - Introduce the intervention to selected OPDs and record rooms in Colombo RDHS (*Base Hospital, Divisional Hospital, Primary Medical Care Institution)

PHASE III - Feasibility assessment

During PHASE-I, Delphi technique, In-depth-interviews, Focus Group Discussions (FGD) were used to collect information to develop OPD form and return. International Classification for Primary Care (ICPC) was selected as the classification for coding, which is widely used (WONCA, 2004). For PHASE-11 three OPDs from each hospital level* were selected using stratified random sampling. Developed forms were tested for a period of one month after induction training to staff. At the end of one month all filled OPD forms were given to record rooms to complete the returns. A parallel survey was conducted to measure time and accuracy relation to the new OPD form & OPD return including tally sheet and its data flow within Health Management Information System (HMIS).

Results: An OPD form, Return and Tally sheet were developed at the end of PHASE-I incorporating all suggestions. All OPD staff accepted the new OPD form and Return and contended with the induction training provided. Results during the feasibility assessment showed the completeness, accuracy of the entries made at Registration and Consultation were satisfactory. Timeliness also was acceptable for implementation. High Variability (95%-71%) in completeness of "diagnosis" was shown.

Discussion: High Overall satisfaction (98%) of MOO/OPD implied that new OPD form is acceptable. MOOs showed high accuracy (99%) in direct entering ICPC - 2 codes. Officers at record rooms were positive towards the new OPD return and tally sheet due to absence of code conversion.

Conclusion: OPD form and Return including Tally sheet were accepted as user-friendly, appropriate and feasible by all stakeholders.

Recommendations: Copyright licensing should be obtained from (World Organization of Family Doctors (WONCA) for ICPC-2 incorporation. The OPD form & return is recommended to implement nationally. The readiness of Medical Statistics Unit (MSU) has to be assessed and prepared to handle large volume of data. Incorporation of ICPC in undergraduate medical curriculum is recommended as a future investment.

Key words OPD/MO, OPD Form, OPD return, Tally Sheet, ICPC-2

0348.Rathnayake, R.M.D.W.
Feasibility of introducing a realistic diet ordering process on demand basis for inward- patients at NHSL.
MD Medical Administration – 2016   D3923

Good nutritional practice must exist to avoid patient being nutritionally vulnerable during hospital stay. Provision of diet for inward patients was a long standing norm for the public sector hospitals in Sri Lanka. Being the largest hospital, provision of meals to average 2500- 3000 inward-patients daily is a complicated task in NHSL. Since Sri Lankan cultural trend is to provide homemade food for hospitalized family members, food wastage at ward level has consistently been reported. An intervention study was developed. The objective of this intervention study is to introduce a feasible and realistic diet ordering process based on patient demand for inward patients in NHSL.

Methodology consisted with two consecutive components;

Component I- RESEARCH: a descriptive cross sectional study was carried out as 'Patient perception survey'. 406 patients were recruited from all ward categories using stratified random sampling. Details of dietary information were collected using an Interviewer-Administered Questionnaires (IAQ).

Component II-PROJECT: Project was conducted in three phases; Pre intervention. Intervention and post-intervention endow. Convenient, sample of stake holders from various \eve\s were involved during the Pre-intervention. Qualitative data collection tools were used to develop the new diet process. At the Intervention phase; a sample of 352 patients was selected using stratified random sampling. Details of dietary information were collected using an Interviewer-Administered Questionnaire (IAQ) prior to the intervention. The new process was introduced to all Surgical and Medical wards. Post-intervention data collection was carried out using the same sampling with the same IAQ used in the Pre-intervention.

Results of the Component I revealed the ability of patients to inform their food requirements.' The patient's reliability characteristics were estimated from the 'Perception Survey'. A "Diet order form" and "Diet schedule" were the main process materials designed in the Intervention with the collaborative efforts of stake holders.

55% of breakfast, 62% of lunch and 57% of dinner was wasted in pre-intervention. The wastage of lunch was almost similar for each lunch types; Fish, Dry fish, Egg and Vegetable. New diet process was successfully introduced to 30 (Medical and Surgical) wards. Postintervention results showed up significant reduction of food waste which was less than 4% for all meal types. Administrators and staff cooperation was satisfactory and stakeholders accepted the new process as feasible. Management of NHSL is in the process to introduce new diet process to wards.

Keywords: Diet order form, Diet schedule, Food waste

0349.Rathnayake, S.J.
Presenting complaint, prescribed antibiotic, cost of antibiotic and investigations among outpatient department attendees at the teaching hospital, Kandy, Sri Lanka.
MSc Medical Administration – 2017   D4524

Introduction

Outpatient departments provide comprehensive non urgent, ambulatory care to the community in Sri Lanka. Socio-demographic variations elicit variations of disease pattern, expectations and needs of the attendees. Presenting complaint of patient is crucial in investigating, diagnosis and drug prescription. Rational drug prescription is a decisive factor, which means the usage of correct drug in appropriate dose, for adequate time period at the lowest cost. Throughout the world 50% of prescribed drugs in OPDs are irrational. Poly pharmacy, misuse of antibiotics and poor adherence to treatment guidelines are some forms of irrational drug uses.

Objectives

To describe the Presenting Complaint, Prescribed Antibiotic, Cost of antibiotic and Investigations of Outpatient Department attendees at the Teaching Hospital, Kandy, Sri Lanka.

Methodology

An institutional based descriptive cross-sectional study was carried out in Teaching Hospital Kandy. Sample of 1173 OPD attendees were selected for the study. Within the study period, every 5th patients above 18yrs of age were selected until sample size was obtained. There were three steps in data collection procedure. Self-administered questionnaire was used in step-1 and interviewer administered questionnaire was use in step-2. Data related to socio-demographic characteristics and presenting complaint was obtained in step-1 and data related to prescribed antibiotics and investigations obtained in step-2. Cost of antibiotics in step-3 was calculated using gathered data in step-2. Data analysis was carried out using the appropriate statistical methods in the Statistical Package for Social Sciences (SPSS) version 17.0 and Microsoft excel 2007.

Results

The response rate was 100%. Most of the respondents were female 63.1 % (n = 740) and mean age was 46.18 years (SD=15.693). About one fourth of the OPD

visits were subsequent (24%). Main Presenting complaint of the OPD attendees was musculoskeletal complaints (26%). Respiratory complaints accounted for about 1/5 of the total (19.4%). Most of the attendees came for treatments within one week (68.1%) and considerable amount came to for complaint existing more than one month (11.6%). Out of all attendees 26% (n=304) had previous history of chronic illness. Antibiotics were prescribed for 34% of (n=399) OPD attendees and Maximum number was 2 per prescription. Only one antibiotic was prescribed for 97% (n=387) of total antibiotic prescriptions. Out of all antibiotic prescriptions 99% were empirical use. Most commonly prescribed antibiotic class was penicillin (n=300, 74.9) and antibiotic was amoxicillin (40.2%) (n=165). Of antibiotic prescriptions, 35.8% (n=143) were accounted for respiratory complaints. Antibiotics recommended for 23 (58.9%) out of 39 patients who had common cold only. Average duration of antibiotic prescription was 3. 26days.Total cost for all antibiotic prescription was 22,040.00 SLR. Average cost per antibiotic prescription was 53.63 SLR. Average cost of antibiotic in the total sample was 18.79 SLR. Total numbers of 87 investigations were done for 7.1% of (n=84) of OPD attendees. Most frequently done investigation was FBC (62.1%, n=54). Out of all investigations, 58% (49) were done for the patients who were prescribed antibiotics. Out of antibiotic prescribed patients 13% were investigated. An association of 95% confident level existed between investigation done and number of OPD attendance for same reason in level. Highly significant association existed between antibiotic prescription and ordering investigations (P=0.000).

Conclusions and Recommendations

Most of the OPD attendees were coming to treatments for musculoskeletal complaints, trauma and skin conditions, and respiratory complaints. Antibiotics were prescribed for 1/3 of those OPD attendees. All most all the antibiotic prescriptions were empirical. Irrational antibiotic prescriptions could be identified in OPD. Although the cost of antibiotics for a prescription was low, it can be minimized further. Investigations were not frequently done in the OPD. monitoring and evaluating the antibiotic prescriptions and feedback are needed.

Improving ordering and availability of investigations is necessary for having more definitive treatment. Continuous professional development is important in improving rational clinical practice in OPDs.

Keywords; Presenting complaint, antibiotics, cost, Investigations

0350.Ratnasekare, W.A.P.P.
Designing and developing a new patient admission form for government hospitals and assessment of its feasibility of implementation.
MD Medical Administration – 2016   **D4166**

A medical record is a compilation of pertinent facts about a patient's health history, including past and present illnesses and treatments. It is written by the health professionals contributing to patient's care. A medical record is generated when a patient visits a healthcare facility, the point at which the patient is registered in the outpatient or inpatient register of the institution. For inpatients, the record is called the Bed Head Ticket (BHT) of which the first page is called the Admission Form. The information captured in the admission form is of three broad categories, i.e. administrative and/or identification information, legal information and clinical information.

Many of the forms we use in our healthcare system today were designed several decades back and not revised for update since then, so they do not serve the current information needs they are intended to. Revision and redesign of medical record forms are recommended and undertaken in order to maintain an efficient and quality healthcare at low cost. The objective of this research project is to design and develop a new Patient Admission Form (PAF) to address current information needs and assessment of its feasibility of implementation. The study was an institutional based interventional research project and was conducted in three phases, i.e. pre intervention where development of the draft of new Patient Admission Form was undertaken, intervention where the introduction and implementation of the developed form in the OPD, selected wards/ units of the NHSL was taken place and post intervention phases where assessment of feasibility of implementation undertaken. The study was institutional based and conducted in six selected medical and surgical units of the National Hospital of Sri Lanka. Pre intervention phase constitute the development of the Patient Admission Form which employed review of literature, consultative meetings,

focus group discussions and key informant interviews as study methods. In the intervention phase, the developed form was piloted in randomly selected six wards of the NHSL for six weeks. In the Post intervention phase, the feasibility of implementation of the form was assessed with user groups using focus group discussions and key informant interviews.

All focus group discussions and key informant interviews conducted with user groups were recorded and then transcribed manually. A qualitative approach was adopted, and thematic analysis was undertaken to formulate themes from categories derived out of open codes. Many user groups proposed addition of new content to the existing for improvement, removal of the content which were found not feasible to implement in practice or not of use and agreement on existing content in the piloted form. User groups expressed their concerns over adequacy of space provided for documentation, replacement of existing content with new information and change in wording for improvement. Changing existing order of the content and change in existing style of presentation for improvement were another two areas where user groups had their concerns.

This interventional research project was carried out only in the Surgical and Medical settings, in a limited number of wards/units in a single institution over a limited period due to constraints in time and resources. Assessment of the feasibility of implementation with user groups concluded that they have agreed over the piloted form with only few fine adjustments/ changes being brought to the structure and the content of it and agreement exhibited by the diverse categories of user groups indicates that their information needs have been effectively addressed by the piloted form. Following fine changes proposed in the post piloting phase being brought to the form, it is recommended to be implemented across all government health institutions of the country.

Keywords: Medical Record, Bed Head Ticket, Patient Admission Form, Feasibility of implementation

0351. Ratnasekare, W.A.P.P.
Developing a new patient safety incident reporting system for Government Hospitals and assessment of its feasibility of implementation.
MD Medical Administration -2016   **D 4167**

Over the years, Healthcare has transformed into more complex forms opening opportunities for errors abound. A substantial number of patients are harmed at the hands of their caregivers yearly around the world. Rectification of this situation calls for systematic designing of safety entrenched into the processes of delivery of care.

Incident reporting systems have been identified globally as the initial measure for patient safety in healthcare. There is no structured incident reporting system in place in state sector healthcare services. The objective of this study is to describe the feasibility of implementation of a newly developed Patient Safety Incident Reporting System (PSIRS) for healthcare institutions under the Provincial Health Service. The study is institutional based and conducted in Base Hospital Homagama, a secondary care hospital under Provincial Health Service of the Western Province. The study is an interventional research project which is conducted in three phases i.e. Pre intervention, Intervention and the Post intervention. The Pre intervention phase constitute the situation analysis of existing reporting systems in government hospitals and then, the development of the reporting tool which employed group discussions, interviews, direct observations and review of literature as study instruments. In the intervention phase, piloting of the draft tool was carried out for four months. In the Post intervention phase, the feasibility of implementation of the tool was assessed with user groups using focus group discussions and key informant interviews.

All focus group discussions and key informant interviews conducted with user groups were recorded and then transcribed manually. A thematic analysis was undertaken to formulate themes from categories derived out of open codes. The situation analysis in two hospitals where a reporting tool was said to be in operation revealed a fragmented reporting system in one hospital and a developed tool in piloting process in another.

A rising trend in number of reports received was observed over the time. Over 80% of the reporting was performed by the nursing staff while more than 50% of reports, the place of occurrence was a ward setting. Many user groups expressed

their agreement on the existing content/ structure of the reporting tool. Another cluster of user group expressed their concerns over making additions to existing structure/ content for improvement. There were consensus from user groups on removal from the existing content which were found to be not of use. Changing the way of presenting of information and in the order of sequence of the content of the tool for improvement were proposed. Improve the reporting process/ mechanism further and to create/ improve reporting culture/ improve awareness among categories of staff and create incentives and immunity for the reporting staff were other suggestions made by user groups.

This interventional research project was carried out only in a single Base Hospital under provincial administration over a limited period due to constraints in time and resources. The entire number of staff were not made aware of the reporting tool during the limited time and prior to commencement of and during the piloting process. Assessment of the feasibility of implementation with user groups concluded that they have agreed over the piloted form with only minor adjustments/ changes being brought to the structure and the content of it. The agreement exhibited by the diverse categories of user groups indicates that their information needs have been effectively addressed by the new PAF and therefore it is recommended to be implemented across all government health institutions of the country.

Keywords: patient safety, reporting tool, user groups, assessment of feasibility

0352.**Raveendra, A.P.**
Inter professional collaboration between doctors and nurses in base hospitals of Monaragala district.
MSc. Medical Administration – 2018   D 4835

Introduction

In a multidisciplinary environment safety and quality of healthcare depends on the interactions between the various care providers. Therefore, collaboration between doctors and nurses, who are the two frontline care providers is important.

Objectives -Objective of this study was to describe interprofessional collaboration between doctors and nurses in Base Hospitals of Monaragala district.

Methodology- A descriptive cross sectional study was conducted among doctors (n=56) and nurses (n=l 11) in Base Hospitals of Monaragala district. A self administered questionnaire and key informant interviews were used as study instruments. Perceived level of collaboration in doctors and nurses were assessed over three dimensions; communication, accommodation and isolation. In addition to that, Participants were asked to identify barriers for collaboration.

Results- The response rate was 90.4%. Median ICS scores for doctors and nurses were 35 (32.25-38) and 33 (30-36) respectively. The difference was statistically significant (P = 0.003). For the communication subscale doctors [13 (11-15)] and nurses [13 (12-14)] median scores were equal. Median scores for accommodation sub scale were 14 (13-15) and 13 (12-14) for doctors and nurses respectively. The difference was statistically significant (P=0.011). Median scores for isolation sub scale were 8(7-9) and 6 (6-8) for doctors and nurses respectively. The difference was statistically significant (P <0.001). None of the sociodemographic factors were related to the perceived level of collaboration. Five main barriers for interprofessional collaboration were identified.

Conclusions and Recommendations-

Overall perceived level of interprofessional collaboration was low in both professional groups. Nurses perception about the level of collaboration was significantly lower than doctors, particularly in areas of accommodation and isolation. Poor communication, lack of respect and trust, lack of role clarity, differences in priorities and lack of equal power are the barriers for doctor nurse interprofessional collaboration. Measures need to be taken to improve level of interprofessional collaboration between doctors and nurses in Base Hospitals of Monaragala district. Interventions are particularly needed to improve the collaborative behaviour of doctors.

Keywords: Interprofessional collaboration; Perception; Barriers; Doctor; Nurse

0353. Ravinath, D.W.C.
Knowledge, attitude and practice on elMMR among medical officers and registered medical officers attached to Kalutara RDHS area.
MSc Medical Administration – 2016   D4138

Inward patient related data government hospitals in Sri Lanka is summarized and send to the central level by the indoor morbidity and mortality report [IMMR]for years. Feedback of this report comes as annual health bulletin [AHB]. This system had some issues like delay to prepare the AHB, poor data quality and inability to share the data. These drawbacks necessitated the invention of digitalized and web based IMMR. This is e-IMMR [electronic indoor morbidity and mortality return]. This new system enables us to "entering once and using many times" type of process.

The objective of this study is to assess knowledge attitudes and practices of Medical Officers and Registered Medical Officers attached to the base hospitals in Kalutara RDHS area. This is a descriptive cross-sectional qualitative study. As the doctors are the category who should be knowledgeable about this system they were chosen as the participants. All the doctors [including RMO'S [Registered Medical Officers] and IMO'S {Intern Medical Officers}] working in these hospitals were chosen. This was 316 in number and the response rate is 83% Two hundred and sixty-six doctors participated in the Study. Of them 124 [46.7%] were males. Most of them [40%] were in the age group of 36- 40 years. The majority of respondents were in grade 2 [66.6%] and most of them [41.7%] have served 6-10 years in government. Eighty percent of them were MOs [Medical Officers] and most of them were attached to wards.

About a quarter [29.5%] of the respondents had not known the correct meaning of elMMR while none of them knew e-IMMR is an invention of two Sri Lankan doctors. Regarding the respondents' knowledge on data entered in the elMMR, all the respondents correctly identified BHT number and discharge mode as inclusions. The inclusion of date and time of admission and discharge were identified correctly by 75.5% of respondents. However only half of the participants knew that gender [50%] and age [50.7%] were included in the electronic report. Approximately 50% of the respondents identified incorrectly that the name [51%] and procedures done [48.8%] were included in e-IMMR.

None of the respondents identified correctly that the diagnoses recorded in eIMMR were based on ICD.

The majority of respondents had positive attitudes towards elMMR. None of them felt the use of elMMR is a waste of time, rather all of them felt it would save time. All the respondents were aware of the sources of data for elMMR were the admission registers and 74.2% had known the data in the e-IMMR appear in AHB. Furthermore 41.2% of respondents believed involvement of administration on e-IMMR was not adequate.

Regarding the factors that affect knowledge, attitudes and practice, a little relationship was identified between respondents' gender and their knowledge on e-IMMR. Maledoctors found to be more knowledgeable than their female counterparts.

In summary knowledge and practice on e-IMMR among doctors have to be improved. To fill the gaps awareness and training programs have to be organized with the active participation of heads of institutions.

Keywords- elMMR, IMMR, Knowledge, attitudes, practice

0354. Rupasinghe, K.R.A.U.K.
Legal and other obligatory responsibilities, knowledge, attitudes and practices of local government authorities in Kalutara district on dengue vector control.
MSc Medical Administration – 2017   D 4381

Background

Dengue fever is a rapidly spreading mosquito-borne infection in Sri Lanka, with extensive burden to state health sector. Adequate collaboration with Local Government Authorities (LGA) is crucial in control and prevention of dengue in Sri Lanka.

Objective

To assess the legal and other obligatory responsibilities of local government authorities, and knowledge, attitudes and practices of relevant officials in local government authorities in Kalutara district on dengue vector control.

Methods

A cross-sectional descriptive study was carried out in all sixteen LGAs in Kalutara district. The study consisted with two components. Review of -legal and other responsibilities in dengue vector control, applicable to LGAs in Kalutara district and Assessment of knowledge, attitudes and practices among relevant officials in LGAs in Kalutara district in dengue vector control.

A desk review of legislations to identify legal and other obligatory responsibilities of LGAs was carried out. Self-administered questionnaire and a check list were used as the study instruments to assess the knowledge, attitude and practices. A total of 151 relevant officials participated with a response rate of 96%. The self-administered questionnaire consisted of socio-demographic information, knowledge. Five Point Likert scale of attitude questionnaire and self-assessed practices on dengue and dengue vector control. The check list consisted of major practices expected to be done by Local Government Authorities relevant to dengue vector control. Data analysis was done using SPSS version-23.

Results

Six national legislations and three provincial level legislations were identified as key legislations which can be applied in dengue vector control in LGAs. Seventy percent of the respondents were females. Mean work experience was 12 years. Mean knowledge score was 71.3% (SD±11.9%). Statistically significant associations were seen between service experience and knowledge, and level of education and knowledge. A majority of respondents demonstrated positive attitude on dengue vector control. All 16 LGAs practised at least key basic waste management practices.

There was a wide gap between expected practices and the actual practices among LGAs. Conclusions and recommendations

There are many national level and provincial level legislations, which can be applied to LGAs in Kalutara district in dengue control and prevention. The legislations should be further strengthened with rules and regulations for better implementation. Respondents demonstrated satisfactory level of knowledge of control and prevention of dengue. Favorable attitudes towards dengue control was seen among respondents. The study findings can be applied to implement sustainable dengue vector control programs with coordination of local government authorities in Kalutara district and other dengue endemic areas in Sri

Lanka. Further research involving political authorities of local government bodies and assessing actual practice at field level is recommended.

Keywords: Dengue fever, Vector control, Legislations, Local Government Authorities, Kalutara

0355. Sainiranjan, B
Patient experience in the outpatient department at district general hospital Mannar.
MSc Medical Administration – 2016   **D3968**

With the recent emergence of patient centered approach concept, the healthcare organizations worldwide have started to address beyond providing excellent, traditional disease based clinical care and started to consider more patient oriented, holistic approach and follow the patient experience as an important concept. The patient experience is now considered as one of the three pillars of recent quality concepts in healthcare, along with clinical effectiveness and patient safety. Therefore, to improve quality, into the next level an in-depth study should be initiated in the field of patient experience in Sri Lanka. Mannar district was recorded the highest outpatient ratio for population in Sri Lanka in 2013. Therein, the researcher has selected Outpatient department (OPD) of the District General Hospital (DGH), Mannar for this study.

Describe the patient experience in the outpatient department at DGH Mannar by analyzing the socio-demographic factors, describing the environmental and service delivery factors and discussing the main determinants of patients' experience of heath care at the outpatient department are the objectives of this study.

This is a hospital based cross sectional descriptive study carried out from 1st November 2015 to 1st August 2016 at DGH manner All Patients receiving treatment from the OPD in DGH, mannar was taken as the study population. The total sample size was 400. The data collection was carried out from 20th May 2016 to 04th June 2016 by using self-administered five point Likert scale validated questionnaire.

A positive Pearson Correlation observed overall experience and waiting time registration experience, doctors' service experience, nursing service experience,

laboratory Service experience, pharmacy experience and environmental experience.

The environmental experience has the highest correlation (Correlation Coefficient 0.754) with the overall patient experience than all other domains. Cleanness of the toilets, seating facility, spaciousness of the OPD and Cleanness of the OPD were mattered most to the patients. Regarding service delivery experiences, patients expects less waiting time, improvements in the listing attitude, more time and privacy from doctors.

The patients perceived low respect than other nursing service factors studied. The waiting time for investigations and waiting in the pharmacy are some other factors matters most to patients.

Activities should be initiated immediately to create a patient friendly OPD environment with the available resources. The old OPD building with very limited spaciousness and seating facility to be relocated or a proposal for a new OPD complex should be initiated

The doctors' human resource should me managed effectively and efficiently in order to avoid overcrowding and patient privacy issues during consultation and examination should be addressed immediately. Communication skill development activities should be initiated among nurses to raise the respect towards patients. To improve the waiting time for investigations in the laboratory necessary steps should be taken to ensure proper maintenance of equipment's to avoid down time, implementation of work improvement strategies, enhance the human resource in the laboratory services and minimize unnecessary investigations to avoid overcrowding in the pharmacy the following steps recommended. Enhancing the human resources in the pharmacy, implementing work improvement strategies and establishing more dispensing points

Keywords: Patient experience, Outpatient department, District General Hospital, Manner, Sri Lanka

0356. **Samarakoon, K.B.**
Assessment of incident reporting by nursing officers in selected wards in the teaching hospital, Kandy
MSc Medical Administration – 2017   **D 4160**

Studying enablers and barriers for incident reporting, an integral part of patient safety, is important to improve quality of patient care. Nursing Officers, who are front line health care providers, play an important role in this scenario. The main objective of this study is to describe enablers and barriers for incident reporting by Nursing Officers in Medical, Surgical, Pediatric, Gynecology and Obstetrics wards in the Teaching Hospital, Kandy.

Both qualitative and quantitative methods were used in this study and hence this is a mixed method study. This study had four study instruments; i.e. key informant interviews, self-administered questionnaire, facility survey and secondary data collection. In the quantitative component, a questionnaire was distributed to the Nursing Officers in the selected wards. In the qualitative component, Key informants were selected using maximum variation sampling technique. Facility survey was done to check the availability of incident reporting forms in the selected wards. Secondary data were observed to check the number of reported incidents.

Analysis of key informant interviews revealed that lengthy process of incident reporting, presence of culture of blame, insufficient knowledge on incident reporting, presence of heavy workload and lack of feedback for the reported incidents acted as barriers for incident reporting while training acted as an enabler for incident reporting. The response rate for the questionnaire was 69% (n=277). There was statistically significant positive moderate correlation between likelihood of incident reporting and the Nursing Officers' perception on the process while their perceptions on leadership, knowledge, feedback, training and culture showed weak positive correlations with their likelihood of reporting. There were statistically significant differences in likelihood of incident reporting among types of wards. Facility survey findings showed that formal incident reporting forms were available in two wards because the practice of the other wards was to collect incident reporting forms from the Quality Management Unit on demand. Secondary data showed that only 9 incidents were reported during the previous six months and 89% of them were patient falls.

Lengthy process of incident reporting, presence of culture of blame, insufficient knowledge on incident reporting, presence of heavy workload and lack of feedback for the reported incidents acted as barriers for incident reporting while training on incident reporting acted as an enabler.

Simplification of the process, formalizing the feedback mechanism, changing the blame culture and continuation of training programmes can be recommended to improve incident reporting in these selected wards in the Teaching Hospital, Kandy.

Keywords: Incident reporting, Patient safety, Barriers, Enablers, Teaching Hospital, Kandy

0357.Samarakoon, M.A.S.C.
Evaluation of the effectiveness of the emergency care services following implementation of an emergency severity index related triage system to screen admissions, in primary care unit of Base Hospital Wathupitiwala.
MD Medical Administration - 2015   D3918

A 'satisfied patient' is the ultimate goal of any health care service provision. It has been showed that patient satisfaction leads to better health outcomes. Emergency department operations is an inherently a complex human and technological interactions. In this complex environment satisfying a patient is always a challenge.

Sri Lanka had currently identified emergency care as a priority need of the country. Ministry of Health has taken steps to establish better emergency care services by making optimum use of the already existing wide network of health care facilities in the country.

However, it was observed that unnecessary overcrowding and delay in treatment at emergency care units were due to lack of proper triage system. Implementation of accurate triage system at emergency treatment units is thus advocated. Emergency Severity Index (ESI) related triage is a highly reliable and accurate triage system accepted by emergency departments of many parts of the world. It consists of algorithm that allows separation of patients into five levels, level 1 (most urgent) to level 5 (least urgent) on the basis of acuity and resource needed. This intervention study was carried out to evaluate the effectiveness of emergency care services following implementation of ESI related triage system

to the Primary Care Unit (PCU) at Base Hospital Wathupitiwala. Effectiveness of the intervention was measured based on selected aspects of the indicators of emergency care services using waiting time, time to commence treatment, length of stay in the PCU and patient satisfaction on selected aspects of care.

Results revealed statistically significant overall reduction in waiting time, time taken to commence treatment and length of stay in PCU following the implementing the ESI related triage system. Patient satisfaction based on the level of urgency showed a mix pattern with patients in higher levels of urgency being satisfied with some aspects and while the patients with low urgency levels being satisfied with other aspects of care. These can be taken as evidence of effectiveness of the new triage system.

ESI related triage system also provided additional information for hospital administration including information for resource allocation. Service providers were of the opinion that the new system improved the quality of care.

This study showed that ESI related triage system implemented in the PCU at Base Hospital Wathupitiwala was effective. As a measure to improve emergency care it is recommended that the ESI related triage system be implemented in similar level emergency treatment units.

0358. Samarakoon, M.A.S.C.
Intervention to improve the effectiveness of selected meetings conducted at the Ministry of Health & Indigenous Medicine.
MSc. Medical Administration - 2015   D3919

Meetings can be an effective management tool in any workplace. Apart from motivating employees, reinforcing cooperation and building team spirit, it synergizes the individual contributions to maximize the potential of the team by bringing together members to peruse a common focus, better decisions, commitment, support and implementation. Ministry of Health and Indigenous Medicine (MoHI) has a complex organizational structure which cater for the health care of the nation in preventive, curative and rehabilitative aspects. MoHI conduct many meetings a day to consultant, communicate and interact with officials in order to exchange their views and to adopt effective decisions. Following an observation of avoidable reasons that make meetings ineffective, this study was carried out to improve the effectiveness of meetings conducted at

the of Ministry of Health & Indigenous Medicine by introducing an intervention package. The project consisted of two components. Component 1 was conducted as a descriptive cross sectional study to describe current meeting processes and practice, while component 2 was an interventional study to develop, implement and assess the effectiveness of the intervention package introduced to improve meeting process and practice. The intervention was planned according to the results observed in component I. Intervention consisted of four parts. They were development of meeting formats, training on meeting basics, development of meeting guide and booklet on meeting basics. Assessment of the effectiveness of the meetings following the intervention was done by using the same study instruments used in component I. Two months after the intervention post assessment was carried out using the same questionnaire and observation check list. Post assessment confirmed that all three aspects assessed (pre preparation, meeting process and post evaluation) were improved.

Effectiveness of the meeting could be improved by creating enabling A environment, close supervision and regular training provided to all members of the team who are responsible for organizing and conducting meetings. As the introduction of this intervention was a change to the current system, change management principles were applied to achieve the target. Additionally, sharing information to increase awareness, better communication and negotiation skills were applied wherever needed. Motivated staff with assigned roles and responsibilities and objectives communicated to them by the leadership was the other contributory factors in successful implementation. It is recommended to the Ministry of Health to implement this successful intervention in step wise manner in the Ministry of Health.

0359. Samarasinghe, Y.J.
Utilization and availability of resources at microscopic centers and knowledge, attitudes and practices among Medical Officers on screening for tuberculosis in selected hospitals in Kalutara District.
MSc Medical Administration – 2017   D4316

Background

Tuberculosis still remains one of the top 10 leading causes of death worldwide and in Sri Lanka 6000 new cases are reported annually. Underutilization of

microscopic Centers (MCs) along with poor contact tracing and inadequate detection of new cases have been identified as a major weakness in TB control program in Sri Lanka.

Objectives

To assess the extent of utilization of MCs, assess the availability of resources at MCs and assess the knowledge, attitudes and practices among Medical Officers (MO) on screening for TB in in selected hospitals in Kalutara district.

Methods

A descriptive cross sectional study was carried out in MCs and selected hospitals in Kalutara district where the MCs are available. Referral data on patients (n=1522) were extracted from TB Laboratory Registers (TBLR) of all MCs (Panadura, Horana, Beruwala, Ingiriya, Bulathsinhala including Chest Clinic Kalutara (CCK)) using a checklist - January 1st to 31st March of 2017. Availability of resources was assessed based on perception of the staff (PHLTs, TBAs, MOP, RE) members, a purposive sample of 10, directly involved in TB screening using a semi structured interviewer guide. Knowledge, attitudes and practices among MOs (n=202) on screening for TB was assessed using a pretested selfadministered questionnaire. Main areas to assess the knowledge included risk factors, diagnostic criteria and investigations on screening and attitudes on prevalence, diagnostic criteria and training. Practices were assessed using clinical vignettes based on typical TB presentations, TB in child and TB in diabetes.

Results

Majority of MCs (80%, n=4) were under-utilized by OPD (<3 referrals per 1000 OPD attendees) and none of the MCs including CCK were utilized by close by public and private healthcare institutions. Nevertheless, MCs were satisfactorily utilized (> 3 referrals per 1000 inward attendees) by in-ward settings of same hospitals where MCs are located. Three consecutive sample submission of majority of MCs (80%, n=4) remain below 50%. Majority of staff expressed that provision of PHLTs and TBAs (100%, n=10), in-service staff trainings (70%, n=7), provision of WHO recommended safety goggles (90%, n=9), N95 or FFP2 equivalent safety masks (100%, n=10) and provision of disinfectants (70%, n=7) were adequate. None of the MCs or CC had an established cough area. Majority of MOs (86.9%, n=147) had satisfactory knowledge and favorable attitudes (87%, n=147) on screening for TB. However, half of MOs 50.9 % (n=90) had

unfavorable attitudes to refer patients with more than 2 weeks of cough and over one third (39.2%, n=68) of MOs to perform CXR on PTB suspects. Unfavorable attitudes were significantly higher among those over 30 year age (P= 0.005), more than 5 years' experience (P= 0.007), working in a different unit other than medical and pediatric ward (p=0.05) and working in a DH (p=0.02). Majority (63.3%) of MOs had unsatisfactory practices towards screening of TB. Majority of MOs (60 %-79%) treated different presentations of PTB suspects with bronchodilators, antibiotics. Atypical presentations of PTB suspects were answered correctly by an average of 55.3% (n=93.3) while typical presentation was answered correctly by a higher percent 73.3% (n=125).

Conclusions

All MCs were satisfactorily utilized by in-ward settings, majority of MCs were under-utilized by OPD and none of the MCs including CCK were properly utilized by close by public and private healthcare institutions. None of the hospitals has introduced TBSR implemented by MOH. WHO recommended essential and providable equipment, consumables and infrastructure within cost concerns have not been provided to MCs while staff for MCs and training opportunities were also inadequate. Knowledge and attitudes of MOs were found to be satisfactory except important criteria of screening such as duration of illness, performing CXR. Majority had unsatisfactory level of practices.

Recommendations

Continuous staff awareness, periodic review meetings about TBSR at public sector, explicit agreement of establishing TBSR to private sector before granting the license, establishment of MC cluster laboratory system, cover-up duty arrangement for closed MC, annual in-service training programs on MC staff, provision of WHO recommended possible equipment, consumables and infrastructure through annual estimates and Compulsory In-service training programs for MOs are recommended.

0360. Sanjeewa, G.G.C.

Out-of-pocket and indicate health expenditure of patient undergoing coronary artery bypass grafting (CABG) at the cardio thoracic unit, teaching hospital, Karapitiya.

MSc. Medical Administration – 2016   **D3966**

Background

The chronic nature of coronary heart disease (CHD) and high out of pocket health spending add a substantial cost burden to the economy of the households. The economic burden of Coronary Artery Bypass Grafting (CABG) care to patients and their families is, large. A greater understanding of the financial household cost resulting from CABG care has therefore become necessary to better policy decisions.

Objective

To determine the demographic and socioeconomic characteristics of patients seeking in-patient services for CABG in Cardiothoracic unit of Teaching Hospital Karapitiya, and to estimate the direct and indirect costs incurred by "patients, and sources of financing to meet CABG related health costs.

Methodology

This is a descriptive cross sectional hospital based study. The study was carried out at the Cardiothoracic Unit of Teaching Hospital Karapitiya. Data were collected using a pre-tested interviewer administrated questionnaire. Demographic and socioeconomic characteristics of patients undergoing CABG were determined. Direct and indirect components of household costs of hospital stay were estimated with sources of financing.

Results

Seventy per cent of the patients were male and largest age group (41.8%) was 5059 years. Sixty one per cent were above 50 years of age. Majority (32.82%) had received school education up to Grades 6 to 11.The mean hospitalization 31 days. Median household cost of the total hospital stay period was LKR 50 700.00. (Inter quartile range LKR.39 500-69 000.), of which 75% were direct costs. The median direct cost was LKR 39 350.00. Main components of the cost were food (16.3%) and drugs (12.4 %). Travelling cost accounted for 11.0 % and accommodation accounted for 10.7%. Median indirect cost was LKR 20 000.00. It was 25% of total household cost. Majority used combination of different

methods to raise money for the cost. Only four per cent of the study sample had an insurance scheme to recover the financial burden.

Conclusion and recommendations

The economic burden to the household was mainly due to direct costs incurred for drugs, food, travelling and accommodation. It is recommended that economic support should be provided for patients with CABG especially when patients are unable to engage in employment during hospital stay. Hence, there is a need to establish an insurance scheme to reduce the economic burden of CABG on households.

0361. Senapathi, H.S. J.
Will implementation of Japanese five S improve the health system responsiveness? A comparison of level of responsiveness between two base hospitals in Kalutara district.
MSc Medical Administration – 2017   D4315

Introduction

Health system responsiveness is the health system's ability to fulfil the legitimate, non-health expectations of the public. The implementation of productivity improvement concepts such as Japanese Five S were believed to improve the overall performance of any system.

Objective

The research was carried out to describe and compare the level of responsiveness perceived by patients admitted to medical wards in Base Hospital Panadura and Base Hospital Horana.

Methodology

A cross sectional descriptive comparative study was conducted in the two hospitals: Base Hospital (BH) Panadura which has a history of successful implementation of five S and Base Hospital Horana which has implemented five S concepts to a lesser extent. A convenient sample of 192 patients were taken from each hospital proportional to the yearly admissions to each male and female ward. A self-administered questionnaire was used to assess the patients' perception on Health System Responsiveness in eight domains defined by the World Health Organization. A five point Likert scale was used to mark the responses. A checklist was used to assess the level of implementation of five S.

The Principal Investigator and a research assistant assisted in getting the questionnaire filled and Five S assessment was carried out by four officer's familiar with the Five S auditing process. A scoring system was developed to analyze each item in a domain and to get a score for the domain.

Ethical approval was obtained for the study and informed written consent was obtained from respondents before administering the questionnaire in the wards.

Results and Discussion

According to the Five S audit BH Panadura was slightly better in implementing Japanese Five S system compared to BH Horana. Five S was implemented asymmetrically and unevenly in both hospitals. All the units paid less attention to "Standardization (Seiketsu)" & "Sustain (Shitsuke)" components of the Five S. The patients attending the hospital did not show a statistically significant difference with regard to socio demographic characteristics making them comparable. The "overall responsiveness" or eight responsiveness domains" did not reveal a significant difference between hospitals. A significant difference between hospitals was found in several elements within the domains such as

"freedom of family members to visit" (Z=-3.28 P= 0.001), "ability to keep a bystander"(Z= 2.39 P= 0.017) and "cleanliness of toilets. (Z=-2.89 P = 0.004)". Several socio-demographic factors were significantly associated with several domains of Health System Responsiveness. Employment status ($F^{85}298$ = 1.5 P= 0.007) and the level of education ($F^{85}298$ = 1.5 3 6 P= 0.005) was associated with Health System Responsiveness as a whole.

Conclusions and Recommendations

An association between level of implementation of Five S and Health System differences among people influence the perceived level of Health System Responsiveness. (This shows that the improvement of Health System Responsiveness is a multifaceted task which involves system improvements Responsiveness was not established from this study. Socio-demographic and improvement in socio-demographic factors of the population.)

Keywords: Five S, Responsiveness

0362.Saranasinghe, D.R.N.
Quality improvement of leave management process of minor employees in national hospital for respiratory diseases Welisara.
MD Medical Administration – 2017   D4140

Absenteeism is a managerial issue in the organizations which requires alternative arrangement to manage daily operations for the organization. Leave management is one of the major strategic tasks of the organization. Disorganized leave management process causes bad outcome to both the employee and the organization. It has an impact on the organization in terms of productivity, service delivery, profitability and competitiveness. The aim of this project was to improve the quality of the leave management process and thereby reduce the absenteeism. This was a qualitative and quantitative type of interventional project. A Sample of 172 health care personnel including minor employees, overseers, in charge officers, Health Management assistant and Administrative Officer was selected. Focus Group Discussion, In Depth Interviews, process mapping, Interviewer administered questionnaire and secondary documents were used as study instruments. The knowledge of health care personnel was assessed using an interviewer administered questionnaire. It revealed that except minor employees, all the other categories had good knowledge on leave management. However, 60.36% had fair knowledge on leave management process. Nearly 20 percent of them had very poor knowledge. Focus Group Discussion, In Depth Interview and Pre assessment of knowledge revealed the need for improvement of minor employees' knowledge. Hence, knowledge improvement workshops were designed as the intervention.

Several workshops were conducted to cover almost all the minor employees to enhance the knowledge on leave management process. It is shown that 50 percent of minor employees had knowledge score less than 10. Post intervention results have shown that it was gone up to 19. Outcome measures such as absent rate, Bradford score, working days to "Day off" ratio and percentage of incomplete leave forms were considered as indicators. Absent rates has reduced after the intervention. It is shown that knowledge score of minor employees has been increased significantly compared to the pre intervention group at $p<0.000$. Greater reduction of absent rate from 9 to 3 percent was evident. Significant reduction of BF ($z=-7.247$, $p<0.000$) could be seen among the employees in post

intervention group. Practices related to leave management such as completeness of leave forms have shown significant improvement. Hence it can be concluded that there is a room to reduce absenteeism in health sector through conducting of knowledge improving workshops.

Keywords: Absenteeism, Leave management, Minor employee

0363. Saranasinghe, D.R.N.
Intervention to reduce delay of issuing laboratory test reports in a base hospital.
MD Medical Administration – 2017   **D4141**

Diagnostic services are pivotal component in providing optimal patient care. Delays in reporting laboratory tests would cause a considerable delay in the diagnosis and treatment of patients. Hence timeliness of laboratory process has a huge impact of optimal care. Turnaround time is a significant measure of laboratory performance.

The objective of this project was to reduce laboratory turnaround time in Base Hospital Tangalle.

The project has qualitative and quantitative components including Focus Group Discussions, In depth interviews and time motion study. The turnaround time of five selected investigations of inward patients were measured by time motion study considering three stages namely pre analytic, analytic and post analytic.

Median pre analytic time for urgent and routine tests was 68 and 47 minutes respectively. Median post analytic turnaround time for urgent and routine tests was 89 and 99 minutes respectively. Analytic time was varied according to the test due to different techniques and equipment's used for different tests. It was found that most of the delays occurred in pre and post analytic stages. Hence, intervention was designed to address this issue. Identified intervention was using "messenger service" for transport of specimens and collection of reports. After the implementation project, pre analytic time for urgent and routine investigations was 44 and 28 minutes respectively. For post analytic time for urgent and routine investigations it was 63 and 44 minutes respectively.

Results demonstrated statistically significant reduction in the time taken for pre and post analytic stages. It is concluded that easy to implement administrative strategies would help to reduce delay in low resource settings.

Keywords: Delay, Laboratory, Turnaround Time, Pre analytic, Post analytic

0364.Satheeskumar, P.
Factors influencing on the implementation of quality assurance programme in selected government hospitals under Eastern provincial ministry.
MSc Medical Administration – 2017   D4318

Resources, Training and the Top management commitment had more influence on the Quality Assurance Programme implementation respectively. The study shows the influence of team work on the Quality Assurance Programme implementation is relatively low. Quality is an inevitable part in the health care delivery of the patients. A study on the implementation of Quality Assurance Programme will improve the knowledge and future implication for better implementation of Quality Assurance Programme. It is important to identify presence of difference in the implementation of Quality Assurance Programme between the hospitals. The study was carried out in 12 base hospitals in the Eastern Province. The main study unit were the medical doctor. Nursing Category Staff or the PSM category staff. Proportionate sampling method was used among staff group as well as among hospitals. A sample size of 425 was selected for the study and the selfadministrated questionnaire was used as the data collection instrument. Altogether 302 (response rate - 71.05%) participants responded with this study.

The study identified the monitoring system, physical

Gender, Job category and the different hospitals have significant influence on implementation of Quality Assurance Programme and they have been considered as moderating variables.

It has been found that the independent variables considered in this study explained only around 45% of the implementation of Quality Assurance Programme. For this reason, further researches need to be done on those other factors influence on the implementation of Quality Assurance Programme.

Keywords: Quality Assurance Programme, Training, Top management involvement.

0365.Senevirathna, W.R.M.M.
Improvement of multi sectoral nutrition promotion activities in an area of medical officer of health in Nuwara Eliya district.
MD Medical Administration – 2016   **D4144**

A healthy diet helps to protect against malnutrition in all of its forms as well as from non- communicable diseases (NCDs); including diabetes, heart disease, stroke and cancer.

Multi-sectoral coordination refers to deliberate collaboration among various stakeholder groups (eg. government, civil society, and private sector) and sectors (eg; health, environment, economy) to jointly achieve a policy outcome. Therefore, multi-sectoral effort is essential in nutrition promotion

This study is conducted to assess the present situation of multi-sectoral activities and to strengthen grassroots level multi-sectoral nutrition promotion activities in a selected Medical Officer of Health area in Nuwaraeliya district. The study consists of three components.

The first component is a descriptive study to identify the present multisectoral nutrition promotion activities at grassroots level and factors adversely affecting the existing project. Second component is to improve and implement the existing package based on study findings. This intervention consists of advocacy to middle level managers, development and introduction of forms for record keeping and reporting, training grass root level primary health care officers on multisectoral nutrition promotion activities with regular monitoring and evaluation mechanism.

Third component is also a descriptive study to assess the multisectoral nutrition promotion activities at the grassroots level three months after the intervention. There were less number of multisectoral Nutrition promotion activities and gaps in the ways of conducting multisectoral nutrition promotion activities in the selected MOH area when compared to District Nutrition Action Plan instructions of Ministry of Health. The development and implementation of the intervention package was effective (T=-8.356 P=0.000) in increasing the number of multisectoral nutrition promotion activities.

The results indicate that multi-sectoral activities have improved significantly at grass root level in the selected MOH area. Hence it is recommended to conduct

advocacy programmes for key stakeholders to get their involvement in improving multisectoral nutrition promotion activities, to conduct regular reviews in MOH office, to use developed forms for recording, monitoring and evaluation in field, divisional and regional level institutions and health and nutrition committees. It is also recommended to plan and implement regular capacity development programs on multi-sectoral nutrition promotion for the MOH office staff.

0366. Senevirathna, W.R.M.M.
Improving availability of emergency life supporting drugs, devices and equipment in primary care hospital in Nuwaraeliya district.
MD Medical Administration – 2016   **D4145**

Emergency care should be available to all as anyone may unexpectedly require medical care at any time for a life threatening medical or surgical condition. Primary care hospitals in Sri Lanka provide primary health care; those services should be accessible to all individuals who require various types of health services. Primary health care, as defined by the World Health Organization, is universally accessible health care that is socially acceptable, affordable and requires individuals to be more self-reliant with their health care needs.

Twenty four (24) primary care hospitals and 22 primary medical care units are available in NuwaraEliya district and most of them are situated in very remote Rural and Estate areas.

The Central Provincial Health Department issued a circular to ensure availability of emergency life supporting drugs, devices, equipment and other supplies in hospital sector emergency trolleys.

There are many issues in availability of emergency, life supporting drugs, devices and equipment (Emergency trolley items) in primary care hospitals in NuwaraEliya District. This study was carried out with an aim to improve the availability of emergency trolley items in primary care hospitals in Nuwaraeliya district.

The study consists of three steps. The first step was to study the current situation and reasons for shortages of emergency life supporting drugs, devices and equipment of primary care hospitals. Second step was an intervention to improve the supply chain of emergency trolley items in primary care hospitals. Third step was a descriptive study to assess the effectiveness of the intervention.

There were many gaps in availability of emergency trolley items in all Primary Care Hospitals when compared with standards given in the emergency trolley circular of central province.

The development and implementation of intervention package made a significant improvement in availability of drugs (T=-3.304 p=0.004), devices (T=-3.225 p=0.012), and equipment (T=-3.652 p= 0.003) of emergency trays in primary care hospitals.

The findings showed an increment in the availability of the drugs, devices, equipment and other supplies in post intervention study when compared to the pre intervention study.

The study recommends to conduct regular capacity development programmes for incharge medical officers of primary care hospitals and in-charge nursing officers of emergency treatment units/emergency rooms or any other officer having responsibility in handling emergency care on available drug management and supply chain management policies, guidelines, circulars, proper usage and handling emergency life supporting drugs, devices and equipment. Furthermore, it is recommended to use the guide lines, reporting forms, and monitoring formats which were developed in the research project. The research project recommends to update the central provincial circular on emergency trolley items and to include items mentioned in the accident and emergency guidelines of the Ministry of Health, Nutrition and Indigenous Medicine.

Keywords: Availability of emergency care items, Emergency treatment unit.

0367.Senthurpathirajah, K.
Role of public health inspectors on implementation of health promoting school programme in Northern province.
MSc Medical Administration – 2017   **D4169**

Institutional based and school based cross sectional study was designed to assess the role of public health inspectors on implementation of health promoting school programme in Northern Province, Sri Lanka.

A self administered questionnaire was used to assess the knowledge and attitude of public health inspectors on implementation of health promoting school programme. The study results showed good (score 70 to 80) and satisfactory (score 60 to 70) level of score obtained by 30.6% (n=37) and 39.6% (n=48) of

the participants respectively. None of them scored very good (score above 80). Among the participants 29.8% (n=36) failed to get satisfactory score (score above 60). There was no significant association between knowledge and sociodemographic characteristics age (p>0.05), marital stage (p>0.05) and ethnicity (p>0.05). There was no significant association between knowledge and educational characteristics training school (p>0.05) and higher educational qualification (p>0.05).

There was significant association (p<0.05) between schools in different district in implementation of various components of HPSP such as health medical examination, minimizing nutritional problems, contribution for school health programme and humanity environment.

There was significant association between knowledge and district of employment (p<0.05). There was no significant association between knowledge and service duration of public health inspectors (p>0.05). There was no significant association between knowledge and participation in training programme (p>0.05). This study further showed, 68.6% (n=83) of public health inspectors had good attitude on implementation of health promoting school programme. Age group 20 to 29 years (78.3%, n=18) had right attitude in greater proportion compared to other age groups. There was significant association between age group and level of attitude (p<0.05).

There was no significant association between attitude and marital stage (p>0.05), ethnicity (>0.05), district of employment(p>0.05), availability of acting area (p>0.05), present grade (>0.05), population based workload (p>0.05), existence of number of schools (p>0.05), participation in training programme (p>0.05), working in permanent district (p>0.05). There was significant association between attitude and years of experience (p<0.05).

Level of implementation of health promoting school programme was assessed by using the evaluation format issued by Family health bureau, Sri Lanka. Very good level of implementation found in 10.2% (n=29) of schools only. Among the schools 33.3% (n=95) failed to implement the health promoting school programme.

This study further showed no association between knowledge level and level of implementation of HPSP (p>0.05). There was significant association between attitude and level of implementation of HPSP (p<0.05).

These findings emphasize the recommendation for scheduled training programmes to increase the knowledge and to build right attitude for the implementation of HPSP. Further, other factors that hinders the HPSP also must be identified and improved to implement the programme.

Keywords: health promoting school, role, implementation, knowledge, attitude, evaluation of school health programme, school health, setting and training.

0368. Siraj, M.I.
Impact of occupational stress on performance of nursing officers in selected base hospitals in Kalmunai regional director of health services region. MSc Medical Administration - 2017 D4164

The research was done to study the impact of occupational stress on performance of nursing officers in selected Base Hospitals in Regional Directorate of Health Services Region, Kalmunai.

This was a descriptive cross sectional study conducted through structured self-administered questionnaire with five point Likert scale. Randomly selected 196 nursing officers from selected Base Hospitals in Kalmunai RDHS region were studied. The occupational stress was analysed based on six variables: demand, control, support, relationship, role and change. Performance was considered under task performance and contextual performance. Data were analysed with Statistical Package for the Social Sciences 21.0.

Study findings revealed that all of the variables of occupational stress showed significant correlation with the performance. Demand had negative correlation (r = -0.483) with performance and control (r = 0.510), support (r = 0.469), relationship (r = 0.457), role (r = 0.712) and change (r = 0.553) showed positive correlation with performance.

Correlation between occupational stress and performance among the nursing officers was high (r = 0.785). The R square value is 0.617, which means 61.7% of the variation in performance can be explained by demand, control, support, relationship, role and change. Among them demand, role and change had

significant influence on performance at 0.05 level of significance. Even though control, support and relationship had significant correlation with performance, the variables didn't influence significantly on performance.

These findings could be used by hospital administrators and second line managers to mitigate or avoid the occupational stress among nursing officers. This will consequently help to increase the performance of nursing officers. There are more than hundred categories of staff in state health sector of Sri Lanka. They are having different educational and professional backgrounds. The influencing factors for occupational stress and their impact on performance can be explained in further studies among the other categories and the findings can be used to improve the performance in health sector to provide quality service with limited resources.

Keywords: Demand, Control, Support, Relationship, Role, Change, Occupational Stress and Performance.

0369.Somaratne, C.J.K.
Implementation and evaluation of a training module on improving health system responsiveness for Nursing Officers.
MD Medical Administration - 2017   D 4526

Introduction*:* Health System responsiveness is a quality indicator introduced by the World Health Organization in the field of health performance evaluation. Knowledge, attitudes and practices of health care workers on the subject of responsiveness affect the level of responsiveness perceived by the patients as customers of the health system.

Objective: To develop, implement and evaluate effectiveness of a training module on improving health system responsiveness for nursing officers of medical wards of DGH Gampola

Methods: The study was carried out at medical wards of District General Hospital- Gampola in year 2016. A validated instrument was developed in order to assess the nursing care responsiveness and a training module was developed to address the gaps in nursing care responsiveness. This study was performed utilizing the domain specific and the overall mean responsiveness score perceived by the patients selected from pre-test and post-test samples of 130 patients who were discharged from the wards at least after 48 hours of care. Domain specific

and overall responsiveness scores of the pre-test sample were assessed and training module was conducted as the intervention. Training module consisted of a lecture-discussion, a video presentation and a story telling / case study presentation and it was conducted by two Post graduate trainees in Medical Administration and a Consultant Medical Administrator. The Post-test sample was evaluated and compared with the pre-test sample using independent t- test.

Results: The results showed that the improvement in the domains of 'dignity' (p = .007), 'communication' (p = .016) and 'basic amenities' (p = .001) were statistically significant. The improvement in overall responsiveness was also statistically significant (p = .003).

Conclusions: The results show the ability of enhancing responsiveness by the capacity building of health care workers who deal in the health system. The study recommends that the training module for nursing officers on improving health system responsiveness can be implemented in other clinical units of the hospital in order to improve the perception of responsiveness by the patients.

Keywords: Health system responsiveness, Nursing care responsiveness, training module, nursing officers

0370.Somaratne, C.J.K.
Implementation of standard criteria for effective medical equipment preventive maintenance practice in relation to service agreements of district General Hospital- Nawalapitiya.
MD Medical Administration – 2017   D 4525

Introduction: Hospitals must ensure that their critical items of medical equipment are safe, accurate, reliable and operating at the required level of performances. Scarcity of financial resources has resulted limited Inspection and preventive maintenance activities for the items of medical equipment in the hospitals of Sri Lanka. There is no standard criteria method applied for selecting items of medical equipment for maintenance strategies such as annual service agreements in public sector hospital in Sri Lanka.

Objective: To implement effective medical equipment preventive maintenance practice in relation to service agreements of DGH Nawalapitiya.

Methodology: The study was carried out in year 2016 and a comprehensive data base for the medical equipment was developed initially. The 'Wang-Levenson

criteria' were applied to prioritize the items of medical equipment in order to select the items of medical equipment for annual service agreements. Adjusted Equipment Management Ratings (AEMRs) were calculated for each equipment under study by a nominated panel. AEMR is calculated based on mission criticality, maintenance requirement, utilization rate and risk associated with the equipment (AEMR = (Mission Critical Rating + 2*Maintenance) utilization + 2*Risk).

Results: Total of 642 items of medical equipment were identified in the hospital and 430 (66.9%) items and 212 (33.1%) items were found to be functional and nonfunctional respectively. According to the Wang - Levenson criteria adjusted equipment management ratings (AEMR) were calculated and the functional items of medical equipment were prioritized in a descending order. AEMR values were varying from maximum value of 30 to minimum value of 2.

Conclusions: Prioritization based on scientific criteria is a quantifiable method of selecting medical equipment for maintenance decisions. The study demonstrated the applicability of a scientific method, which is already lacking in the Sri Lankan public health sector for medical equipment management. The new method was accepted by the Central Provincial Health Department. The Provincial Health Department has already taken initiatives to implement the new method at DGH Nawalapitiya and planning to implement it in the other health care institutions of the province.

Keywords: DGH Nawalapitiya, Medical equipment, Wang & Levenson criteria, prioritization, Annual service agreements.

0371.Sudarshana, A.T.
Intervention to improve the internal quality control program in the laboratory of a district General Hospital.
MD Medical Administration – 2015   **D 3914**

The complexity of the laboratory system requires that many factors must be addressed to quality in the laboratory. Some of these factors include: the laboratory environment, quality control procedures, communications, record keeping, competent and knowledgeable staff, good-quality reagents and equipment. The most important laboratory resource is competent, motivated staff. The quality management system addresses many elements of personnel

management and oversight, and reminds us of the importance of encouragement and motivation. Many kinds of equipment are used in the laboratory, and each piece of equipment must function properly. Choosing the right equipment, installing it correctly, ensuring that new equipment works properly, and having a system for maintenance are all part of the equipment management programme in a quality management system (Wood :2005).

This is a hospital laboratory based interventional study carried out in District General Hospital Gampaha. The general objective of the study is to improve the internal quality control program through an intervention in the laboratory. Under this aim, the behavior of personal and organizational factors were considered. The main study unit was the Medical Laboratory Technicians (MLTs) working in the laboratory. As there were only 14 MLTs all the MLTs were taken as the sample. The study instruments were selected to measure different aspects of the laboratory which are related to quality. Data collection was performed by using a self administered questionnaire consists of demographic factors, pre analytical stage of tests, infrastructure facilities of laboratory, human resource facilities and the procedures of the laboratory. In addition, Focused Group Discussion with MLTs and Nursing Officers, observation of routine work in the laboratory with a checklist, audit of laboratory documents, were performed.

This study identified that the working conditions in the laboratory, administrative support of the hospital, training skills and attitudes of the staff influence the level of quality of the laboratory and the inter sector communication and coordination is very important in the process of continuous quality control management. Due to the time constrain in this study only selected independent variables were considered. Therefore it is necessary to further work on other important factors influence the laboratory quality control.

0372. **Sudarshana,A.T.**
Redesigning and piloting of the quarterly clinic return of government hospitals.
MD Medical Administration – 2015   **D 3915**

Sound and reliable information is the foundation of decision-making across all health system building blocks, and is essential for health system policy development and implementation, governance and regulation, health research, human resources development, health education and training, service delivery and financing.

The current Outdoor & Clinic Return sheet had been used for 53 years without revising and as a result, there are many clinics not listed in the return. Therefore, this project was conducted to redesign the quarterly Clinic Return used by Medical Statistics Unit to collect data on outdoor clinic care by the health care institutions to suit the current needs and to pilot the form developed in selected health care institutions.

The project consisted of two phases. In the first phase data was collected on the contents to be included in the redesigned form and a draft quarterly clinic return was developed. Stakeholder discussions and Key Informant Interviews were conducted to collect relevant information. In the second phase the draft return was piloted in National Hospital of Sri Lanka, Lady Ridgeway Hospital for Children, District General Hospital Gampaha and Base Hospital Homagama.

The results of phase one confirmed the need to redesign the current form and also the items that need to be included in the redesigned quarterly clinic return. Redesigned quarterly clinic return was developed based on the responses and was piloted in the second phase. The results of piloting showed the hospitals have found the new return acceptable. Teaching Hospitals found the form user friendly than other hospitals as most of the new inclusions were not applicable to District General or Base Hospitals. Also the respondents expressed their view that this form should be made into an excel sheet and sent so they can do the necessary statistics and email the return.

It is recommended to pilot the redesigned return in several hospitals for a longer duration. At the same time a separate pilot can be run using an excel sheet version

of the same return. If the pilots are successful it is recommend to use the new return to collect quarterly clinic data.

Keywords: clinic, quarterly return

0373. Thivakar, Y.
Bypassing the medical clinic services of peripheral hospitals to Teaching Hospital in Jaffna district- Patient's perspectives.
MSc. Medical Administration -2017   D4162

Massive overcrowding encountered by the medical clinic services of Teaching Hospital Jaffna, due to patients who were bypassing their nearby peripheral hospitals to teaching hospital, for clinic services. This over-utilization impaired the service quality, according to physicians. The cross-sectional descriptive study was carried out to describe the health services related and non-health services related perceived reasons of patients for bypassing and also to determine the satisfaction levels of bypassed patients with the services provided at TH/Jaffna. The patients attending the medical clinics of TH/Jaffna was the study population with the sample size of 400. The sampling method adopted was stratified systematic sampling and an interviewer-administered questionnaire was used as the study instrument. Frequency distribution tables, percentages and chi-square testing were utilized for data analysis.

It was found that 70% (n=280) of medical clinic patients at TH/Jaffna were bypassed their nearby peripheral hospitals. Only 11.4% (n=32) of them claimed that they bypassed because of their previous bad experiences at peripheral hospitals. Twenty four percent (n=67) of bypassed patients were initially diagnosed outside of Teaching Hospital but later joined the clinic services of TH/Jaffna where the medical doctors were mostly urged them to bypass (n=53). Fifty eight percent (n= 162) of bypassed patients never visited a peripheral hospital in their lifetime. Availability of diversified specialists (n=167) was the prime health services related perceived reason for bypassing, followed by better physical facilities (n=129), availability of needful facilities and services at one place (n=123), the concept of bigger hospitals are better one (n=105) and better related health care services (n=42). Among the physical facilities; availability of drugs (n=196) and equipment (n=183) were highly considered as better at TH/Jaffna rather than peripheral hospitals followed by clean environment

(n=137) and seating facilities (n=87). Among the related health care services; dispensary (n=187), laboratory (n=136), ECG (n=l 17) and radiology services (n=92) were prioritized as better at TH/Jaffna rather than peripheral hospitals. Eighty percent of bypassed patients (n=223) were satisfied with the overall facilities and services of TH/Jaffha. They were mostly satisfied with the interpersonal aspect of care followed by accessibility to services, physical facilities and related health care services. But they were much dissatisfied with the waiting time. It's suggested to strengthen the awareness programs by local health authorities to educate the patients regarding the facilities and services of peripheral hospitals. The service quality of peripheral hospitals continued to be upgraded and sustained to minimize bypassing.

Keywords bypassing patients, medical clinic services, peripheral hospitals, teaching hospital Jaffna

0374.Venoden , D.
Development of an effective method to assess the in service training needs of nursing officers working in the RDHS division Jaffna.
MD Medical Administration – 2017   D4376

Introduction

Training is an essential component of the Human Resource Management. In service training needs of most of the state sector Nursing Officers in Sri Lanka are gathered through performance appraisal; however trainings are not conducted based on this information.

Objective

The objective of this research project is to develop an effective method to assess the in-service training needs of Nursing Officers working in the RDHS division Jaffna

Methodology

This project was implemented as 3 components. First component identified the current method of Training Need Assessment and its strengths and weaknesses. In the second component, a tool by modifying Hennessey and Hicks training need analysis questionnaire, was developed and applied to the Nursing Officers to assess their training needs. In component 3, a training programme was conducted

based on the analysis. Training topics were selected based on the means of important, performance and gap scores of the superordinate categories.

Participants were selected based on the means of overall and superordinate categories gaps of selected service related categories of the Nursing Officers.

Results: showed that major strengths of the current method of Training Need Assessment were availability of system to gather information (n=9), and funds to conduct training (n=9), while the weaknesses were inadequacy of conduction of training (n=8), and difficulty in organizing (n=7) and analyzing (n=7) data.

Response rate for application of the new tool was 71.8% (n=145). It was observed that 42.8% (n=62) of the participants were less than 30 years and 66.9% (n=97) of them were 10 years or less than 10 years of service experienced. The new tool detected the existence of training needs in all five superordinate categories. Highest mean of importance, and performance were found in Communication and Team work while highest mean of gap was found in Administrative function. Lowest mean of performance was also found in administrative functions. The associations between the experience category (p=0.001), grade (p= 0.004), work unit (p= 0.002) of the Nursing Officers and the mean of the overall gap were statistically significant.

The least experienced, Grade 111 and working in the ICU, OT, BB and Oncology units Nursing Officers had highest mean gap in all five superordinate categories. The new method of TNA was found to be significantly more satisfactory (t =13.780, df =31, p<0.001), and that the topics covered in the training programme were relevant to their training needs.

Recommendation

This tool can be applied to any state sector nursing population for Training Need Assessment. It is recommended to link this tool with annual increment, and add sections to gather information on any other training needs and factors affecting performances.

Keywords: Nursing Officers, Training Need Assessment (TNA)

0375. Venoden, D.
Project to improve the procedure of preparing the Annual Administrative Reports of the Curative Healthcare Institutions of the RDHS Division Jaffna.
MD Medical Administration - 2017   D4375

Introduction

Health Information System (HIS) is one of the six pillars of health system framework of the World Health Organization (WHO). Existence of an efficient HIS is fundamental for achieving desirable health outcomes for the population. Annual Administrative Reports (AAR) produced by hospitals are vital sources of information for HIS. It is a requirement for the hospitals in the developed countries to prepare annual reports; however, it is not compulsory in Sri Lanka.

Objective

The objective of this project was to improve the procedure of preparing the AARs of the Curative Healthcare Institutions of the Regional Directorate of Health Services (RDHS) Jaffna.

Methodology

This project composed of three components, and the participants were Regional Health Administrators, Heads of the institutions (HI) and Development Officers. Key informant interviews and self-administered questionnaires were used to gather information on current procedure for preparing AAR, its strengths and weaknesses, necessity of preparing AAR and need for a guideline to streamline this process and opinion on the composition of AAR.

Result

Results showed that 18% (n=8) of hospitals currently prepare AARs. Major strength was availability of a system to gather information (n=5), and weaknesses were unavailability of guideline (n=5) and information on expenditure (n=5). Necessity of preparing AARs (100%) and developing a guideline (90.9%) to streamline the process of preparation of AAR were well perceived by the His. The contents of AARs suggested by the His were similar to the attributes of information specified for HIS by the WHO.

The guideline was shown to be effective from the feedback of DOs (t= -5.870, df=13, p<0.001) who were trained to use this guideline and comparison of quality and uniformity attributes of the AAR prepared by two BHs.

Recommendation

It is recommended to prepare AARs in all healthcare institutions and use this guideline with necessary modifications to streamline the process of preparing AAR.

Keywords: Annual Administrative Report, Health Information System, Regional Directorate of Health Services, Jaffna.

0376. **Wickramaarachchi, A.K.A.M.**
Service availability and parents' experience at outpatient's clinics for child and adolescent mental health problems at Government Hospitals in district of Kandy.
MSc. Medical Administration - 2016   D3901

Introduction

Child and adolescent mental health illnesses are an emerging problem in Sri Lanka, with a demand for improving service availability and quality of care provided.

Objectives to describe the service availability and parents' experience at outpatient clinics for child and adolescent mental health illnesses at government hospitals Kandy district.

Method

A descriptive cross-sectional study was carried out in five hospitals having outpatient clinics for child and adolescent mental health illnesses in Kandy district. Component I assessed service availability: infrastructure, equipment/supplies, guidelines/protocols, intersect oral collaboration, information management systems, human resources, staff training, essential medicine, diagnostic facilities, using a check list. Component II assessed parents' experience (n=423): timeliness, confidentiality, communication, information and participation, relationship with health personnel, service availability, using an interviewer administrated questionnaire with a rating scale.

Results

Out of the five hospitals assessed: adequate space was available in waiting area, consultation rooms, therapy rooms in three clinics (60%); none provided clean drinking water for clients or had the basic equipment, guidelines and protocols (0%); all clinics had good collaborations with social services but only two

collaborated with Education Department and the juanile legal system; had counsellors and psychologists; had staff trained (40%).

Out of the 414 parents interviewed, 70% (n=290) were mothers, 36.2% (n=105). Majority of parents didn't have a choice for the appointment time (n=277, 66.9%), couldn't contact doctor out of appointment time (n=272, 65.7%). Of the parents of them >50% reported better experience in confidentiality, communication with the doctor and the therapist. Relationship with the doctor was good for >50% but 98.6% (n=408) reported that their cultural and religious views were not considered. Of the parents >90% ranked the overall experience at the clinic as good to 'large'/'very large' extent.

Conclusions

Although the parents experience was ranked good their service availability was inadequate. RecommendationsChild and adolescent mental health services need to be improved to cater to the rising demand.

Keywords: Service availability, Child and adolescent mental health, Parents experience.

0377.Wijayasiriwardhana, J.
Knowledge, attitudes and practices on child injury prevention among parents of children admitted with injuries to accident and emergency service in Lady Ridgeway Hospital.
MSc Medical Administration – 2016   D 3902

Background

Injuries are a global public health problem and leading course of deaths among childhood and adolescent groups. Majority of child injuries are preventable.

Parents have a vital role in prevention of child injuries.

Objectives

To assess knowledge, attitudes and practices on child injury prevention among parents of children [admitted with injuries to accident and emergency service in Lady Ridgeway Hospital Methods This descriptive cross sectional study was conducted in the accident service of LRH in a period of one month of 2016. A total of 354 parents of children admitted with injuries were recruited using systematic random sampling. An interviewer administered questionnaire and a check list [las used as study instruments. Data was analyzed using standard

descriptive statistics on Statistical Package for Social Sciences version 21 and associations were analyzed using chi square test, taken p< 0.05 as significant.

Results

Mothers were with children in most instances (90.7%) with, father: mother ratio 10:1. Majority of parents (61.3%) was aged 31-40 years while most of mothers were not employed (70%). Seventy-five percent of study population was residing less than 10 km from the LRH. Majority of injured children were at age 3 to 6 years and most of them were occurred at home (74%). Nearly one third of parents (33.9%) had an adequate knowledge, which was significantly associated with a higher educational level (p<.05). Most of the parents (46%) had obtained knowledge from electronic media. Majority of parents (87.5%) had overall favorable attitudes on child injury prevention. There was a statistically significant association between the age of parent and overall attitudes (p<.05). Parents of age below 30 years of age had overall unfavorable attitudes on child injury prevention. Majority of parents (94.4%) had positive practices on injury prevention. There was a significant association between education level of parents and practices (p<0.05).

Conclusions and recommendations

Nearly one third of parents had an adequate knowledge; almost 90% had favorable attitudes and positive practices in child injury prevention. Above variables were associated with the level of education. Electronic media can be used effectively for health education.

Keywords: child, injury, parent, knowledge, attitude, practice

0378. Wijemanne, W.M.U.S.
Strengthening of knowledge and skills on patient safety of nursing officers in a teaching hospital.
MD Medical Administration – 2016   **D 4146**

Massive patients' load has led to the resource constraints to meet the increasing demand, which poses questions on patient safety, while seeking care at health care institutions in Sri- Lanka. The hospitals are complex working organizations, where different professional groups are involved in direct and indirect care of patients. Though there are many factors to be taken into consideration with regard

to patient safety, primarily the health care professionals involved, should be given necessary training to improve knowledge and skills, with a view to delivering a safety health care to the patients. The objective of this project was to strengthen knowledge and skills on patient safety of Nursing Officers' in a Teaching Hospital as they are the persons, who are in direct contact with patients throughout the day. The strategy of this project was to introduce it, as an inservice training programme.

This study was carried out in Colombo South Teaching Hospital in three phases. In the first phase (pre-intervention), the existing/baselines knowledge and skills were assessed, training need was analyzed and designed and developed the training module. In the second phase (intervention), the implementation of a training programme based on the designed training course and in the third phase (post-intervention), the change of knowledge and skills and the feedback assessment, in order to find out whether any adjustments are necessary for the designed module were done. The ADDIE (Analysis, Design, Development, Implementation and Evaluation) model was used as the tool in this regard. The information gathered was incorporated into the training programme with the guidance and direction of a working committee comprising of experts. Self-Administered Questionnaire (SAQ) and Objective Structured Clinical Examination (OSCE) were used to assess the knowledge and skills respectively, during both pre and post interventions. The thematic areas identified in the questions were based on the thematic areas in the "typical assessment format in WHO patient safety curriculum guide, multi professional edition" ("ward environment and systems safety", "risk and prevention", "adverse events and near misses", "infection control", "medication safety" and "communication). In addition study techniques such as group discussions and key informant interviews were conducted to design the module (pre-intervention). In the post intervention a semi structured questionnaire was used to obtain feedback of the effectiveness of the training programme.

The Nursing Officers in surgical and surgical related wards, who are performing 24 hour duty/ shift basis are considered as the total population. A convenient sample of 50 Nursing Officers was recruited for the study. The sample was selected considering the number of Nursing Officers working in each ward, in order to minimize service interruptions in the ward. Accordingly, four Nursing

Officers were randomly selected from the wards with more than 15 Nursing Officers, three from wards with 10-12 Nursing Officers and two from wards with less than 10 Nursing Officers and the recruited total number was 50.But the number of participants was only 47.

The SAQs were corrected by PI, and skills assessment through OSCE was entered in a SPSS table. "Student T test" was the statistical test used to assess the pre and post changes in knowledge and skills. The results of pre-intervention were considered as the baselines of knowledge and skills. In the first phase the training need was assessed and the blue print of the course was designed. At the end of second phase the training programmes was successfully conducted to the target group. During post intervention phase, theimprovement in knowledge and skills were assessed using "student T test". There were significant improvements in knowledge, in "ward environment and systems safety" (P=0.000), "adverse events and near misses" (P=0.000), "medication safety (P=0.000)" and "communication (P=0.021)". There were significant improvements in skills in "risk and prevention" (P=0.001), "adverse events and near misses" (P=0.001), "infection control" (P=0.024), "medication safety" (P=0.000) and certain aspects of "communication" such as "receipt calls" (P=0.003) and "admission" (P=0.044).

This project revealed that this training course is very much effective in strengthening knowledge and skills on patient safety of Nursing Officers.

Keywords: Patient safety, Nursing Officers, Training, ADDIE model

0379. Wijemanne, W.M.U.S.
Re-Designing and feasibility assessment of implementation of revised diagnosis card in lieu of the present diagnosis card, to meet the current issues relating to patient follow up.
MD Medical Administration – 2016   **D4147**

The present diagnosis card (H 383 A) is the discharge summary, issued to a patient at the termination of his stay in hospital. A fully informative diagnosis card would enhance safe care transition from a health care professional to the other. The present card is very minimally structured and as a result the certain vital information is lacking, which is especially required for a follow up.

Therefore there is a necessity to redesign a diagnosis card containing all the information.

The objective of this project is to re-design and assess the feasibility of implementation of the revised diagnosis card, in lieu of the present diagnosis card to meet the current issues relating to patient follow up in a Government Hospital.

This interventional study project carried out in National Hospital of Sri-Lanka (NHSL), in three phases. The total study period extended from May 2015 to May 2016. Accordingly, the assessment of inclusion of information related to patient follow up in the present diagnosis card, redesigning of the diagnosis card and introduction of redesigned diagnosis card to NHSL were carried out. Finally, the feasibility of implementation of the diagnosis card was assessed.

The study instrument used during pre-intervention were, a format which is inclusive of the most vital information which was extracted from sample discharge summaries and the techniques used were literature reviews, consultative meetings, key informant interviews and focus group discussions. The techniques used during post intervention were focus group discussions and key informant interviews (qualitative analysis). A data collection format created based on the content of the redesigned diagnosis card and self-administered questionnaire was used for post assessment.

Both medical and surgical wards were line listed and two medical and two surgical wards were selected. The study population in the qualitative analysis is the total number of house officers, medical officers and the four clinicians. Focus group discussions and key informant interviews were conducted with the total study population. During pre and post intervention, to analyze the utilization pattern of present diagnosis card and redesigned card, a convenient sample of 100 cards were randomly selected from the total number of (photocopied) diagnosis cards.

Quantitative and qualitative analyses were done. The quantitative analysis was done during pre-assessment in order to assess the inclusion of information in the present diagnosis card. The results were analyzed in tables and taken as inputs in redesigning the diagnosis card. Finally, redesigned diagnosis card (piloted version) was introduced to NHSL. The qualitative analysis (post intervention) was based on five thematic analysis i.e. content, space, presentation style, logical order and instructions guide.

The study revealed that, the final version of the redesigned diagnosis /revised version was successfully implemented in three levels and indicates the feasibility to implement in government hospitals in Sri Lanka. Therefore, this redesigned diagnosis card is recommended to all the government hospitals in Sri Lanka and also an instruction guide is produced along with the card.

Keywords: Discharge summary, Diagnosis card, Medical records

0380.Wijenayake, P.H.
Assessment of the quality of services provided by the psychiatric clinics in national hospital Sri Lanka.
MSc Medical Administration – 2017   **D4165**

WHO is emphasizing provision of good mental and psychological wellbeing and launched many steps to improve mental health at individual level and community level. In South East Asian countries, mental health has been given a low priority. Most of the mental health services lack attention and investing on mental health. Service qualities of the available services are also reported as poor. In Sri Lanka, according to the NIMH statistics (2013), one out of ten is suffering from a Psychiatric illness. Most of the patients are treated and followed up at Psychiatric clinics at government hospitals.

There for, objectives of this study are to gain an understanding about the service availability of the Psychiatric clinics of NHSL, the perception and the expectations of the clinic attendee's; regarding quality of services, any quality gap and to identify the factors affecting the gap. In addition to that a qualitative study was conducted to explore Consultant Psychiatrist's opinions regarding the quality of services provided by the clinics in the NHSL.

Study consisted of three components. Component I was a facility survey was carried out using a check list to find out service availability of the Psychiatric clinics at NHSL. In component II, perception and expectations of clinic attendees (n= 272.), recruited using systematic sampling, were explored using pretested interviewer administered questionnaire which assessed the five quality dimensions of the SERVQUAL model. Participants who were in remission and followed up >1 year were included based on the recommendation of the Consultant Psychiatrist. In component III five semi structured interviews were

conducted with Consultant Psychiatrists to assess their opinion regarding the quality of services provided by the clinics.

The quantitative data were analyzed using SPSS-21 and the association was identified using chi-square test. Qualitative data was analyzed using thematic framework approach.

Facility survey revealed that most of the essential drugs were provided by the clinic except drugs for Dementia. Most of the infrastructure facilities including human resource were not adequate. Basic equipment and intersectoral collaboration were satisfied. Component II, response rate was 93% (n=272). It was found that Patients who attended to the Psychiatry clinic had more perception (2.548) regarding the quality of service than their expectations (1.218), showing the positive gap (gap score = 1.2). But it also showed that lack of readiness of the staff to select health records, poorly directed the patients to relevant places and the poor welcome of the staff were the inherent factors influenced to quality negatively. Significant association was found between favorable level of perception and the current level of employment (p=0.05). Consultant Psychiatrists expressed that, quality of the services was influenced by poor maintenance of confidentiality and privacy, limited staff in all categories except Consultants, unsatisfied infrastructure facilities and poor attitudes of the staff other than the medical.

Most of the infrastructure facilities and the human resource facilities were not adequate and need to be improved. Essential drugs except drugs for dementia were available. Tough it showed positive quality gap several factors were identified that affected badly. Most of the Consultants were also highlighted the importance of maintaining privacy and confidentiality of the patients and attitudinal changes of the staff.

It was concluded that all the infrastructure facilities including human resource should be improved. Information management should be improved further. Continuous improvement of positive perceptions of the patients should be maintained further. It is essential to create a culture, where the patients are dignified and respected.

0381. Wijesinghe, K.L.P.
Capacity in management of medical emergencies among the nursing officers of divisional and base hospital in Colombo district.
MSc Medical Administration – 2017   **D4163**

Medical emergencies are highly concerned in patient care service. It saves many lives if the time is well managed. Purpose of the this study was to examine the capacity in Management of Medical Emergencies among the Nursing officers of Divisional and Base Hospitals in Colombo District and to assess the sociodemographic and work related, knowledge, training received and resource availability for emergency care.

Method

This was a descriptive cross sectional study. The total population was studied. Its population was 167 nursing officers working in PCUs and ETUs of Divisional and Base Hospitals in Colombo District. They responded to a self- administrated questionnaire regarding socio demography, work related, knowledge and training received on emergency care. Availability of resources was evaluated with a check list, completed by the principal investigator.

Results

More than 90% of participants were married females and more than 80% of them belonged to age 30-49 years. Nursing officers (47%) were handling significant work load in medical field compared to gynaecology, obstetrics, eye and ENT having less than 40 patients per a week except paediatrics. Majority of nursing officers had good relationship with other employees. There was no relationship between knowledge and service period in nursing, period of service in ETU/PCU, number of hours working in ETU/PCU. More than 60% of participants had reasonable knowledge in managing the emergencies in eye, ENT, anaphylaxis, gynaecology, obstetrics, medicine and paediatrics, except cardiovascular and surgery. No relationships were found with the midwifery training and knowledge in obstetric and between knowledge on participants in DHHs and BHHs. It showed more than half of the participants were satisfied with the provision of equipment's and consumables. Few percentage of participants had diploma, degrees and other special qualifications, while more than 65% of participants had additional in service training. Few hospitals did not have very important equipment's and consumables to manage emergencies.

Conclusion

Capacity of majority nursing officers in managing the medical emergencies was satisfactory with the current knowledge, training and degree of the availability of resources.

0382.Wijesinghe, W.D.K.
Perspectives of health care professionals on patient involvement in patient safety at Tertiary Care Women's Hospitals in Colombo District.
MSc. Medical Administration – 2017   D4382

Background: In modern medicine, there's an important recognition on patient safety culture and patient's participation in treatment procedure. However, very little known about health care professionals' attitude on patient participation in such patient safety related procedures. Secondly, there's a paucity of data about factors influencing heath care professionals' (HCPs') perception on patient safety. Hardly any research is done on our country up to now.

Objectives: To describe the perspectives of selected health care professionals on patient involvement in patient safety at tertiary care women's hospitals in Colombo district as a health care professional as well as a potential patient. Other aspect was to assess the factors influencing selected HCPs' perspectives on patient involvement in patient safety.

Participants: Three hundred and ninety-one health-care professionals (94 doctors , 215 nurses, 82 midwives) from Castle Street Hospital for Women and De Soysa Hospital for Women.

Findings: HCPs' attitudes can be varied with type of behavior (interactional and no interactional behavior), type of HCP category and participants own professional role (as a HCP and as a potential patient). This study also found that factors affecting HCPs' perspectives on patient involvement in patient safety can also vary with type of HCP category. There were some differences among selected HCPs' perspectives on patient safety between two studied health care institutions. Overall all three selected HCPs' were had positive attitudes towards patient safety both as a HCP as *well* as potential patient. However, incident reporting component showed negative attitude among all three selected HCPs' categories as a HCP. Result showed that all three selected HCPs were in general

agreement that factors were positively influencing patient involvement in patient safety.

Conclusion: our research finding suggest that HCPs' are willing to involve in patient safety behaviours as a potential patient and also they are ready to support patients as a HCP when patients involve in safety related issues. However, further in depth studies necessary to identify the behavior of different clinical specialties as we were confined to obstetrics and gynaecology.

0383.Wijesinghe, W.M.C.M.
Improvement of trauma care capacity of emergency rooms in divisional hospitals-Gampaha district.
MD Medical Administration – 2016   **D 3906**

Trauma is a leading health problem in low and middle income countries. However, developed countries have managed this problem by better organizing and planning of trauma care. Acute management of injured patients, including triaging, stabilization and transport to a qualified trauma center results better in outcome. In addition, World Health Organization and International Society of Surgery recommend skilled human resources and basic physical resources to minimize undesirable outcomes.

This research project was planned to improve trauma care capacity by introducing a triage system and training staffs to manage acute trauma in randomly selected 02 Divisional Hospitals where only basic lifesaving facilities were available. Effectiveness of the project was assessed by waiting time of patients, self perceived trauma care competency of nurses and satisfaction of patients. All the nurses (n = 32) working in emergency rooms were trained and included in the study. Satisfaction was assessed among trauma patients who were treated in Emergency Rooms and discharged or transferred to other wards.

Results showed statistically significant reduction of mean waiting time from 9.9 to 7.3min (t=4.29, p<0.05). Self-perceived trauma care competency of nurses had gone up in some confidence areas, especially in neurological assessment. Majority of patients were satisfied with the attention of the staff, waiting time to be examined, discharged or transferred to ward. Least percentage of patients was satisfied regarding providing information on test results (57%) and reasons for admission or follow ups (66%) by doctors.In conclusion trauma care can be

improved by introducing triage and training staffs even in a resource limited setting. The intervention was restricted only to two hospitals and implemented for 06 weeks. Because of this limitation of time and other resources, neither the feedbacks from clinicians of those hospitals nor the clinical outcome and satisfaction of patients who were transferred to tertiary care hospitals were assessed. Further, studies in different treatment settings and assessment of clinical outcome with introduction of triage system are recommended.

0384.Wijesinghe, W.M.C.M.
Introduction of open source GIS software for dengue outbreak management.
MD Medical Administration – 2016   **D 3907**

Introduction

Morbidity and mortality associated with Dengue have become a major public health issue. The country spends a large amount of resources annually to control the disease. Inaccuracy of identifying high risk areas, inefficient usage of resources, deficiencies in supervision and monitoring of the control programme and negative attitudes of some health workers greatly affect the control.

Although mapping has been established in surveillance of communicable diseases for decades, Geographic Information System (GIS) application in mapping is a recent development. Storing, integrating, analyzing and displaying of data are some important features of GIS, which can be used to improve diseases surveillance including Dengue. High cost of commercially available GIS software limits the usage of this technology in the public health sector of the country, but there are some open source software with basic features similar to commercially available ones.

Objective

To introduce an open source GIS based surveillance system for Dengue control, and assess its effectiveness in a selected Medical Officer of Health (MOH) area in the Kandy District.

Methodology -The available surveillance system of MOH area Kadugannawa was improved by introducing GIS software.

After entering the notified Dengue cases into the notification register of the MOH office, the particular Public Health Inspectors (PHI) were informed by telephone and letters. The PHIs were instructed to take spatial coordination of the residences

of patients when they visit the cases. Further, they were asked to write it in the investigation form and at the same time inform the MOH office via a Short Message Service (SMS) or a telephone call.

In the MOH office, GIS maps were prepared weekly using Quantum GIS (QGIS) software. A common Google Drive was prepared to share information among the stakeholders, and prepared maps and spatial coordinates were uploaded into that. The control activities were conducted according to information received from maps.

The effectiveness of the project was assessed by two methods. One was the perception of health officers on the new surveillance system. The next was the time interval of field investigation of Dengue cases before and after the intervention. Because the intervention period was limited to six weeks, it was compared with six-week data immediately before the intervention. The perception of health officers on the surveillance system was assessed using a selfadministered questionnaire prepared according to the Centers for Diseases Control and prevention (CDC), USA and World Health Organization (WHO) guidelines.

Results

Perception on six attributes of new surveillance was assessed. All the participants (n= 15) agreed with simplicity, acceptability, representativeness, and usefulness of the system. Eighty-six percent of participants agreed with flexibility of the system. But only 47% agreed with stability.

Time interval between the date of reporting of cases to the PHI and completing the field investigation during the intervention period was compared with that of before the intervention. Mean time interval before the intervention was 3.032 (SD=0.657) days and during the intervention was 2.16 (SD=0.553) days. Independent t test with $P < 0.05$ was used to test the significance. This time difference was statistically significant.

The project concluded that application of Q GIS software was possible and effective in Dengue surveillance and outbreak management.

Short period of implementation, non-inclusion of some parts of a surveillance system, usage of limited amount of IT applications and not assessing the outcome of the system were the main limitations of the project.

Other priorities of health workers, research being conducted in a very dry period and lack of authority of the principle investigator to motivate health workers were some identified non-anticipated project risks.

As recommendations, piloting a surveillance system with open source GIS software and other simple IT applications which are compatible with mobile phones in a large area for a considerable time may give valuable results.

0385. Wijesuriya, W.M.N.K.L.
Knowledge and attitudes of public health midwives toward prevention of mother to child transmission of HIV in Kandy regional director health services area.
MSc Medical Administration – 2017　　　　　　　**D 4159**

Transmission of HIV from mother to child (MTCT) is a major public health and social problem that world has to face today. The transmission of HIV from an infected mother to her child can occur during pregnancy, delivery and through breast feeding.

Public Health Midwives are the key service providers in reproductive health services to the community in Sri Lanka. One of the identified components of the reproductive health is Prevention of Mother to Child Transmission of HIWAIDS(PMTCT) through integrated Maternal and Child Health (MCH) service. Therefore, Public Health Midwives (PHMM) have the ability to intervene to reduce the transmission of the virus from a HIV positive mother to her baby. Hence it is documented that a well trained, knowledgeable PHM with positive attitude can help to implement the national strategy of HIV prevention. No scientific effort has been taken to assess the knowledge and attitude of PHMM towards PMTCT programme in Sri Lanka.

This cross sectional descriptive study was conducted to assess knowledge and attitudes of Public Health Midwives towards prevention of mother to child transmission of HIV in the Kandy RDHS area. A self - administered structured pre tested questionnaire was used to collect data. Information was obtained on demographic factors, knowledge and attitudes of Public Heath Midwives towards PMTCT of HIV. Out of the 423 eligible PHMM for the study and 335 participated the mean age of the PHMM was 41.8 years (SD = 3 years). More than 50% of PHMM had qualification of O.C.E. (A/ L). Most of the PHMM (55.8*) had more

than 20 years service experience and only 17.1% had less than 10 years of working experience. Most of the PHMM had good knowledge on HIV (more than 90%). The knowledge on PMTCT was good (93.4%) and most (92.8%) of the midwives were aware on national PMTCT guidelines. Most (76.1%) PHMM had positive attitudes towards PMTCT service and 41.3% thought that PMTCT will increase their work load. There was no statistically significant association between knowledge and attitudes of PHMM with their socio demographic characteristics. PHMM education and training on identified areas are recommended This study provides an overview of knowledge and attitudes of public health midwives in relation to prevention of vertical transmission of HIV in a section of public and primary health care services in Sri Lanka.

Key words: PMTCT, Public Health Midwives

0386.Wijetunga, W.M.T.S.
Knowledge, attitudes and engagement of medical officers in health research at two selected General Hospitals of Sri Lanka.
MSc. Medical Administration – 2016   **D 4016**

Background

Health research leads to the advancement in surveillance, diagnosis, treatment and prevention of diseases. It also improves a person's critical thinking, which is essential in provision of quality health care and evidence based practices. Health research is vital for the development of health services as well as for the professional development.

Objectives

To compare the knowledge, attitudes and level of engagement of Medical Officers in health research in General Hospital Badulla and General Hospital Gampaha.

Methodology

The study comprised of two components. Component 1 was a descriptive cross sectional study conducted at General Hospital (GH) Badulla and the GH Gampaha during 1st February to 30th April 2016. Randomly selected 111 Medical Officers (MOO) from GH Badulla and 102 MOO from GH Gampaha responded to a self-administered questionnaire. Key variable included the profile of MOO, knowledge related to research and research methodology, attitudes towards

research, research engagement (as Principle Investigator, as Co-Investigator or as data collector), research related training requirements and their perceived barriers.Component II was a qualitative study: In-depth interviews were held to identify encountered barriers during research among a conveniently selected 05 MOO from GH Badulla and 04 MOO from GH Gampaha who reported to have research experience. He data were analyzed based on means, standard deviations and percentages where relevant. Chi square test, t-test and tests of correlation were used as the statistical methods.

Results

Response rate were: 83.4% and 76.6% in GH Badulla and GH Gampaha respectively. Significantly higher proportion (p<0.05) of MOO of GH Badulla had good knowledge than that of GH Gampaha [n=69, 62.2% vs. n=49, 48.0%]. Knowledge on research negatively correlated (p<0.01) with the age of the MOO in both hospitals. Higher proportion of junior MOO/first appointees were in GH Badulla compared to GH Gampaha (n=63, 56.8% vs. n=10, 9.8%) which was statistically significant (p<0.01).

More than two third of MOO of GH Gampaha and GH Badulla (n=69, 67.6% and n=84 75.7%) had overall favourable attitudes towards research and the difference was not statistically significant (p>0.05) between the two settings. However only one third of MOO had post-intern research experiences in GH Gampaha (n=36, 35.3%) and GH Badulla (n=35, 31.5%). This difference was also not statistically significant (p>0.05) between the two settings.

Among MOO with post-intern research experience in both settings, around half of them presented their research in a conference (n=17, 47.2% and n=19, 54.3% of GH Gampaha and GH Badulla respectively) whereas around quarter of them had published the research in a journal (n=9, 25.0% and n=10, 28.6% of GH Gampaha and GH Badulla respectively). However post-intem research presentation and publications of MOO working in GH Gampaha have led to more National and International presentations (n=14, 82.3%) and publications (n=8, 88.8%) whereas dissemination of research findings of MOO of GH Badulla was confined mostly to institutional/local level conferences (n=15, 78.9%) and journals (n=7, 70%).Those who had post-intem research experiences a higher percentage of MOO in GH Gampaha had received research allowance compared to those in GH Badulla (n=16, 44.4% vs. n=3, 8.6%).

The top three perceived barriers among MOO for not conducting research were similar in the two settings (GH Gampaha and GH Badulla): inadequate knowledge related to research and research methodology (n=74, 72.5% and n=82, 73.9%), inadequate guidance from the institution (n=71, 69.6% and n=79, 71.2%) and lack of time to engage in research (n=61, 59.8% and n=68, 61.3%).

Conclusions

In-spite of having moderate percentage of MOO with good knowledge and high percentage of MOO with favourable attitudes towards health research, their postintem research engagement was lower in both hospitals. Post-intem research among MOO working in GH Gampaha have led to more National and

International presentations and publications whereas it was mostly confined to institutional/local level conferences and journals in GH Badulla. Most of the MOO in GH Gampaha who carried out research have obtained the research allowance provided by the Ministry of Health but the proportion for same was very low in GH Badulla.

Recommendations

Systematic approach for in-service training of MOO on research, guiding MOO in research and appraising their efforts are needed towards establish an institutional research culture among the Medical Officers.

0387.Wimalasena, T.B.

Improving the efficiency of histopathology services of Teaching Hospital Karapitiya by reducing turnaround time.
MD Medical Administration – 2017   **D4606**

Histopathology is very important for the diagnosis of many diseases including cancer. The time between taking specimens and making the results available is called histopathology turnaround time (TAT). TAT is a major quality indicator for histopathology laboratories. Prolonged TAT leads to delay in clinical decision making, increased morbidity, mortality and increased costs to the health systems. Minimizing TAT helps the clinicians to overcome these problems.

This interventional research project evaluated the process of histopathology laboratory of Teaching Hospital, Karapitiya (THK) with a view to identify the current status and potential points of delay in histopathology TAT and to implement appropriate interventions to reduce TAT.

The pre-intervention mean TAT was determined using secondary data extracted from the records of the laboratory and the units sending specimens. Perceptions of ten clinicians on histopathology services and the TAT were obtained by qualitative interviews. The factors associated with and contributing to the delay in histopathology TAT were assessed prospectively for one week using a log sheet for 169 specimens sent to the laboratory.

The intervention for improving histopathology services was designed with the participation of all stakeholders, considering the results of the assessment and feasibility of implementation within a short period. A detailed histopathology request form and a work-time log sheet was introduced. Two months after the intervention, post-intervention TAT was determined.

The pre-intervention mean TAT was 35.6 days (SD=13.3 days; n= 169). There was a statistically significant difference between the mean TAT of urgent and non-urgent specimens (p=<0.001). Longer mean delays has been observed in two steps of the process namely, cutting sections after embedding (8.6 days) and slide interpretation by registrars (11.04 days). The clinicians perceived that histopathology TAT is unacceptably long and it results in poor patient outcomes. Their suggestions were considered in designing the intervention.

Post-intervention mean TAT was 30.49 days (SD=12.9; n=179). There was a statistically significant reduction in post-intervention mean histopathology TAT compared to pre-intervention TAT, indicating that the intervention has been effective.

Keywords: Histopathology, Turnaround time, histopathology request form, time log sheet

0388. Wimalasena, T.B.
Project to improve timeliness, accuracy and completeness of school health information of Galle RDHS area.
MD Medical Administration – 2017   **D 4607**

Sri Lanka has a robust school health programme managed by the Ministry of Health to ensure that children are healthy to make maximum use of educational opportunities and capable of promoting the health of the family and the community. There is a well- planned set up for the information flow from MOH office level to the district and national levels. This programme is still using paper

based Quarterly School Health Return (QSHR), although most of the parallel public health programmes are using web- based systems to send information. In the Regional Director of Health Services (RDHS) area, Galle there were problems with regard to timeliness, accuracy and completeness of the QSHR sent from the 20 MOH Offices in 2015 and 2016. This study was conducted with the objective of designing and implementing a web-based School Health Information System (SHIS) to improve the timeliness, accuracy and completeness of school health information of Galle RDHS area.

Before intervention, timeliness, accuracy and completeness of QSHR were assessed after analyzing 80 returns sent from all MOH areas in 2016. A web based SHIS was developed after a consultative meeting with relevant stakeholders. Users of 05 selected MOH areas were trained to enter school health data into the system during the second quarter of 2017. The three parameters after intervention (2nd quarter of 2017) were compared with parameters for the comparable quarter before intervention (2nd quarter of 2016). Qualitative interviews were conducted with selected group of users to obtain additional information on timeliness, accuracy and completeness of data before and after implementing the new SHIS. After the intervention, timeliness had improved from 20% to 80%, accuracy from 20% to 60% and completeness from 40% to 80%. These improvements were not statistically significant. Although the intervention appears to be successful in improving the quality of school health information flow, further studies using larger samples are needed to establish the effectiveness, especially when implemented on a long-term basis.

Keywords: web-based school health information, timeliness, accuracy, completeness

0389.Yaddehige, I.S.
Level of job satisfaction and key factors affecting the job satisfaction among midwives in Matara district.
MSc. Medical Administration – 2017   D 3969

Job satisfaction is defined as 'a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences' which is affected by various organizational and individual factors. Midwife is a key service provider in the Sri

Lankan health system whose job role has expanded in the recent past. It is important for the management to know the factors that determine midwives job satisfaction in view of raising the job satisfaction by modifying them. To assess the level of job satisfaction and to describe key factors affecting the job satisfaction among midwives in the Matara district. A descriptive cross sectional study was conducted among midwives (n=389) in 32 health care institutions in Matara district including the field and hospital settings. Data was collected using a validated pretested structured self-administered questionnaire based on the Minnesota Satisfaction Questionnaire. Overall response rate was 93.6% with 253 midwives in the field and 111 midwives in the hospitals. A majority were 46 years or more(n=247,67.9%), married (m=327,89.8%), educated up to GCE A/L(n=295,81.0%),residing in their own house (n=322,88.6%), in a distance less than 10km from the work place (n=262, 71.9%),had a service of more than 20 years in the ministry of health(n=222 ,61.0%) with a service of up to 10 years in the current station (n=205, 56.3%).Overall, midwives were satisfied with their job (Mean=3.66, SD= 0.593). There was a significant increase in job satisfaction with increasing age and service in the ministry of health [$F(3,360)=6.499$,p =0.000], [$F (5, 363) = 3.777$, p =0.002].There was no statistically significant association between marital status, number of children, level of education, income, current residence, distance to the current residence and mode of transport with job satisfaction. All eleven organizational factors were positively correlated with job satisfaction. Midwives were satisfied with their coworkers (M=3.8549,SD=0.62161),working condition (M=3.6690,SD =0.77114), supervision (M=3.6044, SD=0.82717), training received (M=3.5449, SD=0.51438), leave (M=3.5398, SD=0.77170), welfare (M=3.3365, SD=0.89308), career development (M=3.2280, SD=0.73307) and autonomy (M=3.2308,SD=0.73388). Midwives were not satisfied with the remuneration (M=2.7985, SD=0.87039), transfer scheme (M=2.7734, SD= 0.98760) and workload (M= 2.6456, SD= 1.00022). Midwives in provincial ministry hospitals were satisfied than midwives in the line ministry hospital and MOH Offices [$F (2, 363) =8.083$, p =0.000], Field midwives were less satisfied compared to hospital midwives (p = 0.0300). Midwives in field were less satisfied with the workload and remuneration compared to their counterparts but they were more

satisfied with IInformationhe working condition, supervision, coworker, autonomy and welfare. There was no significant difference between the satisfaction among two groups regarding training, career development, transfer scheme and leave. Even though midwives were overall satisfied with their job, improvements in identified less satisfied organizational factors may enhance job satisfaction.

Keywords : Job satisfaction, Midwives, Organizational factors

0390.Yapa, Y.M.S.S.
Factors affecting selection of private or public sector oral health care services in the divisional secretariat area Mahiyanganaya.
MSc. Medical Administration – 2016   D3970

Background

Oral health is considered as an integral part of general health care system in Sri Lanka and operated through a well-organized network of institutes in both state and private sector. The public oral health system is driven by taxes and provided free of charge at the point of delivery. The private sector is mainly financed by the patient's out of pocket expenditure. Detailed investigations on patients' behavior on the selection of services offered by above two sectors are rare in Sri Lanka. Studies all over the world showed that the factors affecting selection pattern of oral health care facilities are highly complex and influenced by the nonclinical aspects of the patient expectations.

Objective

The main aim of this study was to describe the factors affecting selection of private or public sector oral health care services in the divisional secretariat area Mahiyanganaya.

Methods

A cross sectional descriptive study was carried out in government and private dental clinics in Mahiyangana divisional secretariat area. A total of 422 participants were qualified for the study including patients from private and public sector equally. The study was conducted as an interviewer administered questionnaire. Statistical Package for Social Services (SPSS) version 21 was used to analyze obtained data.

Results

The socio demographic factors mainly age, gender, economic and education background of the patients may have significant influence in selection of oral health care services provider. Females predominantly used oral health care provided by both private (55.4 %) and public (73 %) sector. Younger population (21-30 y) showed a tendency to obtain oral health care facility provided by private sector (25.1 %; n = 53) while middle age group (31-40 y) preferred public sector (29.4 %; n = 62). The patients with higher education background and higher family income (> Rs. 20001.00) generally opted private sector oral health care services.

Perceived patient care relationship, perceived quality of oral health care services, perceived responsiveness of oral health care services and cost of treatment are important factors related to oral health care services when selecting either private or public sector. Patients were more satisfied with the functional quality of the private sector. The cost of treatment was the most discouraging factor for selection of private oral health care sector.

Conclusion and Recommendations

Patients' satisfaction for public oral health care sector can be enhanced via improving the accessibility, cleanliness of environment, selection of choice of provider and availability of dental equipment and materials.

Introducing cost escalation mechanisms or cost regulation mechanisms will be vital for providing better service from the private oral health care sector.

Keywords: Selection of Oral Health Care Services, Mahiyanganaya Divisional Secretariat Area

Medical Microbiology

0391. Abeydeera, W.P.H.
Epidemiology of ventilator associated pneumonia caused by Acinetobacter species and their antibiotic susceptibility patterns in different intensive care units at National Hospital of Sri Lanka.
MD Medical Microbiology -   2015   D 4357

Introduction:

Ventilator associated pneumonia (VAP) is the most common nosocomial infection in patients receiving mechanical ventilation and it accounts for about half of all antibiotics given in the intensive care units.VAP occurs 48 hours or more after endotracheal (ET) intubation and mechanical ventilation. It remains an important cause of morbidity and mortality despite advances in antimicrobial therapy. Prevalence data for VAP in the country are limited.

General Objective:

To describe the epidemiology of VAP caused by *Acinetobacterspp. &t* different intensive care units (ICUs) and their antibiotic susceptibility patterns.

Specific Objectives:

■To determine the incidence of *Acinetobacterspp.* in different ICUs.

■To identify the common *Acinetobacterspp.csaismg* VAP in different ICUs and their antibiotic susceptibility patterns.

■To identify the associated factors for VAP.

■To describe the distribution of VAP caused by *Acinetobacterspp.* and their antibiotic susceptibility patterns in different ICUs.

■To determine the outcome of VAP patients with *Acinetobacterspp.* in different ICUs. Design, setting and method:

A hospital based descriptive cross sectional study was carried out involving all the ICU sat the National Hospital of Sri Lanka(NHSL). VAP was diagnosed clinically according to the HELICS criteria. Two hundred ET aspirates were obtained from clinically diagnosed VAP cases and were processed. The phenotypic identification of *Acinetobacter* spp., speciation using API 20NE and antibiotic susceptibility testing were done at Microbiology laboratory, NHSL according to the CLSI standards.

Results:

Sixty-seven *Acinetobacterspp.* were isolated from 200 VAP cases (33.5%). All the isolates were v4cmeto Z>ac/erbaumannii/calcoaceticus (100%). Most number of cases was from MICU followed by RU, ASICU & NTICUs. Most were associated with neurosurgical procedures (32. 8%).A slight female predominance was noted (53.7%). Most of the isolates were multidrug resistant &cefperazone/sulbactum had the least resistance.

Conclusions:

Acinetobacterbaumanii/calcoaceticuswas the only species isolated during this study, which were multidrug resistant and predominated in the MICU.

Significant association with neurosurgical procedures was noted.

Recommendations:

Proper infection control practices need to be adhered in managing patients. VAP bundle has to be implemented. Empirical broad spectrum antibiotic usage needs to be curtailed & antibiotic policy   needs to be developed in treating VAP cases, following further research in this area.

0392. Asanthi, M.A.I.
Antibiotic sensitivity of pathogenic and commensal enteric bacteria in different food animals in relation to antibiotic use in the Colombo district.
MD Medical Microbiology – 2015   D 4682

Introduction: Use of antimicrobial growth promoters in food animals is known to select resistant bacteria and they eventually reaches humans through the food chain. Surveillance of antibiotic resistance in bacteria of food animals allows detection of developing antibiotic resistance in food chain.

Objectives: To determine the prevalence of *Salmonella* spp., *Escherichia coli,* Enterococcus faecium, and E.faecalis in broilers, pigs and cattle, and antimicrobial susceptibility pattern (AMSP) of them in relation to, antibiotic usage in food animals in the Colombo district.

Methods: Faecal swabs from 485 animals from randomly selected 18 farms were collected. Specimens were inoculated on to brain heart Infusion broth supplemented with 6.5 % saline, tetrathionate broth, XLD, MacConkey and Slanetz Bartley agar plates. *Salmonella* spp., *E. coli, E. faecium,* and *E. faecalis* were identified by biochemical tests. 422 isolates were tested for antibiotic

susceptibility by disk diffusion method, CLSI 2012.Data on antibiotic usage was collected through a questionnaire.

Results: Prevalence of *Salmonella, E. coli, E. faecium,* and *E. faecalis,* among broilers and cattle were 3%, 54%, 43%, and 21% and 2%, 48%, 16% and 30% respectively. Non susceptibility to multiple antibiotics were observed in 211(50%) of the isolates and majority were from poultry (48%). There was a statistically significant higher nonsusceptibility among broiler *E.coli* to ciprofloxacin, ampicillin and cotrimoxazole and enterococci to vancomycin, compared to cattle and swine isolates. AMSP of isolates from the two farms where antibiotics were used routinely was not significantly different to isolates from others except that susceptibility to vancomycin of *E.faecium* from farm 1 & 11 was significantly low compared to other farms.

This can't be explained with the enrofloxacin usage in these farms as it is from another class of antibiotic.

Conclusions: The significant higher resistance against antibiotics in *E. coli, Salmonella* & *Enterococcus* spp. strains isolated from broilers. Thus there is a necessity to conduct a properly designed research to study the situation in the whole country with widespread collection of data regarding antimicrobial use in farms, antibiotic sale from pharmacies and veterinary product outlets and food adulteration practices in companies producing commercial animal feed.

0393.Athukorala, L.S.
Epidemiology of invasive infections caused by vancomycin sensitive and resistant enterococcal strains among oncology patients at the National Cancer Institute of Sri Lanka.
MD Medical Microbiology -2014   **D 3782**

Introduction

Enterococci have traditionally been regarded as low grade pathogens, but they have emerged as an increasingly important cause of nosocomial infections in the last decade. Although about a dozens of *Enterococcus* spp. have been identified, only two are responsible for the majority of human infections. The most common nosocomial infections caused by these organisms are urinary tract infections, followed by intraabdominal and pelvic infections. They also cause surgical wound infections, bacteraemia,

endocarditis, neonatal sepsis and rarely meningitis. The emergence of vancomycin -resistant enterococci is a cause of concern, as once established, it is very difficult to control and it creates a threat to the patient safety and a challenge to the treating physician. Most of the risk factors for vancomycin resistant enterococcal infections prevail among oncology patients. This study describes invasive enterococcal infections caused by vancomycin sensitive and resistant strains among oncology patients at the National Cancer Institute of Sri Lanka.

General objective

To describe the epidemiology of invasive enterococcal infections among oncology patients at the National Cancer Institute of Sri Lanka.

Method

Study design - Descriptive cross sectional study.

Study period - 1 st of July 2012-31 st of July 2013.

This study was conducted at the National Cancer Institute, Sri Lanka and inward oncology patients diagnosed with invasive enterococci infection were included in this study. Speciation of the isolates was done by using a rapid manual analytic system and by evaluating the motility and pigment production of the organism. Vancomycin sensitivity was assessed in all enterococci isolates and teicoplanin sensitivity was assessed only in vancomycin resistant isolates. Associated factors for getting an infection with vancomycin resistant strain also were assessed using a data extraction sheet.

Results

The incidence of *Enterococcus* spp. causing blood stream infections was 0.32, upper urinary tract infections was 0.51 and pus and other sterile body fluid aspirates was 0.27 per 1,000 admissions. The incidence of vancomycin resistant *Enterococcus* spp. causing blood stream infections was 0.03, upper urinary tract infections was 0.09 and pus and other sterile body fluid aspirates was 0.03 per 1,000 admissions.

E. faecium caused 55% invasive enterococcal infections followed by *E.faecalis* 35%,*Enterococcus durans* 5%, *Enterococcus casseliflavus* 3.33% and *Enterococcus avium* 1.67%.Sensitivity of disc diffusion test to detect vancomycin sensitivity was 77.8% and agar dilution screening test was 100% compared to the Etest.

Conclusions

The incidence of invasive enterococcal infections in oncology patient was 1.1 per 1000 admissions The incidence of invasive enterococcai infection caused by vancomycin resistant spp. was 0.16 for per 1000 admissions.

E. faecium is the dominant species causing invasive enterococcai infections in oncology patients (55%). Disc diffusion test has low specificity compared to MIC obtained by using E strip. Sensitivity of agar dilution method was 100%.

Almost all the participants (96.6%) had acquired the enterococal infection from the hospital. Vancomycin resistant infections are more common in patients who had haematological malignancies, patients who were prior treated with 3[ld] generation cephalosporins and cytotoxic chemotherapy drugs.

0394.Bolonne, B.E.

Association of chlamydia pneumoniae IgG seropositivity and acute myocardial infarction.
MD Microbiology – 2018   **D 4686**

Introduction

Non-communicable diseases (NCDs) are recognized as a major challenge in the 21st century. They kill more than 38 million people each year, among whom acute myocardial infarction (AMI) is identified as an important cause. In addition to the traditional risk factors for AMI such as diabetes mellitus, hypertension, smoking and genetic factors, microorganisms like *H. pylori* and C. *pneumoniae* play a role in the pathogenesis of atherosclerosis and AMI.

Objective

To determine the association between *Chlamydia pneumoniae* IgG seropositivity and AMI.

Method

An institution - based, descriptive cross-sectional study was carried out over 4 months using two groups of patients. One group consisted of 100 participants with diagnosed AMI and the other group consisted of 100 patients without AMI. *Chlamydia pneumoniae* IgG antibodies were checked using a commercially available ELISA kit. Demographic data and risk factors for AMI were obtained using an interviewer -administered questionnaire.

Results

The age of the study population ranged between 32 and 89 years. The mean age of the acute myocardial infarction group was 65.09 in patients without AMI was 58.9. Among the total population, the majority were males (57%) Among the total number, 118 had positive IgG for *Chlamydia pneumoniae*, (59%) Among patients with AMI, 62% (n=62) had positive IgG levels.

In addition, 87% (n=87) of them had at least one traditional risk factor for AMI. Meanwhile, 56% (n=56) patients without AMI has showed positive IgG values for *Chlamydia pneumoniae*. There was no association between *C. pneumoniae* IgG sero positivity and A (p= 0.388) does not exist as far as the statistics are concerned. However, there was an association between AMI and *C. pneumoniae* IgG seropositivity in patients with traditional risk factors (p = 0.082) and it can be identified as substantial when considering the statistics. Further, there is no statistically significant association of acute myocardial infarction and *C. pneumoniae* IgG sero positivity in patients without traditional risk factors (p =0.694).

Conclusion and recommendations

The occurrence of C. *pneumoniae* infection in the studied population was high. C. *pneumoniae* IgG Seropositivity was not associated with AMI even in patients without traditional risk factors. Further studies should be performed with a larger sample size and in multiple centres across the country to identify the prevalence of the *C. pneumoniae* infection to determine whether a relationship between C. *pneumoniae* and acute myocardial infarction exists.

Keywords: AMI, *Chalamydia pneumoniae,* eropositivity

0395.De Silva, R.N.D.
Prevalence of genital chlamydia infection among attendees of the central sexually transmitted diseases clinic, Colombo by a real -time polymerase chain reaction (rt-PCR) and development of an in-house PCR for detection of Chlamydia.
MD Medical Microbiology – 2016   D4404

Introduction

Genital infection due to *Chlamydia trachomatis* is the most prevalent bacterial sexually transmitted disease (STD) with the highest prevalence among youth.

Many infected persons remain asymptomatic, in both females and males.

Objectives

To determine the prevalence of genital chlamydia infection in relation to sociodemographic characteristics, clinical presentation and sexual and STD-related risk behavior.To measure the significance of associated factors and identify the most significant risk factors for genital chlamydia infection. To compare the diagnostics currently used at the Central STD Clinic with rt- PCR to develop an in-house conventional PCR for detection of genital chlamydia infection.

Methods

The study was carried out as two components. First component was a cross-sectional, descriptive study on 216 females and 252 male consecutive adult attendees of the Central STD Clinic, Colombo. Endocervical swabs from females and urine samples from males were tested with COB AS® TaqMan® CT v2.0 rtPCR. A questionnaire was used to gather socio-demographic data, clinical features and factors associated with infection. Significance of associated factors was determined using a Chi-square test and the most significant risk factors were identified by applying a binary logistic model. Second component was to develop an in-house conventional PCR and compare it with the commercial rt-PCR.

Results

Prevalence of genital chlamydia among female attendees was 17.1% (37/216) and among male attendees was 5.2% (13/252). Prevalence among commercial sex workers (CSW) was 20.4% (20/98, $p<0.001$) and men having sex with men was 1.5% (1/65, $p>0.05$). Among infected females 67.6% (25/37, $p=0.797$) were asymptomatic with 80% (16/20, $p=0.508$) of infected female sex workers being asymptomatic. Among positive males, 61.5% (8/13, *p=0.009*) were symptomatic. Vaginal discharge was the commonest symptom (27%, 10/37) and cervical discharge (40.5%, 15/37) was the commonest sign in females. Urethral discharge and dysuria were the commonest symptoms (38.5%, 5/13 each) and urethral discharge (16.7%, 4/24) was the commonest sign in males. Female gender, age <25 years and exposure to commercial sex partners were the most significant risk factors (OR=3.942, 95% Cl 1.896 - 8.198, OR=2.142, 95% Cl 1.083^1.235 and OR=1.978, 95% Cl 1.039-3.764, respectively).

Cervical smear in females, urethral smear in females and males and urine deposits in males had very low sensitivities (10-50%) but adequate specificities of 7099.4% when compared to commercial rt-PCR. The in-house PCR had sensitivity, specificity, positive and negative predictive values, diagnostic accuracy and diagnostic odds ratio of 91.3%, 96.3%, 95.4%, 92.8%, 94% and 273 (95% Cl

23.129-3222.280), respectively when compared to commercial rt-PCR.

Conclusions and Recommendations

Prevalence of genital chlamydia infection among female attendees is high and the majority is asymptomatic. Being a CSW and symptomatic presentation in males are significant associations. Female gender, age <25 years and exposure to commercial sex partners are significant risk factors. The current diagnostic methods used at the Central STD Clinic are not effective in diagnosing genital chlamydia infection. The accurate and inexpensive diagnostic PCR developed in this study can significantly improve the diagnosis of genital chlamydia infection.

0396. De Silva, S.H.C.K.
Epidemiology of bacterial infections of surgical sites following orthopedic surgeries at the National Hospital of Sri Lanka.
MD Medical Microbiology – 2015   **D 4228**

Introduction

Patients with orthopedic SSI (surgical site infections) have substantially greater physical limitations and reduction in their health related quality of life. SSI prolong total hospital stay by a median 2 weeks per patient, double the hospitalization rate and increase healthcare costs by more than 300%. As Sri Lanka is a developing country, it causes a major impact on restricted hospital budgets. Data on outcome of patients who developed SSI following orthopedic surgeries and the associated factors for SSI are scarce locally. Causative organisms and the susceptibility patterns too change with time and they are dependent on several factors including antibiotic use and infection control practices.

Objectives

General objective

To describe the epidemiology of SSI following orthopedic surgeries at the

National Hospital of Sri Lanka (NHSL)

Specific objectives

- To determine the incidence of SSI among patients undergoing orthopedic surgeries
- To identify the common bacteria causing SSI in orthopedic surgeries and their susceptibility patterns.
- To describe the association of susceptibility pattern of the isolated pathogens with the pre operative antibiotic treatment or antibiotic prophylaxis.
- To identify the associated factors for SSI following orthopedic surgeries To decide on empirical antibiotic therapy for patients with orthopedic SSI Methodology
- A hospital based prospective descriptive study was conducted at the NHSL for 4 months *duration.* Hundred and twenty five patients were studied using CDC criteria for the diagnosis of SSI in orthopedic units at NHSL.

Standard operating procedures were followed in collection and processing of samples. Antibiotic susceptibility was performed according to CLSI guideline 2012.

Demographic and clinical data were collected using a validated data extraction sheet and Bed Head Ticket. Association of onset of SSI with wound type, type of surgery and site of surgery, pathogens and their susceptibility patterns were assessed.

Results and conclusion

The incidence rate of SSI following orthopaedic surgeries at the NHSL during this period was 10.4%.The commonest pathogen isolated was *Pseudomonas* spp which is sensitive to all antibiotic tested. Most organisms were sensitive to commonly using antibiotics although there were some MRSA, ESBL and carbepenem resistant organisms.

There was no association found in the susceptibility pattern of the organisms with prophylactic antibiotics used. In majority of patients with SSI associated factors were not identified. The most commonly associated factor was smoking and the next were obesity and diabetes mellitus.

0397. Galappaththi, J.
Microbial flora of high vaginal swabs in pregnant mothers with premature rupture of membranes (PROM) and the effect of PROM on neonates in a tertiary care hospital in Sri Lanka.
MD Medical Microbiology – 2018   **D 4688**

Background:

Premature rupture of membranes (PROM) can cause both maternal and foetal complications with a significant perinatal morbidity and mortality as open membranes provide a path for bacteria to enter into the amniotic cavity causing life threatening infections which a which is usually due to ascending flora of the vagina.

Objectives:

To describe the colonizing aerobic bacterial flora and their antibiotic susceptibility pattern in high vaginal swabs (HVS) in mothers admitted with PROM to Teaching Hospital Mahamodara and the effect of PROM on neonates

Method:

This is a cohort study conducted at Teaching Hospital Mahamodara from December 2016 to March 2017. The study group included 144 pregnant mothers with clinically confirmed PROM and randomly selected 148 mothers without PROM. HVS were collected from mothers with PROM. Processing of swabs, identification of aerobic bacteria and their antibiotic sensitivity testing were performed according to standard methods. All neonates born to both groups were followed up for one month to detect the development of neonatal sepsis. An interviewer administered questionnaire was used to collect data on selected sociodemographic factors and relevant obstetric data.

Results:

A positive culture result was found in 131 (90.97%) specimens. The predominant organism isolated was coagulase negative *Staphylococcus* spp (37.15%). Other organisms that were isolated in HVS were *Staphylococcus aureus* (2.75%), coliform (14.67%), streptococci (15.59%), *Enterococcus avium* (2.29%), *Pseudomonas* spp (2.75%), *Acinetobacter calcoaceticus* (4.12%) and *Candida* spp (10.09%). All bacteria demonstrated sensitivity to the current antibiotics used in PROM. There was a statistically significant difference in infection rates in neonates of PROM mothers (n= 24, 17.4%) compared to that of mothers without

PROM (n=5, 3.5%) (p=0.002). The relative risk of getting an infection in neonates of PROM mothers was 4.94 (95%CI= 1.93 - 12.57)

Conclusions:

Coagulase negative *Staphylococcus* spp is the predominant colonising flora (37.15%) while other important aerobic flora colonising the vagina of PROM mothers are coliform (14.67%), streptococci (15.59%), *Staphylococcus aureus* (2.75%), *Enterococcus avium* (2.29%), *Pseudomonas* spp (2.75%), *Acinetobacter calcoaceticus* (4.12%) and *Candida* spp (10.09%). There is a strong association observed between PROM and neonatal sepsis. If PROM can be prevented there is 79.7% possibility of preventing neonatal infections.

Keywords: Premature rupture of membranes, Neonatal sepsis

0398. Gamage, T.S.H
A study on postoperative infections among patients under going neurosurgical interventions at a Tertiary Care Hospital in Southern Sri Lanka.
MD Medical Microbiology – 2016   **D4230**

A descriptive study was carried out in the neurosurgical unit at Teaching Hospital Karapitiya, Galle, Sri Lanka from November 2013 to March 2014 with the general objective of studying postoperative infections among patients undergoing neurosurgical interventions.

Specific Objectives

1. 1.To determine the incidence of postoperative infections including device associated infections among patients undergoing neurosurgical interventions and are under the care of the neurosurgical team.

2. To assess the device utilization ratios for the following devices.

Urinary catheters (UC), Endotracheal tubes (ETT), Central venous catheters (CVC), External Ventricular drains (EVD), Ventriculoperitoneal shunts (VP).

3. To identify the causative organisms of the postoperative infections.

4. To identify the antibiotic sensitivity patterns of the causative organisms.

Materials and Methods

All the patients undergoing neurosurgical interventions in the neurosurgery unit at Teaching Hospital, Karapitiya and surviving at least 7 days after surgery were included in the study. They were followed up for 30 days postoperatively to detect hospital acquired infections (HAIs). Presence of postoperative infections was

determined according to standard definitions. Relevant specimens for microbiological cultures were collected accordingly when HAIs were identified. Collection, transport, processing of specimens, identification of organisms and antibiotic sensitivity tests were done according to standard operating procedures Total number of the study population was 170. Mean age was 49.01 years and 63.5% were males. Out of the total population 22.94% underwent craniotomy, 17.05% underwent laminectomy and 16.47% underwent VP shunt insertion. Twenty patients (11.8%) developed postoperative infections and total episodes of postoperative infections were 26 (15.3%).The *commonest postoperative infection was SSI with an incidence of 7.65% followed* by CAUTI (3.53%), VAP (1.76%), CRBSI (1.18%) and VP shunt infections (1.18%). Majority of SSls (11.54%) were seen following craniectomy and 92.3% of SSIs were superficial incisional SSIs. There were 4.9 episodes of CAUTI for 1000 urinary catheter days, 11.5 episodes of VAP for 1000 ventilator days, 28.9 episodes of CRBSI per 1000 CVC days and 2.39 episodes of VP shunt infections per 1000 VP shunt days. Device utilization ratio was highest with urinary catheters (0.38) and lowest with central venous catheters (0.022). *Pseudomonas* spp were the commonest pathogens isolated in SSIs (5 cases out of 11 or 45.46%) followed by *Acinetobacter* spp (3 cases out of 11 or 27.27%). One coliform strain was isolated and it was an ESBL producer. The *Acinetobacter* isolates were resistant to all the antibiotics tested. The *Staphylococcus aureus* strain isolated was a MSSA.

Of the six pathogens causing CAUTI two were *Pseudomonas* spp, one coliform spp and three *Candida* species. Coliform isolate was a non ESBL producer. One *Pseudomonas* spp isolate was resistant all the antibiotics tested including carbapenems. Of the four pathogens isolated in VAP, there were two coliforms, one *Pseudomonas* species and one *Acinetobacter* spp. Coliform isolates showed 100% sensitivity to carbapenems and amikacin and both were ESBL producers. *Acinetobacter* species was resistant to all tested antibiotics.

The Acinetobacter spp isolated in CRBSI was resistant to all tested antibiotics and the Coliform spp was only sensitive to Amikacin and it was resistant to carbapenems. Pseudomonas species isolated in VP shunt infections was sensitive to all tested antibiotics and the Coliform spp was only sensitive to Amikacin and it was resistant to carbapenems.

Conclusions

Surgical site infections were the commonest postoperative infections with >90% superficial incisional infections. UTI, VAP, CRBSI and VP shunt infections were also detected. Gram negative organisms were the predominant pathogens. Most of the postoperative infections were seen among those who under went craniectomies. Of them 26.92% acquired postoperative infections and those who acquired HAIs showed no significantly higher mortality rate. Gram negative organisms were the commonest pathogens causing SSIs. Majority of SSIs were superficial incisional SSIs in which wound cleaning alone may have played an important role in the management. If antibiotics were indicated carbapenems and amikacin were the most effective empirical treatment. Carbapenem resistant Gram negative bacteria causing SSIs (33.33%) and other infections reflect a significant problem which needs to be addressed.

0399. Gunasekera, G.C.S.
The aerobic bacteriological profile and antibiograms of deep- seated collections of pus at the National Hospital of Sri Lanka.
MD medical Microbiology – 2016   D4225

Introduction:

Deep-seated collections of pus occur in areas beneath skin which are usually not visible with features of inflammation. Most are caused by infections with aerobic or anaerobic bacteria, fungi or parasites, former been the majority. Mixed bacterial infections also play a role. The causative organisms vary and may reflect the body site. The infective etiologies are hardly looked into as a whole and local data are limited.

General objective:

To study the aerobic bacteriological profile of deep-seated collections of pus and the antibiotic susceptibility patterns at the National Hospital of Sri Lanka (NHSL).

Specific objectives:

To identify the causative aerobic bacterial agents, to describe their antibiotic susceptibility patterns, to identify the associated factors and to determine the outcome of patients.

Design, setting and method:

This descriptive cross-sectional study conducted at NHSL from 01.12.2014 to 31.03.2015 had all patients with deep-seated collections of pus undergoing drainage/aspiration, accounting to 185 samples. Following routine micro biological processing, further identification of isolates was done with RapID™ manual identification systems. Antibiotic susceptibilities were method and MIC where applicable. A data extraction sheet was used to assess the associated factors and outcome.

Results:

Aerobic bacterial growth was seen in 54.59% of samples. This resulted in 125 isolates. Poly-microbial growth was seen in 18.8% of the positives. The most frequent organism was *Escherichia coli* (14.4%). Most samples were cerebral. Most yield was from gastrointestinal and intra-peritoneal samples (95.65%) followed by renal and peri-nephric collections (83.33%). Fifty percent of *Staphylococcus aureus* were MRSA and 35.14% of relevant enterobacteriaceae were probable ESBL producers; acquisition was equally from community and hospital. Among all Gram negatives 6.9% and 2.3% were carbapenem- resistant and multidrug-resistant respectively; all were hospital-acquired. Diabetes mellitus and alcoholism were significantly associated with positive growth. One patient succumbed to the pathogen.

Conclusions:

In a 54.59% of aerobic bacterial growth, highest yield was from gastro-intestinal and peri-nephric collections. Most were enterobacteriaceae. MRSA, probable ESBL producing enterobacteriaceae and carbapenem and multidrug resistant Gram negatives were detected with notable hospital-acquisition.

0400.Guruparan, L.
Early and late onset neonatal sepsis at neonatal care units of a tertiary care maternity hospital in Colombo : bacteriological profile, antimicrobial susceptibility and associated factors.
MD Medical Microbiology – 2016   **D 4358**

Background:

Neonatal sepsis is a major concern even with advanced neonatal care, due to the rising population of very low birth weight and premature infants. Clinical presentation, risk factors and causative organisms of neonatal sepsis vary with age of onset and clinical setting. The aim of this study was to determine the occurrence, causative organisms, antimicrobial susceptibility and associations with risk factors of early and late onset neonatal sepsis in the local setting.

Methods:

A descriptive cross sectional study was carried out at neonatal care units of a tertiary care maternity hospital (De Zoysa hospital for women) in Colombo, from December 2014 to March 2015. The blood cultures taken from 197 neonates who were suspected to have early or late onset sepsis was analysed in the laboratory and relevant clinical data was collected from clinical records.

Results:

There were 94 babies with clinical presentations compatible with neonatal sepsis out of 197 and of them only 20 had positive blood cultures. Incidence of clinical cases compatible with neonatal sepsis was 36 per 1000 live births, while that of blood culture confirmed cases were 7 per 1000 live births. The organisms mainly isolated in early onset sepsis were coagulase negative Staphylococci (50%) followed by Group B Streptococci (37%) and *Staphylococcus aureus* (12.5%). In late onset sepsis coagulase negative Staphylococci (50%) and Gram negative bacilli (41.6%) dominated. According to the antimicrobial susceptibility testing about eighty percent of the *Staphylococcus* spp. were cefoxitin resistant. Among the Gram negative bacilli eighty percent were probable extended spectrum beta lactamase producers. Resistance to gentamicin among *Staphylococcus* spp. and Gram negative bacilli were 82% and 60% respectively. Significant association has been observed with prematurity, low birth weight, maternal chorioamnionitis, maternal intrapartum fever, maternal GBS colonization, prolonged duration of

labour, instrumental delivery, prolonged intubation and ventilation, and indwelling vascular catheters and neonatal sepsis.

Conclusion:

Antimicrobial resistance to current empirical antimicrobial agents has been observed among the microorganisms causing neonatal sepsis. Therefore, continuous screening and surveillance to identify changes in pathogens and antimicrobial resistance is essential to ensure adequate empirical therapy.

0401. Hapuarachchi, C.T.

Pattern of progression of respiratory colonizers in patients with primary antibody deficiency in an immunology clinic in Sri Lanka.
MD Medical Microbiology – 2014   **D 4360**

Introduction:

Although primary antibody deficiencies (PADs) are associated with recurrent respiratory infections leading to bronchiectasis and corpulmonale, longitudinal data on respiratory pathogens in this population is limited. In CF and other chronic respiratory diseases, an ordered progression of pathogens colonise the lungs. Our objective was to identify the bacterial respiratory colonizers in PAD patients and identify whether a similar progression of respiratory colonizers is seen in PADs.

Methodology:

A prospective study of 28 patients with PADs was performed. Patients did not have any current respiratory infections or exacerbations and were not on antibiotics. Sputum was collected from chronic sputum producers and an oral rinse from others. Specimens were repeated after 4.48 ($\pm$0.284) months. Specimens were processed using quantitative culture and the potentially pathogenic microorganisms isolated from each patient were identified as persistent or intermittent colonizers.

Results:

H. influenzae, S. pneumoniae and *M. catarrhalis* were isolated from 42.9%,

21.4% and 7.1% of patients on the initial assessment and 60.7%, 32.1% and 14.3% on the follow up review. *P. aeruginosa, Acinetobacter* spp., Group C and Group G *Streptococcus* spp. were isolated from a minority. Thirteen (46.4%) were persistently colonized with one or more pathogens and 35.7% were persistently colonized with *H. influenzae*. A trend towards reduction in

intermittent H. influenzae colonization with disease duration and increase in persistent H. influenzaeand S. pneumoniae was seen. Some patients with persistent H. influenzae colonization showed differing antibiotic susceptibility patterns in the follow-up isolate. Most H. influenzae and M. catarrhalisrwere sensitive to amoxycillin-clavulanate, cefiiroxime and cefotaxime. Trimethoprimsulfamethoxazole resistance was common. H. influenzae resistant to levofloxacin was recorded.

Conclusion:

Respiratory colonizers among patients with PADs are mainly *H. influenzae, M. catarrhaiis and S. pneumoniae.* Empirical antibiotic therapy with coamoxiclav or a 1st or 2nd generation cephalosporin may be adequate in patients with exacerbations who do not have baseline respiratory cultures. Antibiotic cover for Gram negative non-fermenters, such as *Pseudomonasspp,* may not be necessary in the absence of evidence of previously colonization or infection.

It is probable that initial *H. influenzae* colonization is intermittent, with subsequent persistence in the respiratory tract. Strain variation among patients persistently colonized with *H. influenzae,* is likely.

0402. Herath, H.M.N.C.
Comparison of qualitative and quantitative sputum culture methods.
MD Medical Microbiology – 2014   D 3783

Sputum cultures are one of the most difficult to interpret cultures in diagnostic microbiology. The routinely performed qualitative culture method is unable to differentiate colonizers and actual pathogens. Most of the time it is difficult to isolate the typical respiratory pathogens. Quantitative culture after homogenization and dilution of sputum has been tested and suggested as a solution to this problem by various studies. This study was conducted with the aim of comparing the routine qualitative culture with quantitative culture in a patient population of community acquired pneumonia (CAP) and patients who had acute exacerbations of chronic obstructive pulmonary disease (COPD) admitted to two tertiary care hospitals in Sri Lanka. Hundred and fifty five sputum samples (n=155) were collected prior to antibiotic treatment at the hospital. These samples belonging to Murray and Washington (MW) grades 3, 4 and 5 were processed by qualitative and quantitative methods. *S. pneumoniae*, coliforms and

pseudomonads were isolated as pathogens. The qualitative method isolated 19 coliforms (12%), 24 pseudomonads (15%) and 5 *S. pneumoniae* (3%) as pathogens. Pathogens could not be isolated in 69% of the samples. The homogenized undiluted method isolated 21 coliforms (14%), 24 pseudomonads (15%) and 5 *S. pneumoniae* (3%) as pathogens. A pathogen was not isolated in 68% of samples. Fourteen (9%) coliforms, 22 (14%) pseudomonads, 5 (3%) *S. pneumoniae* were isolated in the quantitative method as pathogens. Seventy-three percent of samples did not yield any pathogen.The homogenization and dilution did not improve the isolation of typical respiratory pathogens and there was no difference in the types of isolates between qualitative and quantitative methods in the population studied. There was a reduction of rates of consideration of an organism as a pathogen in the quantitative method when compared to qualitative method. This needs to be further tested correlating the clinical outcome with the culture result in larger populations of patients who are not on antibiotics to verify whether it results from not considering colonizers as pathogens in the quantitative method. The study did not yield sufficient evidence to conclude that one method is better than the other in pathogen isolation. This result is probably due to the small sample size.

0403.Jayaweera, J.A.A.S.
Association between respiratory syncytial virus subtypes and clinical severity of acute respiratory tract infections in hospitalized children in Teaching Hospital Kegalle Sri Lanka.
MD Medical Microbiology- 2018   **D 4685**

Acute respiratory tract infection (ARTI) represents the most common acute illness evaluated in childhood. Viruses account for most ARTIs. Respiratory syncytial virus (RSV) is the predominant pathogen in childhood ARTIs. There are two major RSV groups, RSV-A and RSV-B. Some studies have reported that RSV-A is associated with more severe ARTIs. Data related to Sri Lanka is scanty. This study was undertaken to describe the association between RSV subtypes with risk factors, clinical severity and seasonality of ARTI in inward children < 5 years of age. Nasopharyngeal aspirates (NPA) of hospitalized children with ARTI were collected from Teaching Hospital, Kegalle (THK) from March 2016 - August 2017. Following screening with indirect immunofluorescence assay

(IFA), RSV was detected using the direct immunofluorescence assay. RSV was sub typed using RealStar® RSV RT-PCR Kit 3.0 (Hamburg, Germany). Of the 443 from THK 165 (37.2%) were positive for viral screening by IFA. RSV was the commonly detected viral aetiology. RSV-B was predominant (62.3%) while less number of RSV- A (20%) was detected using the rtRT-PCR plat form. RSV-A and RSV-B co-infections were detected in 17.6%. RSV-B and RSV-A associated ARTIs were common among 1- < 12-month age category while in all age categories male predominance was detected. RSV-B was significantly associated with severe form of disease including severe bronchiolitis and pneumonia. Children with low birth weight (<1500 g), children having congenital cardiac diseases and children with mothers having low level of education (<Grade 8) has acquired RSV-B infections more than children without these risk factors. There was a clear seasonality with RSV-B associated ARTI. Peak incidence was detected over May- July and was in line with South-West monsoon.

Identifying the viral aetiology using viral diagnostics will reduce the empirical use of antibiotics. Identifying RSV sub type/s responsible for causing the severe form of ARTIs in children 1- < 5 years of age is important. Further, knowing the seasonality of RSV associated ARTI is important to implement early preventive measures including use of respiratory precautions and health education. In future, it will be helpful to implement seasonal RSV vaccination and monoclonal antibody prophylaxis for high risk groups.

0404. Kannangara, C.I.
Vancomycin resistant enterococcal (VRE) colonization among patients treated in Intensive Care Units at the National Hospital of Sri Lanka and genotype/s responsible for resistance.
MD Medical Microbiology – 2014   **D 4681**

Background: Vancomycin resistant enterococci (VRE) have become more prevalent as a cause of nosocomial infection in most parts of the world. Data are lacking about the current epidemiology of VRE in Sri Lanka. The aim of this study was to assess the epidemiology of VRE colonization among patients in the intensive care units (ICU) of the National Hospital of Sri Lanka (NHSL).

Methods: A cross sectional study was carried out in a total of 218 patients admitted to 12 intensive care units (ICU) and high dependency units (HDU) of

the National Hospital of Sri Lanka from January 2012 to March 2012. Data on demographic characteristics and risk factors were collected using a questionnaire and by reviewing patient medical records. Rectal swabs were collected on day 0, 4 and 8 and every 4th day thereafter till discharge. Enterococci were isolated from stool samples and identified up to species level using standard bacteriological procedures. Standardized antibiotic susceptibility testing to ampicillin and vancomycin was performed using the Clinical and Laboratory Standards Institute (CLSI) method. Minimum inhibitory concentrations to vancomycin were determined using the E-test in strains showing intermediate or frank resistance to vancomycin. Genotype determination of van A and van B was carried out on isolates identified as VRE using polymerase chain reaction (PCR).

Patients positive for VRE colonization were followed up to discharge or death.

Results: VRE prevalence in the study sample was 5% (95% confidence interval). Univariate analysis showed that the use of metronidazole (p=0.04) or teicoplanin (p=0.02) or the presence of diabetes (p=0.026) were associated with an increased risk of VRE colonization. However, age, sex, prolonged hospital stay (>3 days) prior to ICU admission or the use of other antibiotics including cephalosporins or vancomycin were not associated with increased risk (P>0.05).

Conclusion: The 5% prevalence of VRE colonization detected in this study signals the emergence of VRE in the intensive care setting in Sri Lanka. Rational use of antibiotics, such as metronidazole, may be necessary to prevent colonization. Further surveillance studies with larger sample size are necessary to determine the detailed epidemiology and outcome of VRE colonization.

0405.Karunasekara, H.C.I.
Identification and epidemiology of atypical mycobacterial species isolated in Sri Lanka.
MD Medical Microbiology – 2016   **D 4229**

Atypical mycobacteria can cause pulmonary disease similar to tuberculosis, lymphadenitis, skin and soft tissue disease, or disseminated disease. There is a geographical variation of species found in diseases.

Conventional biochemical and molecular techniques used in speciation of NTM are time consuming, need expertise to implement and it is not possible in every

center. Species level identification of more than 130 mycobacterial species is only attainable on the level of DNA sequences.

Methodology:

The study included the isolates of NTM from pulmonary and extra pulmonary specimens from all districts of the country from 1st January 2013 to 31st December 2013. One hundred and thirty four culture isolates of NTMs were identified to the species level with Line Probe Assay using Geno Type Mycobacterium CM assay and Geno Type Mycobacterium AS assay according to the manufacturer's instruction.

Results

Out of 134 culture isolates 132 gave interpretable results and they were analyzed to determine the geographical distribution as well as disease entities, previous lung disease, age and sex. Identified species in order of frequency are *M. fortuitum* (n = 40), *M. intracellulare* (n-- 30), *M. abscessus* (n = 27), *M. simiae* (n=l 1), *M. gordonea* (n= 6), *M. avium* (n=2), *M. kansasii* (n=3), *M. scrofulaceum* (n=3) and *M. lentiflavum* (n = 1).

Conclusion

NTMs isolated from pulmonary and extra pulmonary specimens in all parts of Sri Lanka by Geno Type Mycobacterium CM assay and AS assay which are very user friendly. Impact of NTM disease on human health is worthy of further attention.

0406.Kudagammana, H.D.W.S.
Identification of coronaviruses and fungi in bat guano in Peradeniya, Sri Lanka.
MD Medical Microbiology – 2014 **D4587**

This study is a descriptive cross sectional study to identify fungi and viruses in bat guano found in the Botanical Gardens, Peradeniya, Sri Lanka.

Objectives

The objectives of this study were to isolate and identify some viruses and fungi from bat guano samples found in Botanical Gardens Peradeniya.

Methodology

January to March 2013 and January 2014 sampling for fungal isolations.

April to June 2014 for coronavirus detection. Sampling method and sample processing for mycology. About lg of fresh bat guano was collected into sterile containers from sites where bats roost after laying clean polythene sheets under the trees. For fungal isolation, samples were suspended in normal saline with antibiotic (Penicillin and Gentamicin) solution and homogenized samples were inoculated onto Sabouraud Dextrose Agar plates with chloramphenicol and Bird Seed agar and incubated at 27°C and at 37°C until colonies could be seen.

Fungal isolation and characterization. Isolation of *Cryptococcus neoformans* was based on standard colony morphology on Sabouraud Dextrose agar (SDA) and Bird Seed agar, microscopic appearance, enzymatic (urease) activity, and sugar (inositol, dulsitol and lactose) assimilation. *Histoplasma capsulatum* culture identification was based on colony morphology on SDA, microscopic appearance and conversion of the mould form to yeast phase at 37°C on Brain Heart Infusion agar. Virus detection For viral detection, samples were collected into viral transport media to be tested for the presence of corona viruses using polymerase chain reaction techniques. Extraction of RNA was done from these samples by using the QUIAGEN kit and cDNA was made from the extracts by RT PCR and then a nested PCR was done for corona virus detection with positive and negative controls.

Results

Eight of 50 bat guano samples were positive for corona virus. C. *neoformans* and *H. capsulatum* were not isolated from any of the samples.

Conclusions

Sri Lankan flying foxes *(Pteropus giganteus)* are a possible source of zoonotic coronavirusThe bats which roost on tree-tops in the National Botanical Gardens did not excrete *Histoplasma* or *Cryptococcus* species in their guano during the study period.

0407.Mendis, K.H.C.
Comparison of clinical criteria and laboratory criteria used for the diagnosis of bacterial vaginosis.
MD Medical Microbiology – 2012   **D 3785**

Bacterial vaginosis is a common cause of vaginal discharge affecting millions of women annually. It is caused by an imbalance of naturally occurring bacterial

flora resulting loss of vaginal lactobacilli and concomitant overgrowth of mixed bacterial flora consisting of *Gardnerella vaginalis, Mobiluncus* spp., *Mycoplasma hominis* and anaerobes such as *Bacteroides* spp. Bacterial vaginosis is associated with adverse gynecological and pregnancy outcomes. It is a sexually associated condition and associated with an increased risk of acquisition of HIV. In Sri Lanka no studies have been carried out to assess the validity of the methods used to diagnose BV at present. Therefore this study was carried out to determine the prevalence of BV and to compare clinical criteria with laboratory criteria used in diagnosis of bacterial vaginosis.

300 patients who presented with vaginal discharge to the STD clinic, Gynecology clinics & wards at NCTH - Ragama & STD clinic - Colombo between 1st January 2011 to 30th April 2011 were included in the study. All patients were examined for the detection of BV by Amsei's clinical criteria and Nugent's Gram stain criteria. Amsel's criteria and Nugent's Gram stain criteria are two well described diagnosis methods for BV. Nugent's criteria is considered the gold standard (Money, 2005; Udayalakxmi *et al,* 2011; Sha *et al,* 2005; Mittal *et al,* 2012; Campos *et al,* 2012). It was a well-reproduced standardized Gram stain scoring method. Amsel's criteria consists of four components such as homogenous vaginal discharge, presence of clue cells on wet mount, pH more than 4.5 & whiff test. At least three out of four criteria should be fulfilled to diagnose BV. Four High vaginal swabs were collected from lateral vaginal wall and posterior fornix during the speculum examination during the routine procedure in the clinics. The appearance of the vaginal discharge was observed during the speculum examination. The swabs were processed and assessed according to the above two criteria.

The prevalence of BV among women who presented with vaginal discharge to the STD clinic, Gynecology clinics & wards at NCTH - Ragama & STD clinic - Colombo from 1st of January to 30th April 2011 was 25.3% by the Nugent's method. Among the women with vaginal discharge BV was diagnosed mote in STD group (33.8%) compared to the non STD) group (16.4%). Diagnosis of bacterial vaginosis by performing Amsel' s method exhibit a low sensitivity (55.3%) & high proportion of false positives (positive predictive value- 59.2%). Therefore, the Amsel's method is not a satisfactory method to be used as a diagnostic test for BV. At present BV is diagnosed clinically or by using some of

the Amsel's criteria. As we have found that Amsel's criteria cannot diagnose BV satisfactorily, we have to establish diagnosis of BV by Nugent's method.

0408. Premaratne, K.K.M.K.
Prevalence of nasal colonization by five potential bacterial pathogens and associated factors in children less than 5 years in the Biyagama MOH area of the Gampaha district.
MD Medical Microbiology – 2015   **D4403**

Background: The peak incidence of respiratory, skin and soft tissue infection occurs in children in the first five years of life, with the common bacterial pathogens being *Haemophilus influenzae, Streptococcus pneumoniae, Moraxella catarrhalis, Staphylococcus aureus and Streptococcus pyogenes.* The aim of this study was to determine the prevalence of nasal colonisation with the above five potential pathogens in healthy children and to describe factors associated with colonisation and bacterial antibiotic sensitivity patterns.

Methods: A cross sectional descriptive study was carried out at the immunization clinics of the Biyagama MoH area between December 2013 and March 2014 among healthy children less than 5 years of age. Demographic data were collected using a pre-tested interviewer administered questionnaire and nasal swabs were collected and transport in Amies transport medium with charcoal and cultured on 5% sheep blood, chocolate agar and mannitol salt agar. Antibiotic sensitivity tests were performed by disk diffusion for *S. pneumoniae, S. aureus and S. pyogenes* according to the performance standards guidelines of the Clinical and Laboratory Standards Institute and using Stoke's method for *H. influenzae* and *M. catarrhalis.*

Results: Of 391 children tested, 207 were positive for carriage of at least one of the potential pathogens. The prevalence of *S. pneumoniae, M. catarrhalis, S. pyogenes, H. influenzae* and *S. aureus* carriage were 26.8%, 25%, and 0.3%, 7.6% and 15.3% respectively. Factors associated with colonisation with potential pathogens were age of the child *(p=0.025)*, recent antibiotic usage *(p=0.004)*, having more than one sibling, having an older sibling (£>=0.000) and mother's education level (£>=0.032).

Conclusion: Relatively high rates of colonisation with S. *pneumoniae, S. aureus,* and *M.catarrhalis* but not *H.influenzae* or *S.pyogenes* were found in children less than 5 years.

0409.Priyaranganie, W.K.A.P.
Risk factors and outcome of infections caused by Acinetobacter spp. among critically ill patients in a Tertiary Care Hospital in Sri Lanka.
MD Microbiology – 2017   **D 4589**

Risk factors and outcome of infections caused by *Acinetobacter* among critically ill patients in a tertiary care hospital in Sri Lanka

Introduction

Acinetobacter are ubiquitous and often multi-drug resistant pathogens causing severe hospital acquired infections in intensive care units (ICU).

Objective

To study the significance of associated risk factors and the outcome of *Acinetobacter* infections

Methods

A prospective descriptive study was done including all patients who were staying for more than 48 hours in 3 ICUSs in a tertiary care hospital over a period of 4 months.

Screening cultures of urine, respiratory, and skin swabs were performed at the time of admission and repeated every 4th day and with new signs of infection.

Results

From 113 patients 78 (69%) were males. Age ranged from 2 months to 83 years with mean age of 67 years. 28% ICU admissions were due to sepsis.

The incidence of colonization and infection with *Acinetobacter* were 35 and 24 cases per 1000 patient days respectively. The incidence of, ventilator associated pneumonia, central venous line (CVL) related bacteraemia, and shunt infection with *Acinetobacter* were 24, 10, and 11 per 1000 device days respectively. Colonization rates varied among respiratory (40%), skin (18%), CVL tips (4%), drains (2%), and urine (2%) specimens.

Endotracheal tube and CVL in situ for more than 12 days had 5 and 4 times the risk of developing *Acinetobacter* infections respectively. The presence of haemodialysis line had 3 times the risk. The presence of 3 or more such invasive devices in situ had 9 times the risk. ICU stay more than 12 days had 6 times the risk (p=0.000). Colonization index >0.33 carried 4 times risk (p=0.000,

RR=4.053, 95%C.I. =1.949-8.431). Neurological illness, cardiopulmonary resuscitation, and use of inotropes were other risk factors.

The mortality rate (OR=3.43, 95% C.I= 1.188-6.797) and prolonged hospital stay (OR=I5.109, 95% C.I. =5.658-40.350) of *Acinatobacter* infected patients were higher than that of non-infected patients.

Conclusions

Intubation and CVL in-situ more than 12 days, more than 3 invasive devices in situ, and colonization index >0.33 were the most significant risk factors for the development of *Acinetobacter* infections. Patients with *Acinetobacter* infections had higher rates of mortality and hospital stay than non-infected patients.

0410.Samaranayake, W.A.M.P.
Comparison of community acquired MRSA and hospital acquired MRSA isolates in National Hospital of Sri Lanka.
MD Medical Microbiology – 2015   **D 4226**

MRSA has long been recognized as a common pathogen in the health care facilities. In the past decade, it emerged as a problematic pathogen in the community.

Objective: To compare the epidemiological and microbiological factors in community acquired MRSA and hospital acquired MRSA isolates from National Hospital of Sri Lanka

Design and method: Descriptive cross sectional study of consecutive, non repetitive 100 MRSA isolates from clinical and screening samples from 18th November 2013 to 31st March 2014 performed to assess the demographics, antimicrobial susceptibility and PVL gene of CA- and HA-MRSA isolates. MRSA were confirmed by standard laboratory methods.CA MRSA and HA MRSA were categorized according to epidemiological information. Antimicrobial susceptibility testing was performed by CLSI standards including E test for glycopeptide MIC and double disk test for mupirocin susceptibility. The presence of PVL gene was determined by conventional PCR.

Results: From 100 isolates 21(21%) were CA MRSA and 79 (79%) were HA MRSA isolates. Age (<45 years), sex and ethnicity (Sinhalese/non Sinhalese) had no significant association between the groups. Ninety two samples were clinical samples and 8 were screening samples. Majority of these were pus samples.

Blood and respiratory samples had only HA MRSA. All MRSA isolates were resistant to penicillin and all isolates were susceptible to rifampicin and linezolid. CA MRSA isolates were susceptible to ciprofloxacin ($p<0.001$), fusidic-acid ($p<0.001$), tetracycline ($p<0.001$), trimethoprim-sulfamethoxazole ($p<0.001$) and gentamicin ($p<0.001$). Inducible and constitutive clindamycin resistance ($p<0.001$) and multidrug resistant phenotype ($p<0.001$) was significant among HA MRSA group. XDR and PDR isolates were not found. All isolates were within the sensitive range of glycopeptides susceptibility. In all isolates for vancomycin, MIC50 was 1ug/ml , MIC90 was 1.5pg/ml and ranged within 0.5pg/ml to 2pg/ml. There were no differences of those values between the two groups indicating a drift towards vancomycin resistance. For all isolates teicoplanin MIC50 was 0.5pg/ml and MIC90 was 1.5 ug/ml and ranged within 0.25pg/ml to 3pg/ml. Those values among CA MRSA group were less than that of HA MRSA group. Four percent had high-level mupirocin resistance and 2% had low-level resistance while 94% were susceptible to mupirocin. All mupirocin resistant isolates were from HA MRSA group ($p<0.338$). Proportion of PVL gene among CA MRSA group was 95.23% (P0.00l).

Conclusion: CA MRSA and HA MRSA strains differ according to the demographic, clinical, microbiological and genetic factors. Clinician should be aware that therapy with antibiotics should be based on the type of MRSA strains causing the infection and infection control practices should be focused according to the type of strain.

0411.Sooriyar, U.V.
Usefulness of cattle blood as an enrichment substance in blood supplemented culture media, in the clinical microbiology laboratory.
MD Medical Microbiology – 2015   D4227

Background

Sheep blood is considered as one of the best enrichment agents used in preparation of blood supplemented media. In Sri Lanka we use expired banked human blood for preparation of culture media as sheep and horse blood is not freely available. But this has poor haemolysis pattern, possible poor growth due to inhibitors and possible risk of blood born infections. In Sri Lanka the population of cattle is 44 times higher than that of sheep population.

A study done in 2011 in Sri Lanka to compare cattle, human, sheep and rabbit blood using quality control strains showed that haemolysis pattern of cattle blood was almost similar to that of sheep and rabbit blood.

The current study was carried out to determine the ability of cattle blood as an enrichment substance in blood supplemented media in microbiology.

Method

675 clinical samples were processed during the study period on cattle, human and sheep blood containing medium. Isolation rates, colony appearance, pattern of haemolysis, relevant identification tests and antimicrobial susceptibility were compared qualitatively with the pattern on sheep blood.

0412.Thennegedara, A.L.
Effectiveness of MRSA decolonization among pre-operative patients at cardiothoracic unit of Teaching Hospital Kandy.
MD Microbiology – 2016   D 4359

Background: Methicillin resistant *Staphylococcus aureus* (MRSA) is an important pathogen causing surgical site infections (SSI) following cardiothoracic surgeries. The distant site colonisation with MRSA have been identified as a key risk factor for SSls. Preoperative decolonisation shown to be an effective measure in preventing SSIs.

Objective: This study aimed to ascertain the effectiveness of decolonisation regimen practiced at cardiothoracic unit, Teaching Hospital Kandy. In additions, it compared existing non molecular, culture based methods to detect MRSA carriers.

Methods: The study carried out over 4 months from November 2013 to March 2014 and 250 pre-operative patients were screened for MRSA colonisation. Of the 250 patients, 153 were males and were 97 females. Each patient was screened with duplicates of nasal, axillary, groin & throat swabs. For isolation of MRSA, one set of swabs was sub cultured on Mannitol Salt Agar (MSA) after enrichment in 7% NaCI.

The second set was directly *plated on chromogenic agar (HiCrome™ MeReSa agar). The MRSA carriers were decolonized with 4% chlorhexidine baths & nasal application of 2% mupirocin for five consecutive days. They were rescreened after 2-5 days to assess the success of decolonisation.*

Results: MRSA colonisation rate of pre-operative patients were 17.2% and 38.8% in MSA and chromogenic agar methods respectively. The majority of colonized patients were detected by combination of groin and nasal samples. In comparison to MAS method, chrome agar has sensitivity of 72%, specificity of 68% and negative predictive value (NPV) of 92%. Decolonisation regimen demonstrated 92% reduction rate of carrier state from both MSA & chrome agar methods.

Conclusion: Nasal application of 2% mupirocin and 4% chlorhexidine body washes for 5 days is a successful decolonisation method during immediate preoperative period. Chromogenic agar is an appropriate method for detection of MRSA carriers, with good sensitivity, NPV and rapid turnaround time.

Keywords : MRSA, SSI, Decolonisation, Chromogenic agar.

0413. Thushari, H.L.
Assessment of the incidence of clostridium difficile infection among pediatric diarrheal patients in a Tertiary Care in Hospital Sri Lanka.
MD Medical Microbiology – 2018   D 4684

Title: Incidence of *Clostridium difficile* infection among paediatric diarrheal patients in Lady Ridgeway Hospital (LRH) Colombo.

Background: Recent studies have revealed that the incidence of *Clostridium difficile* infection is increasing in children including those without traditional risk factors, and it is emerging as an important enteric pathogen in children worldwide. Proportion of 3.6% of *Clostridium difficile* associated diarrhoea (CDAD) was found in adult population in Sri Lanka. No studies have been done in the paediatric population in Sri Lanka and limited studies in other Asian countries. Knowledge on incidence, associated risk factors, identifying optimal therapeutic options and preventive strategies of CDAD is becoming important in Sri Lanka.

Objectives: To determine the incidence, describe socio-demographic profile and associated risk factors of *Clostridium difficile* infection among paediatric diarrheal patients in Lady Ridgeway hospital (LRH) Colombo.

Methodology: A descriptive cross-sectional study was carried out for four months from 1st December 2016 to 30th March 2017 at Lady Ridgeway Hospital (LRH) Colombo among 200 paediatric patients above one year with diarrhoea. Detection

of *Clostridium difficile in faeces* was performed using a Glutamate Dehydrogenase Enzyme Linked Immunosorbent assay, and stool culture and positive stools were tested for toxin A and B using the Immunochromatography assay. Patient sociodemographic and clinical data were collected using an interviewer administered questionnaire. Data were analysed using SPSS (version 22) software.

Results: Eleven out of two hundred specimen were positive for the toxin A, B, A and B. Incidence of C. *difficile* associated diarrhoea was 18.7/1000 diarrheal cases at LRH while, incidence of community acquired CDAD was 3.4 /1000.There was a significant relationship between with hospitalization (p= 0.00) and antibiotic treatment within three months (p=0.03) and CDAD**.**

Conclusion: I his study shows that the *Clostridium difficile* associated diarrhoea is seen in the paediatric population of Sri Lanka. Community acquired *Clostridium difficile* associated diarrhoea among paediatric population is also seen in Sri Lanka even though the incidence is low compared to Asian and Western countries.

0414.Vathshalan, S.
Bacteriological profile of pre-operative and intra-operative urine samples of patients undergoing open surgical interventions for urinary calculi.
MD Medical Microbiology- 2016   D 4588

Urosepsis is an important post-operative complication following open surgical interventions for urinary calculi. The patients are given antibiotics preoperatively according to their pre-operative midstream urine culture results or empirically to prevent this complication. Despite of prophylactic antibiotics, urosepsis occurs in some of these patients. The actual pathogens which are responsible for this complication are the urinary microorganisms which are found at the site of the surgery as the injured urinary tract is exposed to them. Therefore, there is a need to review the current practice of culturing pre-operative midstream urine samples for guiding antibiotic therapy to prevent postoperative urosepsis. There are no studies published in Sri Lanka on this aspect of urosepsis following surgery for removing urinary calculi.

The objectives of this study were to compare the bacteriological profile of preoperative midstream urine cultures and intra-operative renal pelvic urine

cultures of patients undergoing open surgical interventions to remove urinary calculi and to compare the bacterial profile of the organisms isolated from post-operative urine cultures if they develop urosepsis.

There is a significant discordance observed between pre-operative urine culture isolates and intra-operative urine culture isolates and their ABST profile. In this study we found that most of the organisms (38.46% of 13 isolates), isolated from pre-operative urine cultures were coliforms and most of the organisms (44.44% of 9 isolates), isolated from intra-operative urine cultures were *E.coli.*

We could not compare the bacterial profile of post-operative urine cultures of patients who develop urosepsis as none of the patients developed Urosepsis, but, we found that most of the times the intra-operative isolates were susceptible to peri-operative antibiotics and the pre-operative isolates were not susceptible to those antibiotics. These results suggest that intra-operative renal pelvic urine cultures are more useful to prevent post operative urosepsis than pre-operative urine cultures.

Therefore, intra-operative urine cultures should be collected from all the patients during surgery as they will be useful than pre-operative urine cultures to guide antibiotic therapy to prevent urosepsis. Empirical prophylactic antibiotic therapy should be guided by larger studies to find out the organisms and their antibiotic susceptibility of intra-operative urine cultures.

0415.Wickramasuriya, U.A.G.H.
Comparison of real time PCR with the culture method for detecting salmonella spp in raw chicken at the Medical Research Institute (MRI) Colombo.
MD Medical Microbiology – 2016   D 4683

Comparison of real time PCR with the Culture method for detecting *Salmonella* spp in raw chicken at the Medical Research Institute (MRI) Colombo

Introduction:

Non Typhoidal Salmonella leads to gastroenteritis, bacteremia, endovascular infections, deep bone or visceral infections and has lead to significant morbidity and mortality. Chicken provides the main route of transmission of infection. Culture is labour intensive and time consuming when comparing with real time PCR (rt- PCR). Rapid results are helpful in outbreaks and to reduce storage time

of perishable food. A validated rt- PCR kit was used in this study that can detect down to 10 copies of Salmonella DNA in a reaction.

Objectives:

General objective

Comparison of rt- PCR with the Culture method for detecting *Salmonella* spp in raw chicken

Specific objectives

1. Comparing *the sensitivity, specificity, cost* and rapidity of rt- PCR with *the* culture method in artificially contaminated samples
2. To find out the isolation rate of *Salmonella* in raw chicken samples
3. To determine the serotypes isolated from the chicken samples **Method:**

For the comparison study all the artificially contaminated known positive and negative samples that included 35 samples of *Salmonella,* 12 samples of *Shigella,* 12 samples of *Escherichia coli* and 11 samples of Buffered peptone water were processed by culture as well as by rt- PCR. To detect isolation rate, 130 random samples of chicken were collected from 10 wet markets and six supermarkets in selected MOH areas. All these samples were also processed by culture as well as by rt- PCR.

Results:

The sensitivity and specificity of rt- PCR in the comparison study was 100%. The cost analysis showed an equal amount for both culture and rt- PCR for an individual test. The time taken to identify *Salmonella* was reduced by 4 days when PCR was performed instead of culture. The random sample positivity rate by culture was 26% and by realtime PCR was 35%. There was a higher rate of *Salmonella* in wet markets than in Supermarkets. Out of all the samples collected from wet markets *Salmonella* was isolated in 39% by culture and 49% by rt- PCR. Out of the samples collected from Supermarkets 0% was isolated by culture and 7% by rt- PCR. The serotypes isolated were *Salmonella* Agona (16/34), *Salmonella* Corvalis (10/34), *Salmonella* Kentucky (4/34) and *Salmonella* Newport (4/34).

Conclusion:

The rapidity and reduction in labor makes this highly sensitive and specific rt-PCR assay an excellent alternative to Culture in maintaining food safety. Getting

negative results in a shorter period of time is also extremely helpful for industry and business operators.

Medical Parasitology

0416. Mallawarachchi, C.H.
A study to investigate the presence of zoonotic Brugin malayi in humans, cats, and dogs in selected areas of Gampaha district of Sri Lanka.
MD Medical Parasitology – 2018   **D 4687**

Introduction: Brugian filariasis has re-emerged in Sri Lanka, after a quiescent period of four decades. Little information is available regarding the re-emerged *Brugia* parasite. Cats and dogs are known reservoirs of the sub-periodic strain of *B. malayi* in the Southeast Asia.

Objectives: To study the epidemiology of brugian filariasis in the district of Gampaha, identify age-specific vulnerability to infection, characterize the periodicity of the microfilariae and identify potential zoonotic reservoir/s for ongoing infection.

Methodology: A community-based cross-sectional survey was done in selected areas of the Gampaha district for microfilaria of *Brugia* spp. and anti-Brugia antibodies using night blood smears (NBS) and Brugia rapid test (BRT) respectively. *Brugia* spp. cases detected by Anti Filariasis Campaign by NBS were screened for antibodies by BRT. Microfilaria counts were periodically assessed over 24 hours by nuclepore membrane filtration. Cats and dogs within the residential areas of human *Brugia* cases were surveyed for microfilariae. *Brugia* positive samples (human Mid animal) were analysed by PCR and DNA sequencing.

Results: The microfilaria and Brugia antibody rates were 0.25% (2/994) and 0.9% (9/991) respectively. The sensitivity of the BRT for detecting microfilaraemics was 25%. The Brugia spp. microfilariae exhibited nocturnal subperiodicity. There was noage specific vulnerability to infection. Overall canine and feline prevalence of *Brugia* spp. infections were 51.6% (129/250) and 30.6% (41/134) respectively. Of the selected *Brugia* positive samples (114; 8 human, 74 canine and 32 feline) 75.44% produced a band at approximately 650bp by PCR. Nucleotide sequence analysis of human, canine and feline parasite,

internal transcribed spacer-2 (ITS-2) revealed higher DNA sequence, homology with *B. pahangi* than *B. malayi*. But phylogenetically the sequences were closer to *B. malayi* than *B. pahangi*.

Conclusion: The emergent *Brugia* spp. was genetically closer to *B. pahangi* with a phylogenetic origin closer to *B. malayi* indicating the possibility of a *B.phangi/B.malayi* hybrid strain. The high prevalence of zoonotic *Brugia* infections among cats and dogs implicates common pets as reservoir hosts for the hybrid strain of *Brugia* spp.

Medical Virology

0417.Mahanama, A.I.K.
Epstein-Barr viral load and presence of associated factors for post-Transplant lymphoproliferative disorder among renal transplant recipients in National Hospital of Sri Lanka (NHSL) and National Institute of Nephrology Dialysis and Transplant (NINDT)
MD Medical Virology – 2018   **D 4680**

Introduction

Epstein-Barr virus (EBV) infection leads to EBV disease/Post Transplant Lymphoproliferative Disorder (PTLD) in post-renal transplant patients. Early detection with pre-emptive measures can prevent/halt disease progression. Guidelines recommend post-transplant screening in high risk recipients {(recipient seronegative(R-)/donor seropositive(D+)} within first post-transplant year. The magnitude of EBV infection/disease in post-renal transplant population in Sri Lanka is unknown. The study aimed to describe EBV viraemia and selected associated factors for PTLD among first year renal transplant recipients presenting to renal clinics at NHSL and NINDT.

Methods

A descriptive cross sectional study was conducted using plasma of 118 adult first year posttransplant patients recruited over four months. EBV vireamia was tested for using a commercially validated quantitative real time PCR assay; sciodemographic and data on selected associated factors were collected using an interviewer administered questionnaire and clinical records.

Results

Median age was 44.97years (IQR-12.48). Most were more than 6 months after transplantation (54.3%); had received a live related kidney (90.8%). EBV vireamia was not detected in any of the participants. Analysis of selected associated factors for PTLD revealed that pre-transplant EBV serology records were available only in 31.36% of recipients, out of which 52.64% were seronegative. Twenty percent were D+/R- and 26.6% were D-/R-. Only 11.86% were more than 60 years of age and all were on triple therapy with Tacrolimus mean dose of 4.74mg (SD-1.34), MMF 1493.64mg (SD-285.8) and prednisolone 13.83mg (SD-8.3). None had received ATG. Out of 81/118 who had available HLA reports 79.01% had at least one B locus mismatch. Recipient high risk HLA types like Al, A11, B35, B5 and DR7 were present.

Conclusion

Active EBV infection was not detected among the participants at the time of testing. All associated factors for PTLD evaluated in the study were present among the recruits. Use of only one sample per patient, selection of plasma as the type of specimen, lesser number of recruits in early transplant period may have had an effect on the results of the study.

0418.Samaraweera, B.
Detection and genotyping of human papillomavirus in patients with oral and oropharyngeal carcinomas at Cancer Institute, Maharagama.
MD Medical Virology – 2018   **D 4679**

Introduction

Human Papillomavirus (HPV) causes oral and oropharyngeal carcinomas (OC and OPC) worldwide predominantly by type 16. This group has distinct profile of clinical presentation, diagnosis, management, prevention with good prognosis compared to HPV unassociated cancers. In spite of rising incidence of HPV associated OC and OPC globally, data on HPV in OC and OPC is very limited in Sri Lanka. This study aims to detect and genotype the HPV in OC and OPC patients and to describe associated factors of HPV infection in OC and OPC patients at National Cancer Institute, Maharagama.

Methods

This comparative cross sectional study was carried out for four months from 15th of December 2015 to 15th of April 2016. Swabs from lesions were collected from 127 of OC and OPC patients from Cancer Institute. Swabs were collected from 127 of age and sex matched non-cancer patients from Out Patient Department, National Hospital. HPV was detected and genotyped using commercially validated genotyping real time polymerase chain reaction kit including 12 high risk HPV genotypes. Interviewer based questionnaire and clinic records were used to collect sociodemographic and other data from both groups. Statistical analysis was performed using SPSS with descriptive statistics and multivariate logistic regression models.

Results

Males were predominant (95.3%) and the highest proportion (44.1%) was of age 51-60 years in both cancer and non-cancer groups. Fifteen percent (19/127) of OC and OPC group was infected with HPV types 16, 39, 52, 58, 59 with predominance of type 16. Of non-cancer group, 3.1% (4/127) was infected with HPV 52 and 59 without detection of type 16 or 18. Low education level, poor dental hygiene, smoking, betel chewing, large tumour size, presence of lymph nodes, primary tumour without recurrence and OPC type showed significant association (p value<0.05) with HPV in cancer group.

Conclusion

Human papillomavirus was detected in 15% of OC and OPC patients with predominant type of 16 and 3.1% in non-cancer group without type 16. Human papillomavirus positivity was significantly associated with OC and OPC patients. Multiple socio demographic, behavioral and tumor factors were associated with HPV infection in OC and OPC group.

0419.Sumathipala, T.K.G.S.
Seroprevalence of anti-mumps immuonoglobuling antibodies of neonates at birth in two selected hospitals in Colombo district- A pilot study.
MD Medical Virology – 2014   D 3789

Mumps is an acute viral infection which occurs commonly in childhood. Mumps often causes parotitis and sometimes with involvement of other organs such as central nervous system, pancreas and genital organs. The virus spreads via

respiratory droplets or by fomites and cause disease. Epidemics occur globally in susceptible populations such as school children who are immunologically naive. There is no specific therapy for mumps but it is a vaccine preventable disease. Mumps vaccine was introduced into the extended programme of immunization of Sri Lanka (EPI) in 2011 as a component of the MMR vaccine. Despite mumps being a notifiable disease in Sri Lanka, there is no base-line data available on mumps seroprevalence in Sri Lanka, except for the data from the national surveillance programme which reflects clinical mumps cases presenting to government hospitals. This study was done as a pilot study to find out the seroprevalence of anti-mumps IgG antibodies at birth in newborns of mothers who are admitted to the two maternity hospitals in Colombo.

409 mothers admitted to the De Soyza Maternity Hospital and Castle Street Hospital for Women for elective delivery were recruited to the study. Cord blood samples from the placental side of the umbilical cord were collected soon after the delivery and separation of the neonate. A quantitative ELISA technique was used to analyze and quantify anti-mumps IgG antibodies in the samples.

Out of 409 neonates, 332 (81.2%) were seropositive for mumps antibodies, with a geometric mean titre [GMT] of 80.89 RU/ml. In this population sample, 99% reflects the seroprevalence of a high population density in Sri Lanka.

Mumps seroprevalence in this population sample was 81.2% and is less than the threshold of herd immunity for mumps vims infection. This justifies introduction of the mumps vaccine as a component of the MMR vaccine in the EPI schedule.

Molecular Medicine

0420.Kannangara, D.K.S.
Development of a quantitative PCR assay to evaluate HER2 status of gastric carcinoma in a cohort of Sri Lankan patients.
MSc. Molecular Medicine – 2016   **D 4672**

Introduction

Gastric cancer is the third most common cause of cancer related deaths in the world and is the fifth most common cancer worldwide.

Though it is not a leading cancer type, a rise in the Gastric cancer incidence is present in Sri Lanka. However in the absence of screening tests, a late

presentation with advanced disease associated with poor prognosis prevails. Most stomach cancers are Gastric carcinomas. The overall prognosis of advanced Gastric carcinomas is poor with a 5-year survival rate of 20%. Human epidermal growth factor receptor 2 (HER2 or Her2/neu) over expression and/or HER2 gene amplification was found to be present in 10-20% of Gastric carcinomas. This molecular aberrancy is linked to the dismal outcome of the disease. Immunohistochemistry (IHC) and fluorescence in situ hybridization (FISH) are the key tests to identify patients who may benefit from targeted therapy with trastuzumab for Her2 over expression. The identified draw backs of both methods require exploration of novel tests to detect HER2 status of Gastric carcinoma.

Objectives

The aim of the study was to determine whether quantitative real time Polymerase Chain Reaction (qPCR) could serve as a supplementary method to evaluate HER2 status of Gastric carcinoma in a cohort of Sri Lankan patients and investigate the correlation between the HER2 status assessed by different methods and the demographic, clinicopathological features of HER2 positive Gastric carcinoma.

Method

A cohort of 20 Sri Lankan primary Gastric carcinoma patients in whom c and HER2 status by IHC were already available was used from a repository at Pathology, Faculty of Medicine, University of Colombo.

Quantitative real-time PCR was performed for the target gene HER2 and a reference gene App (Ameloid precursor protein) in Formalin fixed paraffin embedded (FF tissue samples from the 20 patients. The threshold values (Ct) of both genes were analyzed using Pfaffl method in relative quantification to detect HER2 gene amplification.

Results

The positive expression of HER2 detected by IHC and q PCR were 20% and sensitivity and specificity of q PCR was 67% and 76% respectively, relative were reproducible. Positive expression of HER2 protein was significantly correlated with the TNM stage and Lauren's tissue type (P<0.05). Positive expression of HER2 gene was significantly correlated with depth of invasion, Lymph node involvement and degree of differentiation (P<0.05). No significant correlation was identified between positive expression of HER2 protein/gene and tumor location, age and gender (P>0.05). The diagnostic consistency between the two

methods, IHC and q PCR (k=0.146) was slightly agreeable (0.01<k<0.20) having a 65% concordance.

0421.Liyanage, H.J.D.
G6PD gene variants in chronic kidney disease of unknown origin: A hospital based study.
MSc. Molecular Medicine – 2016   **D4671**

Introduction - Chronic Kidney Disease of Unknown Etiology (CKDu) is a growing health problem in Sri Lanka as well as some parts of the world. It first appeared during early 1990s in North Central Province (NCP) among agricultural workers and since then, number of CKDu patients have been increased dramatically. Most studies in finding the etiology were focused on the environmental factors even though genetic factors appeared to be play an important role in the development of the CKDu. G6PD gene is a candidate gene as high proportion of CKDu patients found to be deficient in G6PD enzyme activity.

Objectives - To determine the prevalence of selected point mutations (rs766420 and rs915942) in CKDu patients with and without G6PD enzyme deficiency and to compare the CKD stage with G6PD enzyme activity in CKDu patients presenting to the Teaching Hospital, Kandy.

Method - A descriptive cross sectional study was conducted with 111 patients with CKDu attending to Nephrology Clinic at Teaching Hospital Kandy. They were screened for G6PD enzyme activity using dried blood spots blotted on filter papers. G6PD activity was measured according to a method described by Kuwahata et al., (2012). Twenty two patients from each group (With G6PD deficiency and normal G6PD activity) were selected to identify the presence of selected SNPs. DNA was extracted from dried blood spots and flanking regions of each SNP were amplified by PCR using specific primers. Genotypes were determined by restriction enzyme digestion and restriction fragment length polymorphism (RFLP) with agarose gel electrophoresis.

Results - A total of 111 CKDu patients were screened during the study period to achieve the target sample size. Out of them, 73% (n=81) of were males with the mean age being 51.34 years (SD=12.191). Majority of them (58.6%, n=65) were farmers and 40.5% (n=45) had a past history of Malaria. Out of all CKDu

patients, 18.9% (n=21) of the study group had at least one CKDu patient in their families. Prevalence of G6PD enzyme deficiency in CKDu patients was 56.8%(n=63). Only 3.6% (n=4) of them had severe deficiency and all of them were males.

.Twenty two patients were selected from each group (Both D6PD deficient and normal) for genotyping. Out of the 22 G6PD deficient patients, 59.1% (n=13) had rs766420 and 22.7% (n=5) had rs915942 mutations. Out of the 22 patients with normal G6PD activity, 63.6% (n=14) had rs766420 and 18.2% (n=4) had rs915942 mutations. There was no statistical significance observed between the presence of either rs766420 or rs91594 and G6PD enzyme activity (p = 0.866) and (p = 0.613) respectively. CKD stage was compared with G6PD enzyme activity but no significant association was found (f = 2.389, df = 3, p = 0.073). **Conclusions -** A significant number of CKDu patients had low G6PD enzyme activity. However, no association was found between the studied SNPs or CKD stage and G6PD enzyme activity in patients with CKDu.

0422.Nabeel, A.L.M.
Molecular epidemiology of acute bronchiolitis in 1-24 months old children: a hospital based study.
MSc. Molecular Medicine – 2016   **D 4839**

 Introduction:
Bronchiolitis is a common cause of viral lower respiratory tract infection (LRTI) in infants. It is characterized by acute inflammation, oedema, and necrosis of epithelial cell lining airways, increased mucus production and bronchospasm. Bronchiolitis is diagnosed clinically when the children present with difficulty in breathing, cough, poor feeding, and irritability with wheeze or crepitation on auscultation. It is one of the major causes of morbidity in infants causing huge burden to health system. Commonly respiratory syncytial virus (RSV) (70%-75%) and other viruses such as parainfluenzaviruses (PIV), influenza viruses, human rhinovirus (HRV), corona virus, adenoviruses, human metapneumovirus (HMPV), human Boca virus (HBoV) contribute to the etiology of bronchiolitis. Widespread use of molecular- based methods has generated new insights about its etiology. The availability of a rapid and sensitive viral diagnostic test is helpful to establish appropriate, timely therapeutic intervention, enabling physicians to

make more accurate treatment decisions, reducing the use of unnecessary antibiotic therapy, reducing the cost by reducing length of hospital stay, and also have epidemiological significance.

Objectives:

To determine the molecular epidemiology of the viruses and the socio demographic profile of 1 -24 months old children with acute bronchiolitis.

Methodology:

Prospective, cross-sectional study carried in 30 children with acute bronchiolitis who were 1- 24 months of age, admitted to the pediatric professorial unit of North Colombo Teaching Hospital (NCTH), Ragama were included. NPAs collected from these children were investigated using molecular-based method- real time reverse transcriptase polymerase- chain-reaction (PCR) for 4 different respiratory viruses. Demographic and clinical data was also recorded to analyze.

Results: The 30 participating patients included 13 girls and 17 boys. The median age was 6 months, Cough and wheezing were the most commonly reported symptoms and signs, respectively.

There were two RSV A viruses detected in 30 samples tested. But the other viruses HMPV, PIV, H1N1 were not detected in the same samples tested.

Conclusion: Considering the small sample size, it would be advisable to perform a multidisciplinary survey over the country to obtain sufficient data to generalize the results and to help the health care system make suitable decisions regarding viral infection prevention and control, especially for acute bronchiolitis.

Keywords: Bronchiolitis; respiratory viruses; children; epidemiology

0423.Senavirathna, R.M.I.S.K.
Description of the histological changes associated with silencing of SdNP gene expression by RNA interference among adult setaria digitata nematodes
MSc. Molecular Medicine – 2016   D 4670

Setaria digitata is a parasitic nematodes residing in the abdominal cavity of ungulates and their natural host is cattle to which 5. *digitata* is non-pathogenic. When infective L3 larvae stage enters into non-permissive hosts such as goat, sheep or horse could cause cerebrospinal nematodiasis. Human can also be infected by *S.digitata* via mosquito bites causing abscesses, allergic reactions,

enlarged lymph nodes, eye lesions etc., due to harboring microfilaria by human. Small interference RNA(siRNA) mediated RNA interference is a powerful technique to study the function of genes that organism genome encodes and this has also been used to unravel function of genes of nematodes. SdNP is *a* novel parasitic nematode protein of S. *digitata* expressed at all stages of lifecycle and abundantly found in longitudinal muscle, reproductive system and embryos. In this study, siRNA-mediated silencing of the *SdNP* expression was carried out to study the function of the latter following confirmation of *SdNP* expression in adult nematodes by RT-PCR. In doing so, dsRNA was generated by PCR using cloned *SdNP* with four set of primers. This generated dsRNAs were cleaved to obtain 21-23bP siRNA fragments using shortcut RNAse III prior to labeling with Cy3, which was then used to treat adult worms (40pg/ml) for 3 hours/ day for 3 days. siRNA treatment was carried out in culture medium containing in RPMI 30 pg/ml Streptomycin,2.5pg/ml Amphotericin B in a CO_2 incubator in the presence of 5% CO_2 and at 37 °C without Fetal calf serum. The treated and non treated worms were preserved in 4% formaldehyde in PBS and embedded in paraffin block. The paraffin embedded tissues were cut using microtome and subjected to immunohistochemical staining using polyclonal antibody raised against SdNP. Permanent slides were observed using light microscope. The observation of sections under the fluorescence microscope indicated successful up taking of Cy3 labeled siRNAs by adult worms and the clear motility reduction was observed in siRNA treated group. The comparison of immunohistochemical staining of the section treated and untreated indicated down regulation of SdNP expression. Therefore taking these outcomes, it can be concluded that RNAi technology could be used successfully to down regulate expression of target genes in S. *digitata.*

Obstetrics and Gynecology

0424.Abeywardena, W.D.A..J.
Indications for and outcome of total abdominal hysterectomy for benign uterine diseases in a Tertiary Care setting.
MD Obstetrics & Gynecology- 2013   **D 3777**

Context: Hysterectomy is a very common surgical procedure throughout the world with most them is still performed as total abdominal hysterectomies. Although situation in Sri Lanka is not different data on indications and outcomes are scanty.

Objective: To describe the indication for total abdominal hysterectomy for women with benign uterine diseases and to determine immediate (10th postoperative day) and medium term (post-operative 3rd month) outcomes.

Methods: This is a prospective cohort study done in all three gynecological units in the North Colombo Teaching Hospital in Sri Lanka. Hundred and fortysix women who underwent total abdominal hysterectomy for benign uterine diseases were assessed by self-administered questionnaires pre-operatively and at postoperative 10th day ad 3rd month.

Results: Principal complaints needing abdominal hysterectomy were bleeding and pain. Major indication needing hysterectomy was dysfunctional uterine bleeding (43.2%) followed by fibroids (32.9 %). Principal symptoms improved significantly following surgery.

During immediate post-operative period constipation, pain and quality of life showed insignificant worsening which recovered to show significant improvement dyspareunia, quality of life and psychological wellbeing showed statistically significant improvement. Post-operative expectations of patients which were expressed pre operatively reached their level of expectations.

Conclusions: Total abdominal hysterectomy is a very effective treatment modality for defined major symptoms. Effectiveness on improving urinary symptoms, bowel symptoms and sexual satisfaction are considerable. More

importantly quality of life & psychological wellbeing of the patient subjected to hysterectomy has been shown significant improvement.

0425. Attanayake, M.M.K.N.
Outpatient cervical ripening with vaginal isosorbide mononitrate in uncomplicated singleton pregnancies at 39 weeks' gestation.
MD Obstetrics & Gynecology – 2017   **D4596**

Introduction: A normal gestation apparently varies with ethnicity, being approx. 273 days in South Asians and approx. 280 days in Caucasians. Vaginal Isosorbide mononitrate (ISMN) has been shown to be effective in preinduction cervical ripening in term pregnancies.

Objectives:

a).To estimate the median gestational age (GA) at spontaneous onset of labour (SOL) and vaginal delivery without any obstsric intervention in women with uncomplicated singleton pregnancies.

b.) To determine the effectiveness and acceptability ISMN self-administered vaginally at home, in causing cervical ripening in women with singleton uncomplicated pregnancies at POG 273 days having Modified Bishops Score (MBS)<5.

Method:

a.) From 01 September 2013 to 31 May 2014,the gestational ages(GA) at spontaneous onset of labour (SOL) and vaginal delivery without any obstetric intervention in women with uncomplicated singleton pregnancies in the Academic Obstetric Unit of teaching hospital, Mahamodara, Galle, were recorded.

b.). Consecutive women with uncomplicated singleton pregnancies and MBS of < 5,were allocated by stratified (primip/multip) block randomization to selfadminister vaginally at home every other day, five doses of 60 mg of thesustained release form of ISMN (ISMN -SR); (n = 72, cases), or Pyridoxine10mgs(n=72, controls), from GA 273 to 282 days.

Results: The median GA at SOL and vaginal delivery without any obstsric intervention, in women with uncomplicated singleton pregnancies, was 275 days (IQR 268 to 280 days).

The mean age, education level and the mean MBS at GA 273 days were notsignificantly different between the cases and controls. At GA 282 days, the mean MBS and the mean change of MBS from the time of recruitment were similar, between the two groups. Also the mean MBS and the mean change of MBS from GA 282 days to GA 287 days were not significantly different between the two groups. Women were satisfied with outpatient therapy (80% in cases vs.76% in controls) but 44 % of cases had side effects, mainly headache which responded to paracetamol. A vast majority of women in both groups stated they would like to use outpatient therapy in a subsequentpregnancy (89% in cases vs. 86% in controls) and that they would recommend it to a friend. (93% in cases vs. 90% in controls).

Conclusion:

The median GA among the women with uncomplicated singleton pregnancies who established SOL and delivered vaginally was approximately five days shorter than the traditionally accepted 280 days. Therefore, attempts at ripening the cervix at out patient level at a GA of 273 days can be justified. However, outpatient vaginal ISMN therapy from GA 39 weeks does not appear to be effective in causing significant cervical ripening or promoting the establishment SOL, although the acceptability of out patient self medication was high.

0426.Chandrasiri,D.D.M.D.
Randomized controlled trial on the comparison of surgical site infections (SSI) and patients' comfort level with caesarean section wounds following early exposure versus delayed exposure.
MD Obstetrics and Gynecology – 2015   **D 3773**

Introduction

In the prevention of surgical site infections (SSIs), the ideal timing of dressing removal remains unresolved. Some professionals leave wounds uncovered from the moment of closure, others uncover them after some time, and still others keep them covered until suture removal. Certain clinical guidelines on caesarean section

(CS) recommend the removal of the dressing 24 hours after the CS, which is based on level four evidence. This study was designed to determine if early removal of the wound dressing is feasible.

Objective

1. To compare the SSI rate in the intervention and control groups.

2. To compare patients' comfort level on the 1st postoperative day in the intervention and control groups by assessing their ability to perform certain tasks.

3. To assess patients' acceptability regarding the early wound exposure approach in the intervention group.

Methods

The study was conducted at the Obstetric Unit of the Professorial Unit of Colombo South Teaching Hospital. Eligible patients were randomised using a stratified block random design into two groups with a block size of 4 and a T. 1 allocation. Exclusion criteria included any skin incision other than a Joel Cohen incision, pyrexia before surgery, skin infection on the lower abdomen before CS, BM1 of 35 kg/m^2 or more, any CS that resulted in additional procedures due to complications and a history of Elastoplast allergy. The allocation sequence was concealed in sequentially numbered, opaque, sealed envelopes. Allocation was performed by nursing staff who were not the research investigators. Wound dressings were removed between 6 and 12 hours after surgery in the intervention group and between 24 to 30 hours after surgery in the control group. Patients were reviewed on two occasions two weeks apart for the presence of SSI.

Results

A total of 498 patients were recruited, of which 400 were randomised after exclusion; 281 and 119 patients underwent emergency CS and elective CS, respectively. In both strata, 205 patients underwent the intervention and 195 patients underwent delayed wound exposure. All analysis was based on an intention to treat analysis. There were no significant differences between the intervention and

control groups in terms of the demographic and clinical characteristics.The overall SSI rate was 15.9% (95% Cl 12.7%, 19.4%). There was no difference in the SSI rates between the two groups. The adjusted relative risk across strata was 1.003 (95% Cl 0.63, 1.57).

Patients in the intervention group were able to perform all the tasks more easily than the control group patients with their wound dressings intact. (P value 0.001). Regarding the patient acceptability, of the 183 respondents, 156 (85.2%) preferred the novel method for their next caesarean delivery. The majority of the patients thought the novel method improved their hygiene (78.1%) and overall comfort (89.6%).

Conclusions

Clean primarily sutured caesarean section wounds (closed using the subcuticular method with polyglycolic acid sutures), which are exposed after the removal of the gauze dressing within 6 to 12 hours after the surgery and thereafter left undressed do not exhibit an increased incidence of wound infection compared to the same type of wounds that are exposed within 24 to 36 hours and thereafter left undressed.

*The comfort level of patients whose wounds were managed by early exposure showed a marked improvement.

*The novel method of early wound dressing removal was well accepted by the majority of the patients.

0427.De Silva, B.P.G.N.
   Validation of the sinhala translations of the Bristol lower urinary tract symptom questionnaire and the kings health questionnaire on quality of   life in a group of Lankan women with lower urinary tract symptoms.
   MD Obstetrics and Gynecology – 2016   D 4591

   Introduction: Validated questionnaires and urodynamic studies are used to evaluate female lower urinary tract symptoms (FLUTS) including urinary incontinence and orurgency.

   Objectives: To validate and use Sinhala translations of the International Consultation on Incontinence Modular Questionnaire for FLUTS (ICIQ- FLUTS) and the Kings Health Questionnaire (KHQ).

Method*:* The ICIQ-FLUTS and the KHQ were translated in to Sinhala, using standard procedures. The internal consistency of the Sinhala translations were assessed in 59 women having urinary incontinence and or urgency (cases) and 118 women with symptoms other than FLUTS (controls). The reliability of the Sinhala translations was assessed in a sub group of 25 cases. The scores obtained by the use of the two Sinhala translations in the cases and controls were compared. The 59 cases underwent urodynamic assessments and the scores obtained from the Sinhala translations, before and after treatment, were compared. ICIQ-FLUTS was also validated as a diagnostic tool using the urodynamic assessments as the gold standard**.**

Results*:* The Sinhala translations had good internal consistency (Cronbach's Coefficient Alphas ranging from 0.74-0.84 in the three domains of the ICIQ FLUTS and from 0.68- 0.95 in the seven domains of the KHQ), and were reliable (Pierson's Correlation Coefficients on test - retest ranging from 0.61 - 0.67 in the three domains of the ICIQ - FLUTS and from 0.6-0.75 in the seven domains of the KHQ).

The mean scores obtained in the cases and the controls were markedly different. Urodynamic Stress Incontinence (UDSI), Detrusor Overactivity (DO) and mixed urinary incontinence were detected in 48 (81%), two (3%) and four (7%) respectively by urodynamic assessments. Five (8%) had no abnormality demonstrable on urodynamic assessments. Significant improvements in symptoms and quality of life ($p < 0.001$) were detected after treatment. In the Sinhala translation of ICIQ-FLUTS, all the women with DO reported leakage of urine during coughing and sneezing.

Conclusion: The Sinhala translations of the ICIQ-FLUTS and KHQ are valid and reliable in assessing women with urinary incontinence and or urgency before and after treatment.

0428 A. **Dissanayake, A.D.**
Effectiveness of intramyometrial oxytocin versus intravenous oxytocin bolus administration during elective cesarean section : A randomized controlled trial.
MD Obstetrics & Gynecology – 2017   **D 4662**

Introduction

Oxytocin is recommended during elective caesarean section as a bolus to reduce uterine atony and prevent postpartum haemorrhage. Intravenous use of oxytocin bolus is associated with hameodynamic side effects and is occasionally, insufficient by itself alone to maintain uterine tone following delivery. Due to free accessibility of the uterus at the time of Caesarean section intramyometrial oxytocin may be an effective alternative, to intravenous oxytocin with minimal side effects due to its more localized action. Limited studies have been conducted on this regard and available studies show conflicting results on its effectiveness.

Objective

To assess the effectiveness of prophylactic intramyometrial oxytocin and intravenous oxytocin at the time of Caesarean section in terms of blood loss, contractility and side effects.

Methods

A double blind randomized control clinical trial was conducted at Teaching Hospital Kandy. Sixty five mothers with singleton pregnancies >37 weeks of gestational age undergoing elective Caesarean section under spinal anasthesia were randomized to intramyometrial oxytocin (IMO) (n=33) and intravenous oxytocin (IVO) (n=32). Oxytocin 5IU was administered by either route before umbilical cord clamping at the time of delivery. Blood loss was assessed using gravimetric methods and allowable blood loss calculation. Uterine tone was assessed by the surgeon and a score of 1 to 5 given at 2,5,10 and 15 minutes following drug administration. Hameodynamic parameters and occurrence of side effects were recorded. Pre operative and post operativ haemoglobin and haematocrit was checked.

Results

In both groups majority were in the age group of 31- 35 years with a median gestation of 39 weeks. Blood loss was similar between the two groups with a blood loss of 267.65 (±93.53)ml in the IMO group and303.83 (±103.77)ml in the IVO group (p= 0.43). The uterine contraction was similar between the two groups at 2 minutes and 5minutes, but significantly higher in the IMO group at 10 minutes and 15 minutes. There was no difference in the need for additional uterotonic agents or occurrence of side effects between the two groups. Both routes of administration resulted in similar haemodynamic changes, with the increase in heart rate highest at 5 minutes in both groups. The decrease in systolic and diastolic blood pressures were highest at 5 minutes following administration by either route, with a less decrease in diastolic blood pressure by the intramyometrial route at 5 minutes.

Conclusion

IMO oxytocin was similarly effective as IVO, in terms of blood loss and hameodynamic changes. Despite IMO causing stronger uterine contractions from 10 minutes onwards following administration, it did not result in lesser blood loss compared to IVO. Further studies on the effectiveness of intramyometrial oxytocin in specific subgroups and the optimum technique of administration are recommended to establish if IMO has a place in routine clinical practice.

0428.B.Gihan, M.C.
Clomiphene citrate VS letrozole in the treatment of anovulatory infertility : A randomized controlled trial.
MD Obstertrics and Gynaecology – 2016   D 4592

Introduction   -Ovulatory dysfunction accounts for 20-25% of the cases of infertility. The main treatment modality for anovulatory infertility is ovulation induction. Clomiphene citrate (CC) (a selective oestrogen receptor modulator) and letrozole (LET) (an aromatase inhibitor) are the drugs of choice but a debate is ongoing as which is the best choice for first line treatment.

Objective-Compare the treatment outcome of anovulatory infertile females by clomiphene citrate and letrozole.

Method-A prospective randomized controlled trial including two groups of anovulatory subfertile patients was carried out in a tertiary care centre and subjects were selected following inclusion and exclusion criteria. Patients were randomized to either clomiphene citrate 50 mg (n=127) or letrozole 2.5 mg (n= 121) daily from the 2nd to 6th day of the menstrual cycle. Follicle number on day 12, endometrial thickness, pregnancy rates and multiple pregnancies were assessed. The data were analyzed using MINITAB 14.

Results-Mean age of the clomiphene citrate and letrozole treated patients' groups were not significantly different (30.7±3.98 and 31.28±4.16 p=0.312). The number of mature follicles ~~number~~ on day 12 was not significantly different in two treatment groups (CC: 1.323± 0.935 and LET: 1.175±0.797) However, the mean endometrial thickness of the letrozole treated patients (0.7691±0.0887 cm) was significantly higher than the clomiphene treated group (0.695± 0.134cm). The clinical pregnancy rate of the letrozole group was higher than the clomiphene treated group (49% vs. 38%) and there was no difference in the miscarriage rates (both 16%).

Conclusions Letrozole treatment has enhanced the endometrial thickness compared to theclomiphene citrate treatment with higher clinical and ongoing pregnancy rates. Eventhough *the* both treatmen^resulted no difference in mature follicle number, the higherpregnancy rates with letrozole may be due to its favorable effects on endometrialthickness and the endometrial receptivity owing to known less anti estrogenicproperties of letrozole compare to clomiphene citrate.

0429.Gunasena, G.G.A.
   Association of fetal growth restriction and umbilical artery doppler velocimetry with placental pathology in gestational proteinuric hypertension. MD Obstetrics & Gynecology - 2010   D 3788

   Objective: -To evaluate the association of fetal growth restriction (FGR) and

   umbilical artery Doppler velocimetry with histological changes of the

   placenta in gestational proteinuric hypertension (pre-eclampsia)

Method:

An observational comparative study conducted at North Colombo Teaching Hospital, Ragama and Castle Street Hospital for Women Colombo. A total of fifty placentae were studied. Twenty from gestational proteinuric hypertension patients with abnormal umbilical artery Doppler velocimetry, twenty from gestational age-matched proteinuric hypertension patients with normal umbilical artery Doppler and a conventional sample of ten from women with an uncomplicated pregnancy were collected. Randomly selected, haematoxylin and eosin-stained sections from maternal surface of placentae were examined under lightmicroscopy. The histology of terminal villi in each placenta were examined in relation tosyncytial knots, cytotrophoblast cells, thickening of subtrophoblastic basement membrane,and villous hypovascularity. Neonatal Ponderal index was used to diagnose fetal growth restriction. The placental histological changes were analyzed between normal and hypertensive subjects. Within the hypertensive group, histology was analyzed in relation to FGR and umbilical artery Doppler.

Results:

The number of syncytial knots, cytotrophoblast cells, thickened subtrophoblastic basement membrane, and hypovascular villi were significantly higher in hypertensive placentae (all features: $P < 0.00$) compared to normotensive placentae. The histological features of hypertensive placentae were not influenced by maternal age or parity. A statistically significant increase of all four histological features was noted with advancing gestational age. Within the hypertensive group, the presence of FGR increased all four histological features; with a statistical significance in cytotrophoblast cells $(p=0.015)$ and thickened subtrophoblastic basement membrane $(p = 0.000)$. All the patients with abnormal umbilical artery Doppler velocimetry had fetal growth restriction but only 65% of patients with normal Doppler had growth restricted babies. A statistically significant increase in the number of hypovascular villi $(p = 0.004)$ was observed when histological features of hypertensive placentae in FGR with abnormal umbilical artery Doppler velocimetry compared to FGR with normal Doppler. Syncytial knots, cytotrophoblast cells, and thickened subtrophoblastic basement membrane also showed an increase in this group but the observation was not significant.

Conclusion: Syncytial knots, cytotrophoblast cells, thickened subtrophoblastic basement membrane, and hypovascular villi are significantly increased in hypertensive placentae compared to normotensive. The progressive worsening of these histological features in gestational proteinuric hypertension is associated with clinical manifestation of fetal growth restriction. In fetal growth restriction, the presence of abnormal umbilical artery Doppler velocimetry was associated

0430.Gunathilaka, S.N.M.P.K.
  Use of prophylactic antibiotics for prelabour rupture of membranes at term in early induction of labour : A randomized controlled trial.
  MD Obstetric & Gynecology -   2016   D4595

Introduction:

 Prelabour rupture of membranes is seen in 8 % of term pregnancies. It is associated with an increased risk of morbidity and mortality in mother as well as in fetus. As there is a significant time lag from the onset of labour to delivery, it is reasonable to be on prophylactic antibiotics for reduction of these infections. However available evidences on the necessity of prophylactic antibiotic are limited hence some healthcare centers use them routinely while others do not.

 Setting: Professorial Obstetric ward of Teaching Hospital Peradeniya.

 Objectives:
The aim of the study was to identify whether the use of prophylactic antibiotic;Cefuroxime in mothers presenting with prelabour rupture of membranes at term (after 37 weeks of gestation to 42 weeks) can reduce fetomatemal and neonatal infections compared with a group without prophylactic antibiotics in early induction of labour.

 Method:

 Study design - Randomized controlled trial.

 Mothers with term pre-labour rupture of membranes who fulfill the criteria and consented for participation were recruited into the study. They were randomized into two groups using a computer based randomization table. Antibiotics were started on one group; intravenous Cefuroxime 750 mg 08 hourly for 24 hours followed by oral cefuroxime 500 mg 12 hourly for 48 hours while there were no prophylactic antibiotics to the other group.

Mothers were induced with intravenous oxytocin if labour was not started spontaneously by 12 hours of dribbling (Early induction method - Unit protocol).

Development of chorioamnionitis, postpartum endometritis and neonatal infection (Sepsis/ Meningitis/ Pneumonia) were recorded using a pre tested data collection sheet.

Results:

A total of 118 subjects were studied. From them 60 were in the intervention arm to whom the prophylactic antibiotics were given and 58 were in the control arm, to whom the antibiotics were not given.

There were no statistically significant differences in age, BMI, period of gestation, proportion of primi gravida, duration of membrane rupture prior to include into the study, duration from membrane rupture to delivery, duration of labour, total number of vaginal examinations performed, number of caesarean sections and the birth weight of the neonates delivered in each group. There was a case of chorioamnionitis (n = 60, 1.67%) in the intervention arm while there were two (n = 58, 3.45%) in the control arm. However, this difference was not significant (OR-O.47, 95% Cl 0.04-5.27).

One neonate in the intervention arm (n=60, 1.67%) and three neonates in the control arm (n=58, 5.17%) had sepsis. The difference was not statistically significant (OR-0.31, 95% Cl 0.03-3.02). Two cases of post-partum endometritis (n=58, 3.45%) were seen in the control arm where there was no one in the intervention arm (n=60, 0%). The difference was not statistically significant (OR-0.19, 95% Cl 0.01-3.88). Post-partum sepsis was not reported in both arms.As a whole there was not any statistically significant difference on maternal infection related morbidities in the intervention group (n=60, 1.66%) and the control group (n=58, 6.89%) of the study (OR-O.25, 95% Cl 0.03-2.22).

Conclusion:

The study was unable to demonstrate any significant benefit of prophylactic antibiotics in mothers with term prelabour rupture of membranes on any of its outcome measures with early induction of labour.

0431.Jayasundara, D.M.C.S.

Complications of blunt versus sharp expansion of the uterine incision in lower segment caesarean section : A randomized controlled trial.
MD Obstetric & Gynecology – 2011   D3776

Objective - The objective of this study was to compare the incidence of complications associated with blunt versus sharp expansion of the uterine incision at the time of caesarean section.

Study design - Women who underwent a lower segment caesarean section in ward 18 at North Colombo Teaching Hospital, Ragama was assigned randomly to have the expansion of the primary uterine incision either bluntly using the index fingers of both hands of the surgeon or sharply using a curved scissors. measures were the Incidence of inadvertent extensions, percentage drop in haematocrit and time taken to repair the uterine incision.

Results - The blunt expansion group (n=141) and the sharp expansion group (n=133) were similar with regard to age distribution, BMI, parity, history of previous LSCS and proportion of elective or emergency procedures and the cervical dilatation at the time of LSCS. The incidence of inadvertent extensions (42.1% vs 28.4%; p=0.02) and the mean time taken to repair the uterine incision (14.9min vs 13.7min; p=0.03) was significantly higher in the blunt expansion group compared to the sharp expansion group.

The percentage drop in haematocrit more than 10% (30.8% vs 28.4%; p=0.48) and the drop in haemoglobin more than 2g/dl (22.6% vs 20.6%; p=0.47) was not significantly different in the blunt expansion group compared to the sharp expansion group.

The number on inadvertent extensions to the broad ligament (9 vs 7; 0.33), uterine vessels (6 vs 2; p=0.13) was more in blunt expansion group when compared to sharp expansion group. But this difference was statistically significant.

Incidence of inadvertent extensions was significantly different (38.5 vs 24.1; p=0.03) during elective LSCS but not during emergency LSCS (50% vs 44.8%; p=0.67) between the blunt expansion group and sharp expansion group. The incidence of inadvertent extensions was significantly higher (36.5% vs 24%;

p=0.03) when the cervical dilatation was less than 4cm at the time of LSCS in the blunt expansion group compared to the sharp expansion group.

Blunt expansion group required more blood pint transfusions when compared to the sharp expansion group (6 vs 2).

Conclusion - The sharp expansion of the uterine incision at the time LSCS is associated with a lower risk of inadvertent extensions as well as extensions into broad ligament and uterine vessels compared to the blunt expansion method.

The sharp expansion of the uterine incision is preferable to blunt expansion during LSCS and its advantage is more evident during elective LSCS than during emergency LSCS and when the cervical dilatation was less than 4cm at the time of LSCS.

0432.Jayawardena, G.R.M.U.G.P.
Effectiveness of diabetes in pregnancy study group India (DIPSI) diagnostic riterion in detecting gestational diabetes mellitus among pregnant mothers attending a specialized Tertiary Care Hospital in Colombo.
MD Obstetrics & Gynecology – 2017   D 4666

Background:

`	There has been a debate on whether glucose challenge tests in the non-fasting state are an effective screening or diagnostic test for gestational diabetes mellitus (GDM). The 75 gram fasting oral glucose tolerance test (OGTT) is the gold standard to diagnose GDM. However, non-fasting 75-gram one step oral glucose challenge test proposed by Diabetes in Pregnancy Study Group India (DIPSI) with the 2-hour cut- off value of > 140mg/dL has also emerged as a diagnostic technique. The aim of this study was to investigate the sensitivity and specificity of DIPSI compared to GTT.

Methods:

`	Pregnant women in period of gestation between 24-28 weeks were recruited by simple random sampling method. Non fasting 75g DIPSIs were performed in all, followed by a fasting 75g OGTTs within a week time. National Institute for Health and Care Excellence (NICE) 2015 and World Health Organization (WHO) 2013 diagnostic values of OGTT were used as reference tests to diagnose GDM.

Findings:

According to the WHO and NICE criteria 20% (33/165) and 23% (38/165) of pregnant women had GDM, compared to 22.4% (37/165) detected by DIPSI. Sensitivity of DIPSI compared to WHO and NICE criteria was 64% and 76% while specificity was 88% and 94%. The area under the ROC curve for the ability of 2-hour value of GCT to predict GDM detected by DIPSI was 0.8 (SE 0.4) compared to WHO and 0.868 (SE 0.38) compared to NICE.

Conclusion: DIPSI with 2-hour cutoff value > 140mg/dL lacks sensitivity to diagnose GDM recognized by standard OGTT. However a well-validated twostage procedure using the DIPSI 75g OGCT in the non-fasting state as the initial screening test, followed by fasting OGTT for definitive diagnosis in those who screen positive, is an adequate alternative for diagnosing GDM for low resource settings.

0433.Kannangara, S.
Restricted episiotomy versus routine episiotomy : A randomized controlled trial.
MD Obstetrics & Gynecology – 2011   **D 3774**

Introduction
The practice of routine episiotomy is based on the belief that it prevents serious perineal damage and facilitates easy delivery. In Sri Lanka almost every primigravidae has a routine episiotomy during vaginal delivery.

Objective
To evaluate whether a policy of restricted use of episiotomy can reduce episiotomy rates in primigravidae without serious adverse effects.

Method
A randomized controlled trial conducted at the University Obstetrics Unit of Teaching Hospital Mahamodara Galle. The labour room staff was trained to conduct vaginal delivery without episiotomy while avoiding perineal tears. Consecutive primigravidae admitted to the antenatal ward from 01 November 2008 to 31 March 2009 were recruited for the study. Randomization was carried out into restricted episiotomy (n =88) or routine episiotomy (n = 88) group on admission to the labour room. After recruitment, those who required emergency caesarean section or who were delivered by forceps or vacuum were excluded. A

mediolateral episiotomy was carried out routinely in the episiotomy group and avoided unless considered necessary in the restricted episiotomy group.

Results
The distribution of age and body mass index of the mothers and the gestational age and birth weights of the babies were similar between the two groups. The episiotomy rate was reduced by 25.7 % in the restricted episiotomy group ($p<0.05$). More women had first and second degree perineal tears) in the restricted episiotomy group. (18% vs. 3%, $p<0.005$. The occurrence of third degree perineal tears was similar in the two groups (3.6% vs. 2.3%, $p > 0.05$) More women had anterior vaginal tears in the restricted episiotomy group compared to the routine episiotomy group (18.2% vs. 7.2% $p<0.05$). Postpartum perineal pain was significantly higher in the women who had an episiotomy ($p<0.05$).

Conclusion and Recommendations
A restricted use of episiotomy can reduce the immediate post partum perineal pain without increasing major perineal trauma. Therefore the routine use of episiotomy should be avoided.

0434.Kumarapperuma, K.A.U.S.
Fetal scalp stimulation tests.
MD Obstetrics & Gynecology – 2012   D3769

Introduction
Intrapartum fetal monitoring is a serious issue in obstetrics. This study was done to assess the effectiveness of Fetal Scalp Stimulation Tests in predicting neonatal asphyxia.

Method
Women with uncomplicated singleton pregnancies with a cephalic presentation at >37 weeks gestation who were in early spontaneous labour or induced labour (n = 243) were studied. A cardiotocograph (CTG) was commenced and five minutes later Digital Scalp Stimulation (DST) was carried out for 15 seconds during the routine vaginal examination, and the CTG was continued after the DST. For those who had a non reactive CTG, an Allis clamp was applied to the fetal scalp and the CTG was continued for another five minutes. The CTG before the DST and after the DST, and after application of Allis clamp if necessary, were compared with the five minute APGAR score of the neonate. The results of CTG

before and after the fetal scalp stimulation, and the five minute APGAR scores of the neonates were documented.

Results

The initial CTG was non reactive in 107 (44%) and another 59 (24%) became reactive after DST. In the 50 patients who had non reactive CTGs following DST, and therefore had Allis clamping of the fetal scalp, the CTG became reactive in a further 27(11%).Compared to CTG alone, Scalp stimulation tests have a better specificity (96% vs 58%, p < 0.001), positive predictive value (65% vsl2%, p < 0.05) and accuracy (95% vs 59%, p < 0.001) in predicting five minute APGAR scores of the neonate.

Conclusion

Fetal scalp stimulation tests are effective in screening for intrapartum hypoxia and they complement and improve the specificity, positive predictive value and accuracy of the CTG in predicting having asphyxia.

0435.Lekamge, L.L.N.R.
Comparison of obstetric and gynaecological surgical wounds with and without application of wound dressing.
MD Obstetrics & Gynecology – 2011　　　　　　　**D 3775**

Objectives

To compare Obstetric and Gynaecological surgical wounds with and without application of wound dressing, with regard to surgical site complications, perception of post operative pain and cosmetic appearance after 8 weeks.

Design

Randomized controlled clinical trial setting Ward 17 (obstetric ward) and ward 6A (Gynaecology ward) of Colombo North Teaching Hospital, Ragama.

Study population 259 patients who underwent clean surgeries requiring incision 5 cm in length were Included in the study.

Method

Patients were randomised in to two groups. One group had their incision covered by a dressing and other group it was kept open. The perception of post operative pain was assessed during first 24 hours in by using a 10 points visual analogue scale. A visual analogue scale was again used to assess the acceptability of the surgical scar after 8 weeks by the patient and by an independent assessor.

Results

130 (dressing applied) & 129 (not applied) samples were collected at post operative 8 week's visit. There was no significant association between age of the patient and dressing status. The incidence of local complications between both categories was not statistically significant. There was no statistically significant difference in immediate and late complications in 2 categories. Pain perception was same in both categories. There was no statistically significant difference. There was no statistical significant difference in visual analogue scale for cosmetic acceptability by the patient and by the independent assesso

Conclusion

Applying dressing over supra pubic transverse incision or leaving it open has no statistically significant difference,with regards to surgical site complications, perception of post operative pain and cosmetic appearance after 8 weeks.

0436.Piyadigama, I.
Effect of umbilical cord milking compared to delayed cord clamping in term infants: A randomized controlled trial.
MD Obstetrics & Gynecology – 2017   **D 4664**

Introduction

Delayed cord clamping at delivery is currently recommended to improve early neonatal haemoglobin levels. It carries an increased risk of postpartum haemorrhage and prolongs the operative time at caesarean sections. An alternative could be milking of the cord with early clamping to achieve similar increment in haemoglobin levels. Although effects of cord milking had been assessed in preterm neonates such evidence is sparse for term neonates.

Objectives

To evaluate the effects on neonatal haemoglobin, bilirubin, haemodynamic parameters and maternal blood loss in term infants following umbilical cord milking (UCM) compared to delayed cord clamping (DCC) during elective caesarean sections.

Methods

Sixty term pregnant mothers undergoing elective caesarean section in Teaching Hospital Kandy, from 1st February to 31st March 2015 were randomized to

delayed cord clamping and cord milking. Control group had cord clamped after 2 minutes of delivery or once the cord pulsations had ceased. The intervention group had the umbilical cord milked towards the umbilicus of the baby in a standard method soon after delivery. Neonatal haemoglobin, bilirubin, haemodynamic parameters and maternal blood loss were assessed within 48 hours of delivery.

Results

27 subjects underwent DCC while 33 subjects underwent UCM. Main indications for the caesarean deliveries were past section (46.7%), failed induction (11.7%), past bad obstetric history (10.0%), maternal medical conditions (8.3%) and primipara with short stature (8.3%). All caesarean sections were performed under spinal aneasthesia. Control and the interventions groups were equally matched.

The mean haemoglobin value of the neonates in the control group was 17.364g/dl (±2.44) while the intervention group had a mean value of 17.642g/dl (±1.97). There was no statistical significant difference in haemoglobin values in 2 groups (p=0.67). The mean total bilirubin values in the control and intervention groups were 123.0mmol/l (±34.99) and 111.8mmol/l (±47.61) respectively with no significant difference (p=0.685). All neonates investigated had birth APGAR of 10 at 5 minutes. Mean maternal haemoglobin drop was 1.27mg/dl (±0.95) and 1.04 mg/dl (±0.68) (p=0.37) after DCC and UCM respectively.

Conclusions

UCM is an effective and a safe alternative to DCC in term infants during elective caesarean deliveries.

0437.Prasanga, D.P.G.G.N.

Prophylactic use of antibiotic for incomplete and missed miscarriage, prior to medical and surgical management: A randomized controlled trial.
MD Obstetrics & Gynecology - 2016   D 4594

Introduction

Loss of a pregnancy prior to achieve viability is defined as a miscarriage. It is a common gynaecological problem which we encountered day today practice. Post miscarriage care is a challenging area coming under reproductive health. It is recognized internationally as an important component of reproductive health to address complications of miscarriage. Prevention of pelvic sepsis is a main component in post miscarriage care. Effective antibiotic prophylaxis prior to management of for incomplete & missed miscarriage may be the answer for it. But in current practice, there is conflicting evidence and no clear guidance regarding the necessity of the antibiotic prophylaxis.

Objective :

To determine the effectiveness of prophylactic doxycycline use, prior to surgical and medical management of incomplete and missed miscarriage, in view of reducing the post -operative pelvic infections.

Design :

A randomized controlled trial

Setting:

Professorial Gynaecology Unit, Teaching Hospital, Peradeniya, Sri Lanka.

Method :

Three hundred and ninety-four patients randomized to two groups to received doxycycline or placebo. Single dose of doxycycline 200mg to one group and single dose of placebo to other group had given one hour prior to the medical and surgical management of miscarriage. Post procedure pelvic infection was assessed by five clinical parameters within three days (before discharge) and two weeks later at the clinic setting. Data analysis was done by using Statistical Package for the Social Sciences (SPSS) version 20.

Result:

Statistically significant difference was not detected regard to age, parity, number of children and POA in between the doxycycline and placebo groups. Post intervention pelvic infection was diagnose 4% and 6.18% respectively in the doxycycline group and the placebo group within three days, which was not statistically significant (P=0.367). It was 4.5% and 8.7% for doxycycline and placebo treated groups respectively at two weeks. It was also not clinically significant (P=0.104). Statistically significant difference was not detected in regard to type of miscarriage or type of interventions in between the two groups.

Conclusion:

The study revealed that antibiotic prophylaxis prior to medical and surgical management of miscarriage was unable to obtain a statistically significant reduction in post intervention pelvic infection.

0438.Raguraman, S.
Study on influence of maternal weight gain during pregnancy inselected fetal outcome.
MD Obstetrics & Gynecology – 2017   D4661

Introduction

Pregnant mothers are gaining weight during pregnancy. The weight gain during pregnancy arises from several factors. Maternal weight gain influences in both maternal and fetal immediate and future outcomes. The recommended amount of weight gain to archive optimal maternal and fetal outcomes is still arguable.

Objectives

*To find out the association between the Apgar score of the baby at delivery and maternal weight gain during pregnancy.

*To find out the association between the birth weight of the baby and maternal weight gain during pregnancy.

Methods

Cross sectional descriptive study was carried out at Teaching Hospital Kandy, for one-year duration.425 participants with normal pre gestational BM1 (18.524.9) were selected by Systematic random sampling technique. Medical

disorders complicating pregnancies, twins, previous miscarriages and fetal abnormalities were excluded. Data extracted from antenatal record, bed head ticket and measurement of relevant variables. APGAR score and birth weight were outcome variables. SPSS 22.0 was used for data analysis.

Results

Maternal age distributed from 17 to 43 years with 95% Cl: 27.4 to 28.59 years (SEM=0.284).Maternal height distributed from 125cm to 172cm with 95% Cl: 154.9 to 153.8cm (SEM=0.28). Pre pregnancy BM1 distributed from 18.5 to 24.9 with 95% Cl: 21.39 to 21,78(SEM= 0.09). Maternal body weight at delivery was distributed from 36 to 116 kg with 95% Cl: 62.79 to 64.9(SEM=0.55). Pregnancy weight gain distributed from 3.5 to 24.5 kg within 95% Cl 8.5 to 9.0 kg (SEM=0.18). Birth weight was distributed from 1.24 to 4.04 kg with 95%CI from 2.88kg to 2.96kg (SEM=0.02) All exposure parameters having positive linear correlation with birth weight. All the correlation co efficient values except pregnancy weight gain were significant with the birthweight. Almost all study participants (N=423:99.5%) had achieved >7 score of APGAR within 10 minutes.

Conclusion

This study concluded that the maternal weight gain does not affect the birth weight of the new born, or any hypoxia situations at the time of birth. Further studies could be recommended with a larger sample size and a prospective cohort design with continuous follow up during the antenatal period.

Keywords: Body Mass Index, maternal weight gain, Pregnancy, Birth weight, Apgarscore.

0439. **Samarawickrama, B.G.S.**
Study on adverse obstetric and perinatal outcomes due to previous miscarriage.
MD Obstetrics & Gynecology - 2013   D 3772

Objective

To explore a selected set of subsequent pregnancy outcomes in women following an initial miscarriage who attend Sri Jayewardenepura General Hospital.

Design

Retrospective Cohort Study.

Setting

Sri Jayewardenepura General Hospital, Nugegoda, Sri Lanka.

Population

All women who delivered after 28 weeks of gestation in ward 2, Sri Jayewardenepura General Hospital, Nugegoda, Sri Lanka between 1st of January 2009 - 31st December 2010

Main outcome measures

(A) Maternal outcomes Pregnancy induced hypertension, placental abruption, placenta praevia, malpresenation, postpartum haemorrhage and morbidly adherent placenta. (B) Perinatal outcomes: preterm delivery, low birth weight, stillbirth, neonatal death.

Methods

A distinct comparison of women with a first pregnancy miscarriage versus women with one previous successful pregnancy and also primigravid women. Data was extracted on perinatal outcomes in all women who delivered their babies after 28 weeks of gestation in ward 2, Sri Jayewardenepura General Hospital, Nugegoda, Sri Lanka between 1st of January 2009 - 31st December 2010 will be taken in to the study.

Results

We identified 161 women who had a first miscarriage (152 in the first trimester and 9 in the second trimester), 1214 who had had a previous live birth (group A) and 2427 primigravidae (group B). A higher risk of malpresentation (OR 4.1, 99% Cl 2.2-7.7), pregnancy induced hypertension (OR 3.2, 99% Cl 1.0-10.4), placenta praevia (OR 1.9, 99% Cl 0.1-33.9), postpartum haemorrhage (OR 1.5, 99% Cl 0.7-2.9), placental abruption (OR 1.6, 99% Cl 0.5-5.3), morbidly adherent placenta (OR 1.6, 99% Cl 0.5-5.3), stillbirth (OR 3.8, 99% Cl 0.4-35.8), low birthweight (OR 2.4, 99% Cl 1.2- 5.1), preterm delivery (OR 1.9, 99% Cl 0.9-4.1) and neonatal deaths (OR 1.9, 99% Cl 0.1-33.9) was seen in the miscarriage group than in group A.Also, they were more likely to have placenta praevia (OR 3.0, 99% Cl 0.2-51.3), placental abruption (OR 2.6, 99% Cl 0.89.4), postpartum haemorrhage (OR 1.5, 99% Cl 0.8-2.9), malpresentation (OR 1.2, 99% Cl 0.7-2.0), pregnancy induced hypertension (OR 1.1, 99% Cl 0.4-3.6), morbidly adherent placenta (OR 1.1, 99% Cl 0.4-3.4), stillbirth (OR 4.3, 99% Cl0.5-34.7), neonatal deaths (OR 2.2, 99% Cl 0.1-34.2), low birthweight (OR 1.6, 99% Cl 0.8-3.1), and preterm delivery (OR 1.5, 99% Cl 0.7-3.0) compared to group B.

Conclusion

A higher risk of obstetric and perinatal complications in subsequent pregnancies following an initial miscarriage warrants closer monitoring.

0440. Samarawickrama, N.G.C.L.
Prediction of the viability of early intrauterine pregnancies by using ultrasound scan parameters (PEPU) study – A prospective cohort study).
MD Obstetrics & Gynecology - 2017   D 4667

Introduction

Ultrasound scan (USS) is the investigation of choice to diagnose the viability of an intra-uterine pregnancy. To confirm the viability, it is essential to demonstrate the cardiac activity of the fetus. But, in pregnancies of uncertain viability (PUV) to confirm the viability status, it needs serial ultrasound scan evaluations. There is no uniformity in the evaluation criteria used at present to discriminate viable from non-viable pregnancy by using the ultrasound parameters. Missing a viable pregnancy will unfortunately lead to a termination of one fetus, which may

destine to be one human live birth in future. On the other hand, continuous surveillance without demonstrating desirable outcome will increase the anxiety over time; eventually will lead to a significant negative impact on woman's physical as well as psychological wellbeing.

Objectives

To determine the minimum ultrasound scan cut off values to predict the subsequent viability of an intrauterine pregnancy of uncertain viability.

Methods

This prospective cohort study was carried out in Castle Street Hospital for Women (Ward 7, Gynaecology Unit) and Colombo South Teaching Hospital (University Obstetrics and Gynaecology Unit). Women who presented in early pregnancy with pre-defined selection protocol were recruited to the study until the sample size (n = 348) is achieved. The Sample was categorized in to three groups as gestational sac only, gestational sac with yolk sac only and fetal pole without cardiac activity. The ultimate end point is to demonstrate the fetal cardiac activity in each group during the follow up. The sensitivity, specificity, positive predictive value and false positive rate (FPR) were calculated in each group by using Receiver Operating Characteristic curves with regard to the reference cut off values which used in different guidelines.

Results

Among the 348 women who were included in the study and diagnosed initially as having pregnancy of uncertain viability, 227 (65%) women were found to have viable pregnancies in subsequent scans, while 121 (35%) pregnancies were subsequently diagnosed as non-viable pregnancies. Presence of yolk sac, when compared to gestational sac only group, improves the outcome by increasing the number of viable pregnancies (p < 0.05). In the gestational sac only group when the mean sac diameter (MSD) is 16 mm, the false positive rate (viable pregnancy) for a miscarriage was 21.9%. At the MSD of 20 mm the FPR declined to 1.9% and above 21 mm there was no misdiagnosis for a miscarriage where FPR is 0%. In the gestational sac with yolk sac group FPR for miscarriage was 20.5% at MSD of 16 mm, 1.3% at 20 mm and 0% beyond 21 mm. In fetal pole without cardiac

activity group FPR for miscarriage was 51.4% at crown rump length of 4 mm, 17.4% at CRL of 5 mm. Above the CRL of 5 mm the FPR was 0% for a nonviable pregnancy.

Conclusions and Recommendations

The findings of this study support the current Royal College of Obstetricians and Gynaecologists recommendation in managing pregnancies of uncertain viability criteria. Even though we were unable to demonstrate fetal cardiac activity above MSD of 21 mm, given the consideration of intra and inter observer variability in obtaining USS parameters, it appears to be a safe option to adhere to the current cutoff of 25 mm to avoid any inadvertent interventions. Above 5 mm CRL there were no demonstrable fetal cardiac activity in subsequent scans suggests that inter and intra observer variability adjusted fetal pole cut off of 7 mm is the margin of choice to diagnose a miscarriage.

Keywords: Pregnancy of uncertain viability. Mean sac diameter. Crown rump length, Miscarriage

0441. Senadheera, D.I.
Iron deficiency anaemia in pregnancy and weekly versus daily antenatal oral iron and folic acid supplementation in non anaemic pregnant women: A randomized controlled trial.
MD Obstetric & Gynecology – 2017   D 4663

Introduction

The prevalence of anaemia in pregnancy at present is estimated to be < 20% in Sri Lanka. Therefore, weekly oral iron supplements could be adequate and daily supplements may be unnecessary for non anaemic pregnant women in Sri Lanka.

Objectives

To determine the rate of anaemia and iron deficiency (ID) in women presenting for antenatal care, to evaluate the agreement between their hemoglobin concentrations (Hb) and hematocrit (Hct) obtained from two different laboratories and to evaluate the effectiveness of weekly versus daily antenatal oral iron and folic acid supplementation in non anaemic pregnant women, in preventing anaemia and ID.

Method

Consecutive pregnant women (n = 350) between 12 to 20 weeks of gestation, presenting for antenatal care had their Hb and Hct measured at Academic Obstetric Unit at Teaching Hospital Mahamodera, Galle, (THMG) by an Auto Hematology Analyzer, using colorimetry and flow-cytometry, and hydrodynamic focusing methods at Durdans Hospital Laboratory Galle (DHLG). Serum ferritin (SF) was measured using electrochemiluminescence at the DHLG. Rates of anemia and ID were calculated and the agreement of the results of the two laboratories was evaluated.

The non anaemic pregnant women (n=291) between 14 to 22 weeks gestation, were randomly allocated to receive 120 mg elemental iron and 3 mg of folic acid weekly (n=149) or 60 mg of elemental iron and 1 mg folic acid daily (n=142). All subjects were assessed for compliance and-side effects at four weekly intervals and their Hb, Hct and SF were measured at 32 to 36 weeks of gestation.

Results

The rate of anemia was 16.6%. The best cut off level of SF for the prediction of anemia was SF < 30 pg/L (the area under the ROC curve was 0.77 with 95% Cl -0.72 to 0.81), and it had a sensitivity of 78.3% (95% Cl 65.8 - 87.9) and a specificity of 74% (95% Cl 68.6 - 79.0) in predicting anemia. Using this SF < 30 gg/L cut off, 36.9% of subjects had ID.

The mean Hb of the participants, obtained from both laboratories, was 11.6 (95% Cl 11.4 - 11.7). The mean Hct too was similar (33.8%, 95 % Cl 33.3 - 34.2 in DHL Laboratory vs. 34%, 95% Cl 33.6 - 34.5 in THMG Laboratory. The limits of agreement and the clinical limits of indifference between the Hb and Hct values obtained from the two laboratories were good with individual differences of > 10% being seen in < 5% of results. At the commencement of the randomized control trial there were no significant differences in monthly family income, educational level, age, parity, pre supplementation Hb, Hct and SF, and duration of previous haematinic prophylaxis between the two groups. Only 106 (74%) in the daily supplementation group and 106 (72%) in the weekly supplementation group completed the study. There were no significant differences in the mean

duration of supplementation, during the study, between the two groups. Using the results from the DHL Laboratory there were no significant differences in the pre and post supplementation mean Hb, Hct and SF, or the risks of developing anaemia or ID between the two groups. However, there was a significant reduction in the SF levels at 32-36 weeks. The side effects were significantly greater in the daily supplementation group compared to the weekly supplementation group.

Conclusion

Anaemia (16.6%) and ID (36.9%) are apparently of mild to moderate public health significance respectively, in women presenting for antenatal care. There was good agreement between the hematological reports obtained from two laboratories. In non anaemic pregnant women daily antenatal oral iron supplements are not superior to weekly oral iron supplements in preventing anemia and ID in die third trimester.

0442. Thushyanthan, S.A.
Why mothers request for caesarean section? The impact of patient education on decision making.
MD Obstetrics & Gynaecology – 2010   D 3771

Introduction - Increasing caesarean section (CS) rate is a trend observed worldwide including Sri Lanka. In some countries significant number of elective CS are being performed without an obstetric indication upon maternal request. The reasons for preferring caesarean section by mothers vary among countries.

Objective - To investigate why mothers prefer caesarean section and how their attitude towards caesarean section is influenced by appropriate deliverance of information regarding indications, risks and benefits of elective caesarean section and normal vaginal delivery.

Design and Setting - Comparison study, before and after intervention. This study was conducted during the period of July 2009 to May 2010 at Antenatal clinic De Soyza Hospital for Women, in Colombo Sri Lanka.

Method - Ninety (9 0) mothers who are less than 24 weeks of period of amenorrhoea (POA) were recruited to this study from the antenatal clinic. On

the day of recruitment data prior to intervention was collected and information leaflet was given. Reinforcement to read the information leaflet done between the POA of 26 to 30 weeks . Final data collection was done between 34 to 36 weeks of POA . Data was collected by using interviewer administered questionnaires.

Results- Mothers chose CS over vaginal delivery due to fear of labour pain(88.5%), more time has to be spent in labour room(26.9%), the fear of fetalcomplications (26.9%), fear of instrumental delivery (19.2%), complications and pain due to episiotomy (15.4%) and decreased sexual satisfaction after VD (7.7%).Prior tointervention 31.3% of mothers preferred CS. After intervention only18.1% preferred CS (p<.05). Sources of information regarding mode of delivery were from women who underwent CS/VD (77.1%). Other sources of information included television, radio, internet (60.1%) and medical personnel (42.2%).The change of knowledge regarding mode of delivery after intervention wassignificant (paired t test value was 9.89. The table value at *5%* level was 1.98).

Conclusion

After intervention, more women opted for vaginal delivery. Simple educationalmethod like an information leaflet is effective in improving knowledge on mode of delivery significantly.

0443.Wasalthilaka, C.D.
Comparison of peripartum maternal and fetal outcomes in cervical ripening using foley catheter and prostaglandin E 2 gel in post term pregnancies.
MD Obstetrics & Gynecology – 2013   D3784

Objective

To study the Efficacy and the peripartum outcome of cervical ripening in relation to the method of induction of labour, namely Prostaglandin E2gelvs Foley catheter,

Design

An open label prospective randomized controlled trial.

Setting

Ward 05 Teaching Hospital, Kandy.

Method

Uncomplicated primips with singleton pregnancies who underwent induction of labour at 40 weeks+5days were randomized to receive intra cervical Foley catheter (n =70) or by intra cervical application of PGE$_2$ (n =71) gel as a method of pre-induction cervical ripening. Study was carried out for five months duration. Change in mean MBS, maternal and fetal peripartum outcome (uterine hyper-stimulation, postpartum hemorrhage and maternal fever, meconium at membrane rupture, APGAR at 5 minutes and SBU admission) between the two groups was compared.

Results

 Outcomes were measured after 6 hours and 24 hours from the intervention. Mean pre-cervical ripening mean Bishop score (MBS) for PGE$_2$ group was 4.14 (N=71), 95%CI (4.08-4.40) and of Foley group was 4.33(N=70) 95%CI (4.454.81) deference was statistically not significant. Mean post cervical ripening modified bishops score for PGE$_2$ group was 8.47 (N=72), 95%CI (8.45-9.22) and of Foley group was 9.01(N=73)95%CI (8.76-9.31) and difference was statistically not significant. There was no statistically significant difference in maternal or fetal side effects between two study groups. Intervention to delivery time is significantly higher in Foley catheter group (30 + 2.1hours) than in Prostaglandin group (21 + 1.7 hours).

Conclusions

Both PGE$_2$ and Foley catheter insertion are equally effective for preinduction cervical ripening in primips, however PGE$_2$ was associated with higher incidence of uterine hyper stimulation,though it is not statistically significant. There was no significant difference in fetal side effects. Intervention to delivery time is significantly longer in Foley group than in PG group.

Recommendations

Induction of labour should be done after assessing the cervical favorability when it is necessary. When cervix is unfavorable, cervix has to be ripening with a suitable ripening agent. Both intra-cervical PGE$_2$ gel application and intracervical Foley catheter insertion are equally effective in cervical ripening in primips in

considering efficacy. No significant difference seen in fetal or maternal side effects.

0444. **Wickramasinghe, W.M.R.P.T.B.**
Effectiveness and safety in keeping the intra uterine foley catheter for 24 hours versus 48 hours for induction of labour: A randomized controlled trial.
MD Obstetrics & Gynecology - 2016   **D4593**

Introduction: Induction of labour is the commonest obstetric intervention. A survey found that Sri Lanka has high percentageof IOL (35.5%).

Objective: To compare the safety and effectiveness of keeping the intrauterine Foley catheter for 24 hours versus 48 hours for induction of labour.

Method: A randomized control study was carried out at professorial unit, De Soysa Hospital for Women, Colombo. Participants with singleton cephalic presentation with intact membranes and bishops' score of 5 or less at POG 40+5 were allocated to 24 hours (n=107) and 48 hours (n=94) intra uterine Foley catheter induction groups. CRP level measurement and Papanicolaou smear for bacterial vaginosis were carried out in both groups before Foley induction. Foley induction was done with aseptic precautions. Papanicolaou smear for bacterial vaginosis was taken and CRP level was measured 20 hours following completion of Foley induction in both groups. Proportions of Spontaneous onset of labour, length of active labour and caesarean section rate were compared in both groups. Placental histology for evidence of chorioamnionitis was carried out in those who experienced spontaneous onset of labour in both groups. Apgar scores at lmin, 5min and 10 min, incidence of fever in the neonate and SCBU admissions were compared in both groups.

Results: Thirty five women (32.7%) experienced spontaneous onset of labour in 24 hours group, compared to 54 (57.4%) in 48 hours group (p = <0.001, OR=2.78 CI=1.56 to 4.93). Mean length of active labour was 7.48 hours in 24 hours group and 7.69 hours in 48 hours group. Fifteen (16%) were delivered by caesarean section in 48 hours group compared to 15 (14%) were delivered by caesarean section in 24 hours group. Ten (10.3%) in 24 hours group, compared to 6 (6.7%) in 48 hours group were found positive for bacterial vaginosis in post induction Papanicolaou smear, which was previously negative. Mean CRP level increase

was 4.08IU in 24 hours group compared to 3.91IU in 48 hours group. Among placentae that were evaluated for chorioamnionitis, 5.7% placentae in 24 hours group and 11.1% placentae in 48 hours group were positive for chorioamnionitis. Mean Apgar scores were 9.12 in 1 minutes and 9.93 in 5 minutes in 24 hours group, compared to 8.99 in 1 minutes and 9.98 in minutes in 48 hours group. In 24 hours group 8.4% babies and in 48 hours group 8.5% babies were found to have pyrexia. Sixteen babies (15%) in 24 hours group, compared to12 babies (12.8%) in 48 hours group were admitted to SCBU.

Conclusions and Recommendations: It was observed that there is statistically significant difference in the onset of spontaneous labour when the Foley catheter is kept in for 48 hours compared to 24 hours. All other parameters evaluated, including infectious morbidity and neonatal outcome showed no significant differences.

0445. **Wijepala, W.A.M.J.P.**

Preinduction cervical ripening with foley catheter filled with 60ml compared to 30ml in low risk mothers: A randomized trial to find out the most effective inflated balloon volume.

MD Obstetric & Gynecology – 2011   D 3768

Introduction: -

High cervical Bishop's score is the major determinant of successful vaginal delivery. There are several methods for induction of cervical ripening. Foley balloon catheter is a popular mechanical method for induction of cervical ripening.

Objectives:-

To compare the efficacy of 30ml of intracervical balloon catheter with 60ml ofintracervical balloon catheter for pre induction cervical ripening low risk multipara at the period of gestation 40 weeks and 02 days.

Methods

A prospective randomize clinical trail was conducted at Colombo south Teaching hospital, Kalubowila and Castle Street Hospital for women, Colombo 08.A total of 88 mothers who were multipara with singleton pregnancy vertex presentation, intact membrane and Bishop score 5 or less than 5 at the period of gestation 40 weeks and 02 days without uterine scare, recruited for cervical ripening with Foley catheter. Catheter was kept in situ for 24 hours. If mother was not going to active labour, labour induction was done after 24 hours.

Main outcome measures:-

The primary outcome measure was cervical favorability 24 hours after cervical ripening and secondary outcome measures were mode of delivery, duration of labour, time duration from Foley induction to delivery, complications during cervical ripening, intrapartum complications and postpartum complications.

Results

High proportion (97.7%) of cervical favorability was achieved in 60 ml study group than 30ml group (56.8%, RR, 12.65, 95%CI: 1.86-86.17; P0.001). Mean change in Bishop score was more in 60ml group (3.8 + 0.6) versus 30ml group (2.8 + 1.3,P<0.001). High proportion (93.2%) of vaginal delivery was achieved in 60ml group versus 30ml group (72.7%, RR, Cl: 2.81-7.86, P=0.01). Mean duration of time interval was short in 60ml group (34.2 + 17.6 hours) versus 830ml group (49.6 + 14.1 hours=0.001). Duration of labour was longer in 30ml group (7.9 + 3.2 hours) when compared to 60ml group. Statistical and clinically significant pain and bleeding occurred in 60ml group (RR, 2.98, 95%CI: 1.68-5.25) during cervical ripening.

Conclusion

For pre induction of cervical ripening, 60 ml of Foley balloon catheter volume is more effective in achieving high cervical score, more vaginal delivery rate, less Caesarean section rate, short duration of labour and short cervical induction to delivery interval.

0446.Wijesinghe, R.D.
Randomized controlled study on effect of birth education on the outcome of labour.
MD Obstetrics & Gynecology – 2017   D 4665

Introduction: Labor is a challenge to women's physical and psychological reserves. Prior beliefs and understanding regarding labor can have direct effects on the medical outcome of labor as well as emotional experience of giving birth. Anxiety during labor is known to be associated with increased pain perception. Birth education classes are conducted in view of preparing women to face the labor with confidence. Most of Sri Lankan pregnant mothers are provided with antenatal classes in the field setting. But the quality of the inputs on the birthing process itself is not satisfactory. Evidence on the effects of birth education on Sri Lankan and other south Asian countries are not available.

Objectives- To assess the effects of birth education on severity of labor pain and mode of delivery.

Method- A randomized controlled study was conducted among the primi antenatal mothers who booked in Teaching Hospital Peradeniya. Intervention group received education on the labor process while control group received standard care. Labor pain was assessed using a visual analog score. Pain scores and mode of delivery were compared between the two groups.

Results- A total of 216 participants were involved in the final analysis. Intervention group included 100 participants while remaining were in the control group. Mean age of the participants was 27 years while 78.3% received advanced level education or higher. Nearly 95% of the participants were fluent in reading. Mean labor pain score was 6.6. Pain score of 8, which corresponded with the 75th percentile was defined as the cut off for severe pain A statistically significant reduction of the pain perception in the labor education group.(R.R-0.473,C.I-0.303-0.740) was observed. Risk of operative vaginal delivery orcaesarean section was not statistical significant between the groups. But there was a slight, yet significant increase in normal vaginal deliveries among the labor educationgroup (R.R-1.123,C.I-1.004-1.255).

Conclusions- Hospital based birth education classes, reduced the number of mothers with severe pain during labor and increased the normal vaginal delivery rate among the primi who delivered at teaching hospital Peradeniya. Our sample may not represent average Sri Lankan pregnant women since the study was conducted in a setting with higher socio economic background. Thus further studies involving more divers populations are needed before inferring the results to national level. However, hospital based birth education classes should be considered as a potential low cost intervention to improve the rate of vaginal deliveries and the quality of the birthing experience.

0447.Yaddehige, S.S.
Comparison of cervical massage with membrane sweeping for pre-induction cervical ripening at term: A randomized controlled trial.
MD Obstetric & Gynecology – 2016   D 4590

Introduction:

Membrane sweeping is a common method of pre induction cervical ripening method. Membrane sweeping is not possible all the time where the cervix is highly unfavorable. In such suck a situation cervicalmassage is being recommended. Number of clinical trials has been done on membrane sweeping and cervical massage is an effective method of cervical ripening and prevention of post termpregnancies, however the effectiveness of cervical massage over the membrane sweeping has not been researched.

Objective:

1.To compares the effectiveness of cervical massage and membrane sweeping for pre induction cervical favorability in postdated pregnancies.

2.To evaluates the side effects of this interventions.

Methods:

A randomized controlled trial, A total of 160 singleton uncomplicated pregnantwomen at 40 week +4 days with cephalic presentation, with an unfavorablecervix whose Modified Bishop's Score (MBS) is less than 4 were selected. Participants were randomly assigned to cervical massage group, membranesweeping group and control group (no intervention). The favorability of

cervix for induction of labour, measured by change in the modified bishop's score in48 hours of intervention. Possible complications such as rupture of membrane, intrapartum infection, postpartum infection and neonatal morbidity were alsoassessed.

Results:

There were no significant differences in the mean age and MBS at recruitment in the primigravidae and multigravidae, between the three study groups. There was significant increase in mean MBS after intervention in cervical massage group (in primigravidae 6.4, 95% Cl 4.8-8.0, in multigravidae 7.2, 95% Cl 6.1-8.4) and membrane sweeping groups (in both 7.6, 95% Cl 6.2-9.0) compared to control group (in primigravidae 5.3, 95% Cl 4.0-6.5, in multigravidae 4.8, 95% Cl 3.85.8) p=0.04 in primigravidae and p=0.003 in multigravidae. Adverse effects were similar in each group except for CTG abnormalities which was reported more in control group. Other obstetric outcome and indicators for neonatal morbidity were similar in each group.

Conclusion:

Cervical massage and membrane sweeping were showed significant effect onimprovement of the MBS at term as pre induction cervical ripening method. This effect was more marked in multigravidae compared to primigravidae. Itwas not associated with any significant neonatal morbidity and mortality ormaternal complications. It also reduced the requirement of vaginal PGE2 15% in cervical massage group and membrane sweeping group compared with the control group.Ethical approval was taken from the Ethical Review Committee, Faculty of Medicine, University of Ruhuna. The study is registered in the Sri Lanka Clinical Trial registry.

0448.Ziard, M.H.

Efficacy of two different treatment regimens of vaginal nitric oxide donor (Isosorbide Mononitrate) used for pre-induction cervical ripening. MD Obstetrics & Gynecology - 2012   D 3781

Introduction

The sustained release form of Iso-sorbide Mononitrate (ISMN-SR) when used vaginally as a pre-induction cervical ripening agent has been shown to be safe, effective and well tolerated by women.

Objective

The aim of this study was to compare the effectiveness of vaginal administration of ISMN-SR 60mg for two days versus for three days and to assess the feasibility and effectiveness of its administration as an outpatient procedure.

Method

A randomised controlled trial. Consecutive women with uncomplicated singleton pregnancies at 40 weeks + three days gestation were allocated by stratified (primip / multip) block randomization to receive either vaginal ISMN-SR 60mg on 40 weeks + three days and + five days - inward (Group A, n = 74) or vaginal ISMN-SR 60mg on 40 weeks + three days, + four days and + five days administered either in ward (Group B, n = 67), or as an outpatient procedure (Group C, n = 25). Data was collected by an interview administered questionnaire.

Results

At 40 weeks + three days gestation, the parity and the mean age and the mean modified Bishop Score (MBS) were similar among the three treatment groups. Group C had to be prematurely terminated because of unforeseen circumstances. There were no significant differences in the proportions of women who established spontaneous labour by 40 weeks and six days among the three treatment groups. There was a significant increase in the proportion of women becoming favourable for Induction of labour (IOL) in Group B compared to Group A (55.6 % vs. 25.7 %, $p < 0.05$). There was a significant increase in mean MBS in Group B compared to Group A (3.0, 95 % Cl 2.4 - 3.3 vs. 1.6, 95 % Cl 1.2 - 1.9, $p < 0.005$). Theproportion of women requiring further pre-induction

cervical ripening was significantly greater in Group A compared to Groups B (69.3 *%* vs. 44.4 %, p < 0.05). There were no significant differences in mean induction to delivery intervals and caesarean section rates in the three treatment groups. In Group C 15 (*60 %)* self administered the ISMN - SR and 20 (80 %) were satisfied with this modality of therapy, and were willing to try it again if necessary and were also happy to recommend it to another patient. The occurrence and intensity of nausea and vomiting was significantly less (p < 0.005) in Group C.

Conclusion

The three day inpatient regimen of ISMN-SR 60 mg was better for pre induction cervical ripening than the other two regimens of therapy. Although the effectiveness of the outpatient regimen could not be properly estimated, the side effects seem to be better tolerated with outpatient therapy.

Ophthalmology

0449. Abeysekara, W.H.M.
Brow suspension using silicon slings for severe congenital ptosis in children during the first year of life.
MD Paediatric Ophthalmology – 2010   D 3709

Background of the Study

Ptosis present from birth or diagnosed before the age of 12 months, notassociated with other abnormalities of ocular motility or systemic conditions is classified as congenital ptosis. Congenital ptosis can be unilateral, or bilateral. In most bilateral cases the degree of ptosis is asymmetric. Depending on thedegree of ptosis, there is a risk of developing amblyopia. Most of these casespresent to the paediatric ophthalmologist with already established amblyopia. Prompt management is crucial for the normal binocular visual development inthese children. As they usually have poor levator function, brow suspension is the method of choice of treatment. Various materials have been described inliterature for brow suspension in this age group and older children. All thematerials have been associated with varying degrees of success, failures andcomplications. Usage of silicon rods for brow suspension was described in

older children, but to date this technique was not described in children under 12months of age. To my knowledge, this is the first case series using silicon rods for correcting severe congenital ptosis in infants under 12 months of age.

General Objective

To describe the impact on amblyopia management of the new technique of using silicon rods for brow suspension in children with severe congenital ptosis under 12 months of age with comparison to the other techniques described in the literature.

Specific Objective

1.To describe the technique of the brow suspension using silicon rods in   children under the age of 12 months including the post operative   management.

2.To describe the improvement of amblyopia in the study group during the post operative period.

3.To compare surgical method with other similar surgical techniques described in the literature in the infants under 12 months of age or younger children.

4.To describe the cosmetic success of the brow suspension using silicon   rods in children under 12 months of age

5.To describe per-operative and post operative complications of brow suspension using silicon rods in children under 12 months of age and to   compare with complications of similar surgical techniques using different materials.

Inclusion Criteria

Children with severe congenital ptosis, underwent unilateral or bilateral brow suspension with silicon rods before the age of 12 months at the Eye

Department of the Birmingham Children's Hospital, Birmingham, United Kingdom during August 2008 and March 2013

Exclusion Criteria

1.Presence of other oculoplastic or ocular motility disorder e.g.: Marcus Gunn Jaw Winking phenomenon, Blepharophimosis, congenital fibrosis of extra ocular muscles

2.Patients who underwent other lid surgery previously

3.Children with neurological problems e.g.cerebral palsy

27 eyes of 17 patients (10 bilateral and 7 unilateral) met with the above criteria and were enrolled in the study. Indication for intervention (surgery):

1.Already established amblyopia with severe ptosis

2.Visual axis covered by the superior lid with higher risk of developing amblyopia

Follow Up

Two patients lost to follow up after 1 and 3 months post operatively. Others were followed up from 9 to 25 months.

Study Variables

1.Visual acuity preoperative (logMAR)

2.Visual acuity postoperative (logMAR) at1 month,3month,12month

3.Postoperative time period taken to resolve amblyopia

4.Palpebral Fissure height preoperative (millimetres)

5.Palpebral fissure height post operative (millimetres) at 3 month and at last visit or discharge

6.Appearance of the superior lid margin contour at discharge or 12 months post operative

7.Duration of nocturnal lagophthalmos (months)

8.Presence of post operative complications (exposure keratopathy, sling related complications)

9.Parental opinion on post operative cosmetic appearance at discharge or 12 months post operatively.

Outcome Measures

1.Improvement of visual acuity in amblyopic children

2.Development of age matched normal visual acuity in non-amblyopic children

3.Duration taken for the improvement of amblyopia

4.Cosmetic success of the procedure based on palpebral fissure height and upper lid margin contour

5.Parental satisfaction on cosmetic appearance
6.Minor and major complications of the procedure
7.Duration taken for the improvement of nocturnal lagophthalmos
Keywords – Silicon sling, Brow suspension, Amblyopia , Infants

0450.Gunasekara, J.W.W.

Outcomes of macula hole surgery with pars plana vitrectomy, internal limiting membrane peel, long acting gas tamponade following strict and non -strict post-operative Positioning.

MD Ophthalmology – 2018   **D 4837**

Introduction: Macula hole is a full thickness round opening at foveal center of retina.Standard protocol is to keep the patient in strict prone position for 6 days after macula hole surgery with pars planavitrectomy, internal limiting membrane peel and long acting gas tamponade.

Purpose: To compare anatomical and functional outcomes between strict and non-strict postop positioning following standard macula hole surgery with pars planavitrectomy, internal limiting membrane peel and long acting gas tamponade and to describe the incidence of early postoperative complications.

Design: Prospective randomized clinical trial.

Methods: seventy-six eyes of 76 patients with full thickness macula holes underwent the protocol at Northampton General Hospital and Oxford University Hospital. After the pars planavitrectomy with 18% C3F8 gas tamponade, patients were randomized into strict face down posturing and non-strict positioning groups. The eyes were examined by daily from postop day 1 up to the first week. Post operative macula hole closure was confirmed by spectral domain Optical coherence tomography(SD OCT), visual acuity was measured and posturing discontinued at day six. Follow-up was performed at 1 and 3 month intervals. The main outcome measures included closure rate on OCT and best corrected visual acuity. We also looked at the incidence of complication in the initial 3 month postoperative period.

Results: 76 patients (39 prone positioned, 37 non positioned) selected for the study. Mode of the visual acuity (VA) was 6/36 in both groups. 42.1% of studied population had stage 4 macula hole. Primary hole closure was achieved by 81% cases and 71% of controls (p=0.4). Majorities of case group improved VA up to 6/18 and control group improved VA up to 6/24.17.1% had cataract as a post op complication (p=0.1). Only 3.9% had retinal detachment.

Conclusions: Strict postop positioning does not significantly improve closure rates or visual function in idiopathic macula holes.

Keywords: - Retinal hole, Non restrict positioning

0451. Gurusinghe, G.L.R.
A prospective interventional case series to assess the course of changes in the central foveal thickness following double peeling of epiretinal membrane and internal limiting membrane for idiopathic epiretinal membrane in Sri Lankan population.
MD Ophthalmology – Vireo-Retinal Surgery – 2010   D 3972

Purpose

This study was conducted to demonstrate the changes in the Central Foveal thickness and associated visual acuity improvement, in patients being operated for idiopathic Epiretinal membrane by 23G pars plana vitrectomy with simultaneous Epiretinal membrane and Internal limiting membrane peeling in Sri Lankan population.

Materials and methods

A prospective interventional, non-comparative case series with 6 months followup component was carried out at National Eye Hospital Colombo from 19th of March 2015 to 31st March 2016.

A group of thirty patients with idiopathic Epiretinal membrane (13 male and 17 female) were identified and admitted to the National Eye Hospital Colombo. Epiretinal membrane removal with simultaneous Internal Limiting membrane peeling was done. All thirty patients were followed up for the period of six months.Pre and post-operative best-corrected LogMar visual acuity (BCVA), detailed Ophthalmological assessment andCentral Foveal thicknes measurements were done. The spectral domain 3D optical coherence tomography was used to measure the Central Foveal thickness. The main outcome measures of this study were changes in the Central Foveal Thickness (CFT) andbest corrected visual acuity (LogMAR) during the follow-up period

Results

In the Pseudophakic subgroup the pre-operative mean visual acuity was 0.76 ±0.30 (95% Cl 0.62-0.90). Following the post-operative first month follow-up the visual acuity was 0.71 ± 0.23 (95% Cl 0.59-0.82). Post-operative 2 month visual acuity was 0.65 ± 0.26 (95% Cl 0.52-0.78). Post-operative 3 month visual acuity was 0.51 ± 0.29(95% Cl 0.37-0.65) and post-operative 6 month visual acuity was

0.41± 0.23 (95%Cl0.29-0.52). In the Phakic subgroup the pre-operative mean visual acuity was 0.68 ± 0(95% Cl 0.50-0.85). Following the post-operative first month follow-up the visual acuity was 0.72 ±0.19 (95% Cl 0.59-0.85). Postoperative 2nd month visual acuity was 0.74 0.21 (95% Cl 0.60-0.88). Post-op 3rd month visual acuity was 0.75 ± 0.20 (95%0.61-0.88) and post-operative 6th month visual acuity was 0.85 ± 0.18 (95%0.73-0.97). Central Foveal thickness was assessed in the total sample pre-operative; following the surgery (n=30). The baseline mean Central Foveal Thickness (567 um) decreased to 444 pm in the post-operative first month. It further decreased to 416 um,n383 pm and 315 pm in the second, third and sixth months. Accordingly, statistically significant restoration of Foveal Thickness were observed at first month post-operative visit with further foveal thickness reduction at six months while Best Corrected Visual Acuity improvement started at post-operative 2nd month with further improvement at months.

Conclusions

After a successful Epiretinal membrane removal with simultaneous internal limiting membrane peeling, structural recovery was evident at post-operative 1st month and further recovery at 6 months. While functional recovery started at 2nd month and further improvement at 6 months.

Keywords :Central Foveal thickness(CFT), Epiretinal Membrane (ERM), Internal limitingmembrane (ILM), Parsplana vitrectomy (PPV), herent tomography (OCT), Best corrected Visual acuity (BCVA).

0452A.Jayasekara, I.
Transepithelial corneal collagen cross linking (CXL) for keratoconus.Analysis of CXL done from March 2013 to July 2013 at National Eye Hospital, Colombo.
MD Ophthalmology – 2013   **D 3936**

Purpuse: To evaluate the efficacy of transepithelial comeal collagen crosslinidng (CXL) in patients with progressive keratoconus. National Eye Hospital, Colombo

Design: A retrospective, single center, nonrandomised case series analysis.

Methods

Patients with a history of progressive keratoconus who underwent Tranepithelial cross linking from March - July 2013 were analysed. Transepithelial CXL was

performed by applying an enhanced riboflavin solution (riboflavin 0.1%, dextrane T500 with trometamol (Tris-hydroxymethy aminomethane] and EDTA [ethylenediaminetetraacetic] sodium salt) on the intact comeal epitheliumfor 30 minutes before irradiation with ultraviolet A (370 nm at 3 mW/cm2) for 30 minutes. Follow up was 24 months in all eyes.

Results: CXL appears to be a safe treatment option for the halting of the progression of Keratoconus, 29 eyes of 24 patients were analysed and the average change in the keratometric value over the 2 year period was< ID in 26 eyes. There were 3 patients having > ID progression, which was not statistically significant.

Conclusions; Transepithelial CXL treatment appeared to halt keratoconus progression, with stabilization/improvement in visual and topographic parameters. The treatment was safe and well tolerated. Its noninvasive nature makes it potentially useful in which epithelial debridement and it's associated side effects can be avoided.

The limitation of the study is that the number of patients treated are low and the time duration of analysis is small. With continuing post of follow up of these patients more robust evidence can be gathered on the course and out come of the Keratoconus treated.

Financial Disclosure: The author has no financial or proprietary interest in any material or method mentioned.

452B Jayasinghe,L.S.
Comparison of endoGlide donor insertion device to sheets glide in descemet's stripping automated endothelial keratoplasty three year outcomes.
MD Ophthalmology - 2018   D 4841

Purpose
To compare 3-year endothelial cell loss and graft survival following Descemet's stripping automated endothelial keratoplasty (DSAEK) using the EndoGlide (AngioTech, Reading, Pennsylvania, USA/Network Medical Products, North Yorkshire,UK) donor insertion device compared to donor insertion using the sheets glide

Design
Prospective comparative case series

Methods

Consecutive patients who underwent DSAEK with Fuchs endothelial dystrophy or pseudophakic bullous keratopathy at a single tertiary center were considered to the study. Clinical data with outcomes, donor and recipient characteristics were obtained from the ongoing prospective cohort from the Singapore Cornea[1] Transplant Study. Main outcome measures were percent endothelial cell loss and graft survival up to 3 years.

Results

Overall percent endothelial cell loss was significantly lower in the EndoGlide group (100 eyes) compared to Sheets glide group (119 eyes) at 1 year (16.3±16.6% vs. 29.5±22.2%, PO.OOl), 2 years (23.8±17.8% vs. 35.7±22.9%, P=0.001); and at 3 years (29.7±20.9% vs. 38.5±24.1%, P=0.015) post-operatively. Overall graft survival was greater in the EndoGlide compared to Sheets glide group up to 3 years (97.9% vs. 86.5%, log-rank P value=0.005). In eyes with Fuchs endothelial dystrophy, endothelialcell loss was significantly lower in the EndoGlide group (3year: 28.2±17.9% vs.43.4±27.1%, P=0.032). In eyes with pseudophakic bullous keratopathy,theEndoGlide group had a superior graft survival compared to Sheets glide (log-rank P=0.031).

Conclusion

Endothelial cell loss was lower using a donor insertion device during DSAEK, compared to using the sheets glide technique for DSAEK in Asian eyes with Fuchs endothelial dystrophy, and resulted in better graft survival in eyes with pseudophakic bullous keratopathy.

0453. Jayathissa, K.B.
Descriptive follow up study of long term outcome in patients with retinopathy of prematurity (ROP), requiring posterior segment interventions additional to laser ablation treatment at the Lady Ridgeway Hospital for Children, Colombo.
MD Pediatric Ophthalmology – 2009   **D 3711**

Background- The evaluated data on the posterior segment interventions for ROP, viz; use of intra vitreal Bevacizumab and posterior segment surgeries, in ourcountry is sparse and this particular study is aimed to render a reasonableoverview as to where we are currently positioned on the subject concerned.

Method- This was a both retrospective and prospective, descriptive study with afollow-up component. All patients who received treatment for ROP with posterior segment interventions at the Eye Unit, Lady Ridgeway Hospital for Children, Colombo from 01/01/2008 till 31/05/2014 were taken up for the study. Demographic data, interventions and long term outcome were analyzed.

Results- Study included 1386 patients whom were treated for ROP and out of this population, 188 patients (13.5%) received intra vitreal Bevacizumab injection and 28 patients/36 eyes (2%) underwent posterior segment surgeries. Majority were from the group of POG between 25-30 weeks at birth to undergo the intervention. In the injection group, nearly 98% of patients got it in both eyes. On the long run, more patients achieved increasingly functionally useful BCVA with time and the incidence of refractive errors, strabismus and both issues simultaneously increased as they grew up. Comparative analysis of this group against a patient group who received laser alone across the same time frame did not reveal an overall statistically significant difference with regard to these issues i.e. refractive errors, strabismus and both refractive errors and strabismus simultaneously at 5 years of post-treatment age. A few important noteworthy neurological and ocular phenomena have been documented in this group post-injection. In the surgery group, too, more patients achieved increasingly functionally favorable BCVA with time and the incidence of refractive errors, strabismus and both issues simultaneously also increased as they grew up.

Conclusion- On accounting the long term outcome, the general tendency of theincidence of refractive errors, strabismus and both refractive errors and strabismus simultaneously have been to increase as the patients grew up with the BCVA becoming functionally more favorable with time. The study also reports an ocular and a few neurological adverse effects (vitreous haemorrhage, intra cranial haemorrhage, hemi paralysis, hypotonia, developmental delay) following intra vitreal Bevacizumab use with the intention of contributing to decision making in future rationalized use of the drug by a better understanding of its long term safety profile.

0454. Jayaweera, G.M.
Intra vitreal ranibizumab treatment (IVRT) for centre involving diabetic macular oedema- clinical outcome in a real-world clinic setup.
MD Ophthalmology - 2016   D4070

Introduction

Medical Retina Firm of Department of Ophthalmology, University Hospital of Wales has commenced treatment with intravitreal ranibizumab for centre involving diabetic macular edema in August 2013. We have planned for a one year follow up study to assess the clinical outcome in a real world clinic setup as opposed to the outcome in research framework and to determine how are we in keeping with the treatment standards.

Objectives

The objective of the study is to evaluate the clinical outcome of IntraVitreal Ranibizumab Treatment (IVRT) for centre involving Diabetic Macular Oedema (DMO) in a real world clinic setup**.**

Methodology

A single centre observational prospective study with one year follow up conducted in Department of Ophthalmology, University Hospital of Wales, Cardiff. All adult (over 18 years) patients commenced Intra Vitreal Ranibizumab Treatment (IVRT) for centre involving Diabetic Macular Oedema (DMO) since August 2013 in the Cardiff Eye Unit were recruited in to the study. Decision for treatment was based on NICE / RCO guidelines and Intravitreal Ranibizumab 0.5mg/0.05cc was given according to standard intravitreal injection procedure. Patients were reviewed every 4-6 weeks for a period of one year. At each visit Best Corrected Visual Acuity (BCVA) was measured and Spectral domain OCT scans were done. The initial loading phase consists of 3 loading doses given 4 weeks apart and subsequent dosing on pro re nata basis. Primary outcome measure was the mean change in Best Corrected Visual Acuity (BCVA) at month 12 from baseline. Secondary outcome measures were i. mean change in central retinal thickness, ii. mean change in central sub field mean thickness, iii. mean change in total macular volume, at month 12 from baseline.

Results

Total of 67 eyes studied over a one year follow up period. Mean age was 66.3 years, 55% were males and 45% were females. 76.2% were type II diabetics while 23.8 % were type I diabetics. Mean duration of diabetes was 13.6 years and mean HbAlc value was 66.92 mmol/1. Mean BMI was 29.9. Thirty in (58.2 %) patients had chronic macular oedema. Mean change in BCVA at month 12 from baseline was gain in Mean change in BCVA at 3 months ($p = 6.515* 10^{-05}$) and at 6 months ($p = 2.629*1 O^{-05}$) were statistically significant compared to baseline. However, there were no statistically significant difference in the BCVA between 3 and 12 months (p= 0.7993) and between 6 and 12 months (p = 0.4852). There was no significant difference in the BCVA at 12 months (p = 0.07712) between fresh and chronic DMO groups.

Conclusions

IVRT has resulted in significant gain in BCVA at one year compared to baseline in this cohort of real world clinic patients with centre involving DMO. No significant difference was noted in the functional and anatomical responses between 3 months and one year and between fresh and chronic diabetic macular oedema patients at one year. At least 25% gain in visual acuity at 3 months or 25% reduction in central retinal thickness at 3 months were identified as reliable predictors of the response at one year.

0455.Kulasekara, S.
Analysis of immediate and short term changes in intraocular pressure following intravitreal injection of anti vascular endothelial growth factor agents.
MD Ophthalmology– 2015   **D3710**

Background: Intravitreal injections of anti-vascular endothelial growth factors (VEGF) are used extensively to treat retinal diseases. Fluid injected into the eye causes a sudden increase in intraocular volume and a parallel increase in intraocular pressure (IOP). The purpose of this study was to investigate the immediate and short term effects of intravitreal injections on IOP and to assess if a patient's lens status influenced their IOP response to injections.

Methods: This was a hospital based non-interventional, retrospective clinical audit. A total of 49 eyes of 49 patients were submitted to a single intravitreal injection of anti-VEGF (0.05mL). The Intraocular pressure was measured with a

Goldman applanation tonometer at baseline (IOP1), immediately after an injection (IOP2), at 15 minutes (IOP15), and at 30 minutes (IOP_30) after an injection, with the patient in the seated position.

The mean baseline IOP (IOP1) was 15.5 ± 3.3 mmHg. Mean IOP immediately after the injection was 31.9 ± 10.4 mmHg. Mean IOP rise following an intravitreal injection (i.e. IOP2-IOP1) was 16.4 ± 10.37 mmHg. At 15 minutes post injection the mean IOP was 28.7 ± 15.11 mmHg and at the 30 minutes post injection it was 24.8 ± 7.7 mmHg. IOP1 was significantly correlated with IOP2 ($p < 0.001$) but not with the IOP rise ($p > 0.1$). The mean IOP2 of phakic patients (33.4 ± 10.6 mmHg) was higher than the mean IOP2 of pseudophakic patients (29.6 ± 9.9 mmHg). However, this difference was not statistically significant ($p > 0.05$). Conclusions: In patients without glaucoma, the intraocular pressure spike that follows an intravitreal injection is self-limiting with almost all patients reaching an IOP below 30mmHg within 30 minutes from time of injection. There was trend toward phakic patients to have a higher IOP spike that takes longer to recover compared with pseudophakic patients.

0456.Piyadarashana, P.W.
Prevalence of ocular trauma and its associated factors among patients presenting to a peripheral eye unit in Sri Lanka.
MD Ophthalmology – 2017   **D4355**

Introduction

Ocular trauma is described as the physical damage occurring in the human eye due to mechanical or chemical agents, radiation and many other causes. Most of the times these visual morbidities are permanent and they create a major impact on the patient 's quality of life. It is extremely important to identify the necessities of the services and further develop the eye care services specially to make the required changes of health policies in order to face the transforming world. This study can be implemented as fundamental approach to a subject area which can be expanded to a wide range.

Objectives

To estimate the prevalence, pattern and associated factors of ocular trauma among patients presented to a peripheral eye unit Sri Lanka.

Methods

This was a descriptive cross sectional hospital based study conducted in Base Hospital Wathupitiwala for two months duration from September to November 2017. Directly admitted patients with ocular trauma to base hospital Wathupitiwala were included for the study. Patient who underwent indigenous medical treatment before presenting to the study setting and patients who were treated initially from other hospitals and who came to study setting were excluded. Interviewer administered semi structured data extraction sheet was used as study instrument. Data analysis was done by using SPSS statistical package version 23.0. Ethical clearance for the project proposal was obtained by the Ethics Review Committee of National Eye Hospital Colombo.

Results

Prevalence of ocular trauma among patients presented to ophthalmic unit was 18.6% (N=266). Study sample showed a significant male predominance (N= 221: 83.1%). Mean age was 39.45 years (SD: 16.21 years). A significant reduction of patients reporting on Fridays was observed (N=19:7%). Majority of the injuries had occurred around occupational settings (43%: N=114). Majority of the participants (67.7%: N=180) had not used Personal protective equipment for protection. When compared to day time, there was a significant reduction of reported ocular injuries during night time (5.6%: z>1.96). There was a significant association between the anatomical place of ocular injury and the time of ocular injury (X^2=6.54: p <0.05). Risk of damaging a single anatomical plane was higher among the study participants than the risk of damaging many anatomical planes (OR=3.824:95% 0=1.283-11.396). There was a higher risk of occurring an ocular injury at an occupational setting than in a domestic environment (OR=2.022:95% 0=0.617-6.623). When consider the place of injury incidence, there was a higher risk of occurring the injury during day time (OR=l.036:95% CI= 0.979-1.096). Among the study participants, a significant trend was observed among the age group 31 years to 45 years for using PPE (11.5%).

Conclusion and Recommendation

Superficial corneal injuries were most common among the patients presented with ocular trauma to the study setting. Occurrence of ocular trauma during daytime is more common than night hours. Both occupational and domestic settings are equally hazardous places for ocular trauma. Risk of having an ocular

trauma is high among the young male population. General population should be motivated to use Personal Protective Equipment to protect eyes from accidental injuries during risky procedures. Apart from popularizing Personal Protective Equipment usage at occupational settings, a regular review should be conducted to find out their proper usage. Health promotional activities targeted on prevention of ocular trauma should be focused on the young male population. Special attention should be paid to establish an institutional surveillance system to study the health service burden of ocular trauma around the country.

Keywords: Ophthalmology, Trauma, Injuries

0457. Radhakrishnan, M.P.
Causes for late presentation and factors affecting visual prognosis in patients with phacolytic and phacomorphic glaucoma in a tertiary care eye hospital.
MD Ophthalmology - 2012 **D3973**

Background- Lens induced glaucoma is due to the cataractous lens obstructing the angle of the anterior chamber or by causing inflammation. It may be a secondary open angle (phacolytic glaucoma) or secondary angle closure glaucoma (phacomorphic glaucoma). Lens induced glaucoma alters the visual prognosis drastically. Local literature is scarce on its prevalence and the reasons for the patients with phacolytic and phacomorphic glaucoma to delay seeking health advice.

 Objective- To describe the prevalence and causes for late presentation and factors affecting visual prognosis in patients with phacolytic and phacomorphic glaucoma in a tertiary care eye hospital from October 2013 to February 2014.
Method- Descriptive cross-sectional study was done at the National Eye Hospital, from October 2013 to February 2014. It consisted of two components. Component I had a sample size of 23. Component II consisted of 3609 patients who underwent cataract surgery. Interviewer administered questionnaire and a data extraction tool were used. The questionnaire for component I consisted of four parts. Part A was on socio-demographic details of the participants. Part B included factors that influenced late presentation of the participants. Part C consisted of pre- operative examination findings and Part D was on postoperative details. Patients were followed up for 3 months. The social and medical factors associated with late presentation in patients with phacolytic and phacomorphic

glaucoma and the association between the associated factors of late presentation and the prognosis of phacolytic and phacomorphic glaucoma were analyzed.

Results- Among the 23 patients, 18 patients (1.08%) had phacomorphic glaucoma and 5patients (0.17%) had phacolytic glaucoma. Most of them were men 60.9% (n= 14). Majority of the patients 69.56% (n= 16) had an intraocular lens implanted in the other eye. A large proportion of patients (65.2%) were ignorant that a delay in surgery can cause loss of vision in the eye. More than three quarters of the study population (78.2% patients) were satisfied with vision only in one eye (i.e. lack of awareness of defective vision in the fellow eye therefore patient had no desire for surgery). Despite 73.9% of patients being aware that health care is free, they ignored their declining visual symptoms till the onset of pain. Less than one fifth (17.3%) of patients said they did not have money to buy the intraocular lens. At the end of three months 42.85% of men (n=6) and 55.55% of women (n=5) had visual acuity better than 6/18. There was a statistical significance between duration of symptoms and post-operative day one visual acuity. But the visual acuity on subsequent visits did not reflect this. At one month post operative period, with the level of surgeon's experience the visual acuity was better. This finding was statistically significant for postoperative day one and one month. Age and gender were not found to be statistically significantly associated with the prognosis of the patients.

Conclusions

The prevalence of phacolytic and phacomorphic glaucoma among the patients who underwent cataract surgery during the study period in the tertiary care eye hospital, Sri Lanka was 1.08% and 0.17% respectively. Lens induced glaucoma was commoner among men. Majority did not have a secondary or tertiary care institution within 05 kilometers. Inability to buy the intraocular lens was reported by 17.3% of the patients. Nearly one fourth were suffering from other chronic non communicable conditions. Out of the patients who had one eye operated on, only 50% were counseled to undergo surgery for the other eye. Large number of patients were unaware that a delay in surgery can lead to visual loss. Majority of the patients (73.9%) were aware of the free health care service. Fear of surgery, unavailability of time and uncertainty as to where to seek treatment were not influencing the majority of these late presenters. There was day one visual acuity. But the visual acuity on subsequent visits did not reflect this. At one month post

operative period, with the level of surgeon's experience the visual acuity was better.

This finding was statistically significant for post-operative day one and one month. Age and gender were not found to be statistically significantly associated with the prognosis of the patients. a statistical significance between duration of symptoms and post-operation

0458.Sanjeewa,, K.K.T.

Anatomical and functional outcomes at six months, predictive factors for anatomical outcome following removal of silicone oil and comparison of EuroQol quality of life index at baseline and six months , in complex retinal detachment repairs.
MD Ophthalmology (Vitreo- Retinal Surgery Subspecialty) - 2017 D 4077

Background

Silicone oil is frequently used as a tamponading agent in complex retinal detachment repairs in National Eye Hospital of Sri Lanka. The biggest risk of silicone oil removal is re detachment of retina.

Purpose

To assess the outcome at six months and its predictive factors and to compare quality of life (QOL) index at baseline and six months after removal of silicone oil in complex retinal detachments.

Methods

Prospective observational study was done among 178 patients between 01.06.2016 and 01.05.2017 who underwent silicone oil removal after successful repair of complex retinal detachments using silicone oil as a tamponading agent. An interviewer administered questionnaire was used to extract sociodemographic and relevant clinical details from the recruited patients. Each patient was followed-up from the day of silicone oil removal at post-operative day one, two weeks, six weeks, three months and at six months. Data on the status of retinal attachment, vision and presence of complications were gathered using a data extraction sheet. Baseline and six month QOL was assessed using the index and the visual analogue scores of the EQ-5D-3L QOL tool. Having done the normality assessments, non-parametric tests (i.e. chi square test and Wilcoxon signed rank test) were used in univariant analysis. Selected associate factors were subjected to multivariant analysis using logistic regression.

Results

The mean age of study population was 54.51 years with a range of 16-82 years. Mean (SD) duration of silicone oil in the eye was 234.87 (177.552) days with a range of 30-1095 days, The rate of retinal redetachment six months after the silicone oil removal was 9.0% (n=16t of 177 eyes). All the redetachments occurred within 3 months of silicone oil removal. A statistically significant difference was noted towards improvement in mean logMAR vision between baseline and six months following silicone oil removal where *89.4% (n=144 eyes)*have vision log MAR 1.000 or better (Snellen 6/60 or better) while deterioration of vision as observed in 1.24% (n=2 out of 161eyes at six-month follow-up). There was a "statistically significant difference of mean EQ-5D-3L index values and mean EQVAS values 'tween the baseline and six months after removal of silicone oil (p=0.001). In bivariate analysis 8 factors became significant at 5% significance level; side of the eye (p=0.034), 2 stage procedure (p=0.006), buckling procedure (p=0.038) done at primary complex retinal detachment repair, post-operative day 1 hypotony (p=0.049), giant retinal tear as an aetiology (p=0.041), emulsification of silicone oil (p=0.034), vitreous haemorrhage with in first week of silicone oil removal (p=0.020) and number of surgeries performed including silicone oil removal >4 (p=0.002). In multivariate analysis with logistic regression, three factors were detected as independently influencing the redetachment following silicone oil removal in complex retinal detachments. They were vitreous haemorrhage within first week of silicone oil removal (p=0.007), giant retinal tear as an aetiological factor (p=0.032), emulsification of silicone oil (p=0.029) in this study.

Conclusions and recommendation

Use of silicone oil as a tamponading agent in complex retinal detachments helped to preserve the vision and to keep the detachment rates at a lower level. Preven4tion of vitreous haemorrhage within first week and hypotony with meticulous port closure following silicone removal would maintain the initial surgical success achieved in complex retinal detachment repairs.

0459.Siriwardana, P.S.

Efficiency of intravitreal bevacizumab for the treatment (primary) of diabetic macular oedema -03 month anatomic and visual acuity response. In a selected population in the Northern Territory. Australia, : A hospital based study.

MD Ophthalmology - 2012   **D 3714**

Introduction -Macular oedema is a frequent manifestation of diabetic retinopathy. It is one of the common causes of central vision loss. Newly published data shows off-label Bevacizumab as also giving a good outcome in diabetic macular oedema, compared to other FDA approved anti-VEGF drugs. However, none of them have been conducted in the top-end Australian population.

Purpose - To evaluate a 3 month anatomic and best - corrected visual acuity (BCVA) response,after primary intravitreal Bevacizumab (Avastin), in patients with diabetic macular oedema in the Northern Territory, Australia.

Design-Retrospective, Interventional, non-comparative consecutive case series.

Method -The study was done in a tertiary care hospital in the Northern Territory. Clinical records of patients, who were newly diagnosed and treated for diabetic macular oedema during the period of one year, were reviewed retrospectively. Patients were treated with at least one intravitreal injection of 1.25 mg of Bevacizumab and underwent BCVA testing, an ophthalmoscopic examination, optical coherence tomography (OCT) at baseline and follow up

LogMAR 0.16 (p = 0.0001716). Mean reduction in i). CRT was 167.48 pm (p =1.979* 10^{07}), ii). CSMT was *55.51 ftm* (p = 1.525 *$10\text{-}^{\circ 6}$), iii). TMV was 1.57 mm^3 (p = 1. 52 *$10^{'06}$). A 28.5% improvement in BCVA and a 26.1% reduction in CRT were noted at 3 months.

0460. Wickramasinghe,S.

Descriptive cross sectional study of the use of punch biopsy in the diagnosis of periocular lesions in a district General Hospital in North Wales, United Kingdom.

MD Ophthalmology – 2015   **D3703**

Objective : To find out the histopathological outcomes of punch biopsies of suspicious periocular lesions and their concordance with the clinical diagnosis. Also to see these fulness of punch biopsy and its accuracy in our clinical setup.

Patients and methods: Clinical diagnoses of 51 consecutive patients who underwent

punch biopsy between 1st January 2012 and 30th June 2014 and the histology reports were compared for concordance. Punch biopsy histology was compared with final wide excision biopsy histology for accuracy. Demographic details of patients, use of anticoagulants, waiting time for surgery from the day of listing and the need for wound closure after punch biopsy was also noted.

Results : Commonest clinical diagnosis was basal cell carcinoma (BCC), 39 (76.5%) out of 51. Out of them only 23 (59%) were confirmed by biopsy. Overall 26 (51%) clinical diagnoses were proven histologically. Wherever punch biopsy was followed by wide excision (25 cases) the latter histology agreed with the former (accuracy 100%).14 (35.9%) clinically suspected BCCs avoided further surgery. Sensitivity, specificity, positive predictive value, negative predictive value for clinical diagnosis were 100%, 42.9%, 59% and 100% respectively. There was no statistically significant relationship between the use of anticoagulants and biopsy wound needing primary closure. There was no significant morbidity associated with the procedure. The average waiting timefor biopsy was 33 days.

Conclusion : Punch biopsy is a useful investigation in our hospital setup which can be done within a very acceptable time period after listing. It showed to be very accurate and safe even with the use of anticoagulants. The agreement of histology with clinical diagnosis was poor (low positive predictive value).

Psychiatry

0461. Attapattu, H.W.K.
Socio-demographic and psychiatric morbidity of service users in a Tertiary Care Mental Health Facility and the outcomes of treatment.
MD Psychiatry – 2015 **D 4830**

1ntroduction
Since the first wave of deinstitutionalization, service utilization by patients with severe mental disorders has been a prominent issue in health and social policy. There are numerous studies in the Western societies assessing factors affecting service utilization.

The National Institute of Mental Health (NIMH), Angoda, is the largest mental health facility in the country and the only institution that currently comes under

the purview of the Mental Health Act. It receives about 500 admissions per month from all regions of the country and has approximately about 2000 in-patients at any given time. This apparent over-utilization of services in the NIHM has not been studied with reference to the factors known to influence service use and may not necessarily indicate improved care.

1.2. Aims

The aim of the study was to assess the socio demographic and clinical characteristics affecting service utilization at NIMH.

1.3.Methodology

A random sample of 253 patients admitted to NIMH during a period of one month was studied. An interviewer administered questioner was used to obtain socio demographic data and information of the past history. Case notes were used to obtain data on clinical characteristics. Descriptive statistics and correlational analyses were used to statistically analyse the data.

1.4.Results

There was no statistically significant association between socio demographic factors (age, marital status , socio economic status, education, geographical factors, etc.) and the service utilization. There was no statistically significant association between clinical characteristics, treatment factors or service utilization. But ECT was a factor which significantly affected the length of stay and this association was found to be statistically significant.

1.5. Conclusions

Most of the service users at NIMH were from Western province. Few other factors like severity of mental illness, past treatment experiences and beliefs of the careers also seem to affect the choice of NIMH.

0462.Daybandara, L.R.M.
   Naturalistic study of patients with acute mania: outcome at two weeks.
   MD Psychiatry – 2015   **D 3707**

Introduction: Acute manic episodes in bipolar disorder carry high morbidity and mortality and require complex and intensive treatment. There is level 1 evidence that antipsychotics and mood stabilizers are effective in treatment of mania. Some studies report the superiority of combination therapy over monotherapy with antipsychotics or mood stabilizers. Descriptive studies report that combination

treatments are favored over monotherapy in clinical practice while guidelines recommend initial monotherapy. There is a dearth of research bridging this gap between evidence and practice.

Objectives: Describe the outcome at 2 weeks in patients treated for acute manic episodes with antipsychotics and or mood stabilizers

Design: A prospective, observational, descriptive study carried out in the naturalistic setting of inpatient units of two tertiary care psychiatric institutions in Sri Lanka

Methods: Patients diagnosed with Bipolar disorder, current episode manic, between 18-65yrs were enrolled in the study. Mixed affective episodes, patients on antidepressants or depot medication were excluded. Patients who received electroconvulsive therapy (ECT) were included up to commencement of ECT. Demographic and relevant clinical data were collected at baseline. Assessment with the Young Mania Rating Scale (YMRS), Clinical Global Impression (CGI) rating scale, 17 item Hamilton Depression Rating Scale (HDRS) and UKU Side Effects Rating Scale (UKU-SERS) was done at baseline, day 4, 8, 12 and 15. All medications prescribed were noted with changes at each time point. Primary outcome measured was the reduction in YMRS scores at two weeks.

Results: 148 participants were enrolled (males 57.4%, mean age 41.1yrs). 17 presented in first episode. 19.2% reported comorbid axis I diagnoses. Psychotic symptoms were reported by 60.1%. 86.5% scored >=25 on the YMRS at baseline. Majority of the patients (70.3%) were treated with a combination of antipsychotic and mood stabilizer. Mood stabilizer monotherapy was not prescribed. Olanzapine (40.5%) and haloperidol (26.4%) out of antipsychotics and lithium (43.9%) and valproate (33%) out of mood stabilizers were the most preferred medications. A large number of medication combinations were prescribed. 72.9% were prescribed a regular benzodiazepine. Out of the total sample 55.4% had achieved response (50% reduction in YMRS score from baseline) at 2 weeks. Median time to response was 12.68 days. Mean reduction in YMRS scores was 18.63 at 2 weeks. Survival analysis using Kaplan Meier survival curves compared using log rank tests did not show any significant difference between the mean and median times to response between monotherapy, combination therapy or different antipsychotics or mood stabilizers used. Mean UKU-SERS ratings were low. A significant weight gain of 1.1kg was noted for whole sample.

2.7% suffered life threatening side effects.

Conclusions: There was a wide variation in medications prescribed for treatment of acute mania in actual clinical practice. Combination therapy was preferred over monotherapy. This reflects discordance with treatment guidelines. There did not seem to be any benefit of one treatment strategy over another in this setting. Naturalistic studies with larger sample sizes are needed to investigate the efficacy of various treatment combinations and translate applicability of randomized controlled trial findings into clinical practice.

0463.De Alwis, L.A.P.
Aggression and predictors (risk factors) of aggressive behavior among acute psychiatric inpatients.
MD Psychiatry – 2015   **D 3708**

 Aim

Aggression within inpatient settings is a matter of great importance to clinicians working with patients with mental illness. The aim of the present study was to determine prevalence of inpatient aggression in acute psychiatric care setting and t2o identify factors that predict violence.

Methods

The study was conducted in at the National. Institute of Mental Health (NIMH) in Sri Lanka, a locked, psychiatric hospital. The study involved 350 patients consecutively admitted to the NIMH. This group of patients were followed up for the first 3 days of their admission. Socio demographic and clinical data was collected from the patient, the clinical records, the hospital staff and the relativesof the patients. Psychiatric symptoms at admission were assessed using the Brief Psychiatric Rating Scale (Extended version) (BPRS-E). Psychiatric diagnosis was formulated using diagnosis made by the treating team of the study subject. Past aggressive behaviour was evaluated by interviewing patients and the family members. Aggressive behaviours in the ward were assessed using the Overt Aggression scale.

Patients who were involved in verbal and physical aggression prior to hospitalization and after hospitalisation were compared with non-aggressive patients.

Results

The study sample produced a prevalence of aggressive behavior at the end of the first 3 days of admission of 26.9% (95% Cl 17.9-35.9) (verbal aggression – 25.4 % (95% CI 16.4-34.4) & physical aggression - 12.0% (95% Cl 21.7-21.8). Physically aggressive behaviour while an inpatient was predicted by young age weeks preceding admission, higher score in the mania-excitement subscale 24, milder illness (according to the BPRS 18) and the high risk category in the Broset Violence Checklist (BVC) on Day 1. The most significant risk factor for verbal aggression was a past history of aggressive behaviour in the two weeks prior to admission and a high risk category in the BVC on Day 1. Aggressive behaviour in the two week period before admission was associated with younger age, a higher score of the hostility subscale of the BPRS 18, a higher score in mania excitement subscale of the BPRS 24, arid milder illness as measured by the BPRS 18.

Conclusion

Collecting information on aggressive behaviour prior to hospitalisation and use of the BVC to identify those at risk of aggressive behaviour has important implications for the prediction of aggression in psychiatric inpatient settings.

0464.Dolage, N.S.
Attitude of a selected sample of consultant psychiatrists regarding the implementation of mindfulness-based therapeutic intervention (MBTI) in Sri Lanka : a qualitative study.
MSc. Mindfulness Based Approaches – 2016   D 4076

The management of mental health problems in Sri Lanka relies mainly pharmacological therapy due to the lack of psychological therapies. One of the barriers for psychological therapy is lack of resources. Mindfulness based therapies are emerging as an effectiveway of delivering such therapy for mental health problems. Mindfulness basedtherapeutic interventions (MBIT) may have special place in Sri Lanka as it iscompatible with Buddhist culture and it is emerging as an economic therapy that can bedelivered in different formats, individual, groups, internet based etc. However, there ispaucity of research evidence of MBTI been used in Sri Lanka.

The study aims to gather the perspective of selected sample of Senior Clinicians (Consultant Psychiatrist) on the potential for implementing Mindfulness based therapeutic intervention in Sri Lanka.

Following the ethical clearance, invitation was sent out to Consultant Psychiatrist Who previously had participated in an orientation workshop and also currently working orworked in Sri Lanka. Ten were interviewed, audio recording was transcribed and thenthematic (TA) analysis was conducted.

In thematic analysis, particular interest was given to facilitators, barriers and implementation models

TA identified Sri Lanka is at the pre-implementation stage, revealed number of corethemes around, culture, attitude, clinical governance and possible emerging implementation model of MBTI for Sri Lanka.

The consultant psychiatrists interviewed had a favourable attitude towards MBTI. The themes will be discussed in detail and recommendation for implementation model will be suggested.

0465. Galappaththi, M.R.
Psychological distress among aspiring Sri Lankan migrant labour workers and associated demographic variables.
MD Psychiatry – 2018   **D 4356**

Background: Psychological distress and its implications have a huge impact on the migrating individual in-context of labour migration. There is dearth of both local and international studies investigating in to how adverse pre-migration factors affect the psychological health of labour migrants. Some international studies from China, Thailand and Mexico has helped to fill the gap by investigating into how post migration factors have contributed to psychological distress in labour migration. No Sri Lankan Studies have so far investigated specially looking in to psychological distress associated with pre-migration factors.

Objective: My primary objective was to measure the level of psychological distress and elucidate the demographic variables best associated with psychological distress of out bound labour migrants, leaving Sri Lanka via SLBFE. (Sri Lanka Bureau of Foreign Employment) Further objectives were to illustrate the socio demographic profile of the outbound migrant labour workers

of Sri Lanka and provide authorities the relevant findings of the study for further action.

Methods: A descriptive cross sectional, study was carried out on consecutive international labour migrants, departing to various destinations, following the completion of specified SLBFE training programmes. Twenty factor demographic questionnaire and two separate validated psychological distress scales, K10 and GHQ 12 were run through all consented consecutive clients. Bivariate Analysis and Multivariate Logistic Regression Analysis were carried out to elucidate the best predictor demographic variables associated with psychological distress and build further associations.

Results: According to K10, 39.3% and GHQ 12, 44.2% of the selected population were measured as psychologically distressed. GHQ 12 and K 10 results showed strong correlation when assessed by Spearman's correlation coefficient with high statistical significance. (r=0.833, p<0.000). From the GHQ 12 results, demographic category 'main reasons for overseas employment' was significantly associated with psychological distress (p=0.033).In the Bivariate Analysis according to K10, lacking agreement with family for overseas employment had statistically significant, higher level of psychological distress (52.8% vs. 32.1%, p=0.004) As per MLR analysis, 'previous abroad employment' was the strongest adjusted associated factors for psychological distress (p=0.008, OR: 22.3), including not having agreement with family to migrate for employment. (p=0.014, OR: 2.72) Also in MLR analysis not having previous abroad travel experience too seems to be a significant factor, K10 p=0.013) GHQ 12 (P=0.014).

Conclusion: Study showed few pre-migration demographic factors predicting psychological distress in the given population. Findings of the study tally with findings from some international studies. It also shed some light in to Sri Lankan authorities, identifies the need for pre-migration counselling and offer carrier guidance to both client and family of people attempting to migrate for employment overseas. Further methodological changes including utilizing a qualitative arm to elucidate more relevant demographic variables to psychological distress, increasing the power of study, using more specific and sensitive validated versions of distress scales possibly will yield more meaningful results.

0466. Jayawardena, W.A.V.H.P
Caregiver burden and depression among caregivers of autism presenting to a specialist child mental health service.
MD Psychiatry - 2012   **D 3841**

Introduction

Caregivers of children with autism are known to rate themselves with high caregiver burden than caregivers of children with other developmental disabilities, due to behaviour problems and decreased sociability of autistic children. High caregiver burden can result in psychological distress and depression, which in turn can affect the care of the child with autism.

Objectives

To assess the caregiver burden, psychological distress, and prevalence of depression in caregivers of children with autism and compare with those of children with medical illnesses

Methods

A cross sectional descriptive study was carried out at a specialist child mental health unit and at a specialist paediatric outpatient clinics. Autism was diagnosed with DSM -IV criteria and medical disorders with clinical guidelines. An interviewer administered questionnaire and the GHQ-28 was administered to the caregiver. Then all the caregivers were assessed with ICD-10 guidelines for depression.

Results

There were 106 caregivers in the study group and age and sex matched 106 caregivers in the control group. The former had a statistically significant higher level of education, family income and work status than the latter group. Burden was perceived by 98.2% and 90.6% of caregivers of autistic and medically ill group respectively. Severe psychological distress was experienced by 35.8% of caregivers of children with autism and 17.9% of caregivers of children with medical illnesses. The prevalence of depression in caregivers was 23.6% and 12.3% in autistic and medically ill group respectively. Caregiver burden (p<0.001), severe psychological distress (p=0.003) and prevalence of depression (p<0.001) were higher in the caregivers of autism with a statistical significance. There is a statistically significant positive

correlation between caregiver burden versus psychological distress (p< 0.001) and caregiver burden versus prevalence of depression (p=0.018) in the caregivers of autistic children. Age of the caregiver being over 40 years (p =0.004) and absence of other supports to the caregiver (p = 0.048) had a statistically significant association with the prevalence of depression. Some sentences are in past tense and others in present tense?

Conclusions

Psychological distress was found in approximately one third of the care givers of autistic children and depression among one fourth of the care givers of autistic children. This was significantly high compared with caregivers of medically ill children.

0467.Pandithasekera, P.M.
Descriptive study of characteristics of patients admitted to provincial general Hospital Badulla following deliberate self harm.
MD Psychiatry – 2006   **D 3779**

Background

Suicidal behavior, which encompasses deliberate self-harm and suicides, are major public health problems worldwide. Although suicide rates in Sri Lanka are decreasing since 1996, the burden still remains high and is a public health priority. DSH and suicide have been researched throughout Sri Lanka including urban and rural settings. Badulla is an area where there is a paucity of such research. Clinical observations revealed that DSH characteristics in Badulla are different to other rural areas of Sri Lanka such as the preponderance of Paracetamol overdose. This research was carried out to describe the characteristics of DSH in Badulla and it is expected that the findings will be useful in improvement of clinical care of DSH patients in Badulla and similar rural settings in Sri Lanka.

Methodology

The study adopted a descriptive research design where 140 subjects were assessed over three months. A semi-structured questionnaire based on the objectives of the study was designed to collect the data. The ICD-10 Symptom Checklist for Mental Disorders was used to diagnose psychiatric conditions. Back translated

versions of the General Health Questionnaire was used to elicit further psychological distress. The data were analyzed using SPSS version 19.

Results

Results revealed that DSH in Badulla in a hospital based sample was predominantly a problem of the young (60%), with an almost equal distribution of males and females, married and single subjects. A little over half (54.3%) completed ordinary level. Majority of subjects are socioeconomically deprived. The predominant method of DSH was pesticide poisoning (41.4%) with organophosphates being the commonest (34.3%) followed by weedicides (5%). The use of medicinal drugs is significantly higher (42.9%) with Paracetamol (26.4%) being the commonest. The majority had low premeditation and the method was available at home. Interpersonal conflicts were a precipitant in 46.4% of them and in 39.3% relief from distress was the motive for the act. 45% had death wish at the time of the attempt but 85% felt sorry to have made the attempt. 70.7% were brought to a health facility within one hour after the discovery of DSH. The main psychiatric diagnoses were Depressive Disorder (24.3%) followed by Schizophrenia (4.3%), Delusional Disorder (1.4%) and Bipolar Affective Disorder (0.7%). 27.1% have history of alcohol use and 13.5% had alcohol dependence syndrome. 47.1% were psychologically distressed as indexed by the GHQ.

Conclusion

The DSH trends in Badulla does not resemble the trends in a typical rural area of Sri Lanka especially in terms of the method of DSH and hence innovative approaches aimed at reducing DSH and suicide should be implemented. Furthermore this finding would give a momentum to carry out research on DSH in other rural areas where the trends may be changing.

Despite the rural setting of the study, the finding that early medical interventions of the suicide attempters happen is a positive finding.

Some of the national suicide prevention strategies are not adhered to in this area of the country; these strategies should be adhered to in order to reduce the rate of DSH and Suicide.

0468.Seneviratne, R.M.A.V.L.
Efficacy of solution focused brief therapy in reducing psychological distress in persons presenting with deliberate self -harm to a Teaching Hospital in Sri Lanka.
MD Psychiatry – 2018   **D 4831**

Background

Deliberate self-harm is a common presentation to emergency departments. This is often in the context of a stressful life situation, resulting in psychological distress. As deliberate self-harm is a known risk factor for suicide it's effective treatment is paramount. Research in management of self-harm has shown that unlike pharmacotherapy there are effective psychotherapeutic interventions. As Sri Lanka has limited resources in provision of long term psychotherapies, it was considered timely to assess the efficacy of brief psychotherapeutic interventions in relieving psychological distress and thus self-harm.

Aims

To assess the effectiveness of a 3-session intervention of Solution Focused Brief Therapy (SFBT) in reducing psychological distress in adults presenting with deliberate self-harm (DSH) to a Teaching Hospital in Sri Lanka

Method

Individuals presenting with self-harm to Colombo -South Teaching Hospital were recruited to the study with consent, during the study period. Thirty six subjects were enrolled to each arm of the study, with random allocation of the first subject, followed by sequential allocation between the two groups. Three sessions of SFBT was offered to the intervention arm and three sessions of PSC was offered to the control group, which was treatment as usual. Socio demographic data, trait coping strategies (Brief COPE), suicide intent (Pierce suicide intent scale), level of psychological distress (Kessler's psychological distress scale - K10), level of depression, anxiety and stress (DASS-21) were gathered at baseline. At three and six month follow up K10 and DASS were re-administered. Repetition of selfharm through the study period was also assessed.

Results

There was a significant reduction in psychological distress over time *(p < .0005)* in both SFBT and PSC groups. There was also a significant reduction in anxiety *(p < .0005)*, depression *(p < .0005)* and stress *(p < .0005)* levels with time for

both groups. However, there was no significant difference between the two therapies, suggesting that SFBT is as effective as PSC. The most prevalent trait coping strategies used by study participants were adaptive. There was a similar low repetition rate of self-harm for both groups, with only one subject each repeating self harm over the six months study period.

Conclusions

SFBT is a brief therapy, which is as effective as PSC in reducing psychological distress in individuals presenting with self-harm

0469.Somaratne, H.S.C.
Prevalence and associated factors of depression in post acute myocardial infarction in patients attending Colombo South Teaching Hospital, Kalubowila.
MD Psychiatry – 2015   **D 4829**

Background

Ischemic heart disease is the leading cause of death and disability in Sri Lanka. Developing countries account for 80% of global morbidity and mortality caused by CVD and these figures are predicted to double by 2020.

Depression is common, persistent yet, under recognized in post acute myocardial infarction. In addition, depression is found to have independent yet significant high relative risk of developing cardiac disease. Compared to non depressed patients those with depression have poorer cardiac and overall morbidity, mortality and quality of life.

Aims

Various screening instruments and structured interviews found 20% - 35% prevalence of depression in post acute myocardial infarction cohorts. There is a dearth of information pertaining to the prevalence and associations of depression in post acute myocardial infarction in Sri Lanka.

This study aimed to evaluate the prevalence of depression and risk factors of depression and it's associations among patients with post acute myocardial infarction attending Colombo South Teaching Hospital.

Method

This is a cross sectional descriptive study to determine the prevalence and associations of depression among patients with post acute myocardial infarction. Consecutive 155 patients who fulfilled the research criteria attending the medical/ cardiology wards and the cardiology clinic of Colombo South Teaching Hospital from August 2018 to September 2018 were included in the study. All the patients were concurrently assessed with self administered Hospital Anxiety and Depression Scale (HADS) and a clinical! diagnostic interview carried out by the principal investigator using a diagnostic aid based on research version of International Classification of Diseases -10 (ICD - 10).

Results

Majority of the study sample consisted of Sinhalese 91%, Buddhists 83.2%, 68.4% married, 1/3 (36.8%, n=57) received highest education up to grade 5. 40% (n=62) of the participants were *professionals. 63.9% (n=99) unemployed at the time of study and* 38.1% (n=59) belonged in monthly income category of (SLR) 20,000- 30,000

Out of the cardiovascular risk factors assessed in the study, 7.7% (n=12) were current smokers, 24.8% (n=38) ex-smokers, 2.6% (n=4) admitted to drinking regularly surpassing safe limits while 1.9% (n=3) had alcohol dependence. More than three quarter of study recruits 78.7% (n=122) had hypercholesterolemia, 56.1% (n=87) had diabetes mellitus while 91.1% (n=141) had hypertension. 12.3 %(n=19) and 4.5% (n= 7) of the study sample fell in over weight and obese category each. A proportion of 11.6% (n=18) and 39.4 (n=61) admitted as having sedentary lifestyle or mild activity level respectively while 49% had positive family history of CHD.

A 20.6% (n=32) of the study participants had HADS intermediate scores (8 -10), while 21.3% (n=33) received score of 11-21. Point prevalence of depression amongst the study sample measured using ICD - 10 research criteria was 34.9% (n=53), further categorized as mild 14.8% (n=23), moderate 14.2% (n=22) and severe depression 5.2 % (n=8) according to severity of the disorder. A proportion of 41.6% females and 23.6% male participants were diagnosed with a depressive disorder.

Many of study participants 40.6% (n=63) considered acute myocardial infarction to have had severe impact on their daily functioning and 47.7% (n=74) for it to have caused severe impact on their families. A proportion of 40% (n=62) regarded treatment received for cardiac disease satisfactory, while 19.4 % (n=30), 25.8% (n=40) and 29.7% (n=46) perceived severe, moderate and mild level of stress at the time of study.

STEM1 was diagnosed in 58.1% (n=90) of the study participants and 71.6% (n=l 11) received anticoagulants alone for acute Ml while 9.7% (n=15) underwent CABG. It was found that 18.1% (n=28) underwent primary PCI and only one participant 0.6% received fibrynolitic therapy as main treatment intervention for acute myocardial infarction.

A LV ejection fraction < 35% was found in 29% (n= 44) study participants while 58.5% (n=89) had > 35% - < 60%. Mean length of hospital stay for patients diagnosed with depression in post acute myocardial infarction was 8 days with SD of 4 days compared to non depressed counterparts who had a mean hospital stay of 6 days, SD 3 days. Depressed participants had a mean 2.41 complications (SD 1.34), whilst mean 1.92 (SD 1.41) complications were experienced by non depressed participants.

The mean duration of coronary heart disease, hypertension and diabetes mellitus were 5 (SD 3), 8 (SD 7) and 8 (SD 5) years each for study participants who developed depression following acute myocardial infarction respectively while their non depressed counterparts had mean duration of 4 (SD 3) years for coronary heart disease, 9 (SD 6) years for hypertense and 9 (SD 8) years for diabetes mellitus at the time of index episode of MI.

Conclusions

Female sex, participants' occupation (unemployment and manual labor) and Tamil ethnicity showed statistically significant associations with depression in post acute myocardial infarction at p =0.05; while civil status, religion, highest level of education, current employment status and monthly income were not found to have similar associations.

A HADS score of 11-21 were found among 21.3% (n=33) of the participants, while 20.6% (n=32) had an intermediate score between 8 -10. Depression was

found among 34.9% (n=53) when ICD-10 criteria were used. It could be further categorized as mild 14.8% (n=23), moderate 14.2% (n=22) and severe depression 5.2 % (n=8) according to severity of the disorder. A total of 41.6% females and 23.6% male participants were diagnosed with depressive disorder.

Out of the psychosocial factors analyzed, perceived psychosocial support (CSV = 5.451; P=0.244) and current stress levels (CSV= 5.451 and P= 0.244) did not show any statistically significant associations between post acute MI depression where as statistically significant associations were discovered between perceived impact of acute myocardial infarction on daily functioning and perceived impact of acute myocardial infarction on the family at p< 0.05.

Study did not reveal any statistically significant associations between post MI depression and known cardiovascular risk factors. Longer length of hospital stay, more number of complications during hospital stay for index episode of acute myocardial infarction and severe LV dysfunction were significantly associated with depression in post acute MI at p=0.05 level. Duration of coronary heart disease, hypertension and diabetes mellitus did not reveal statistically significant associations with depression following acute myocardial infarction.

Limitations

Study sample characteristics specific to subpopulation receiving treatment at Colombo South Teaching Hospital and use of HADS which is not specifically validated for post myocardial infarction are the limitations of index study.

0470.Wickrematunga, J.C.
Study of the prevalence of depression in cancer patients at out patient division of oncology unit of Teaching Hospital Karapiitiya. : A descriptive study.
MD Psychiatry – 2014 **D 3963**

Introduction:

Depression is one of the most frequent emotional disorders affecting cancer patients. It has an unfavorable impact on their quality of life, their decision making regarding cancer treatment, caregiver distress, and increases their risk of suicide. The prevalence of depression and more generally of psychological distress in cancer patients is extremely variable depending on the time and stage of the disease, age and sex of the patient and diagnostic instruments. Given the limited resources, it would be impossible to undertake structured interviews with all cancer patients. Therefore, screening measures have a number of advantages over interviews in that they are inexpensive, not resource-intensive, and once used can help select patients for more detailed evaluation with a structured interview.

Aims:

The research aims at studying the prevalence of depression among cancer patients in a cross sectional study.

Methodology:

The patients (n=288) were randomly selected from the out-patient's clinic (Oncology) register of Teaching Hospital Karapitiya. After providing an explanation verbally and in writing an informed consent were taken from the selected patients were given the Beck Depression Inventory (BDI questionnaire) with the instructions on how to fill and proceed. Patients who were diagnosed clinically as having depression and (persistent score of 17 or above indicates the need of medical treatments) consenting to be treated, was referred to the Psychiatry Clinic of the Teaching Hospital, Karapitiya. All patients were assessed with Structured Clinical Interview for DSM — IV (SCID). At the end of each data collection session, data is recorded for the final analysis.

Results:

I There were 304 patients enrolled for the study. The mean age was 50.97 ±13.3 years. Age ranged from 16.0 years to 82.0 years. Females (n=253) had survived for a median period of diagnosis 2.0 years with interquartile (IQR) range of 3.0 years (range 1.0 - 25.0 years of survival after diagnosis of tumor). However, males (n=51) had median survival of 1.0 years (IQR 2.0 years) after diagnosis with a range of 1.0 to 7.0 years of survival. The SCID assessment revealed the 215 subjects were not depressed at the time of my intervention and only 89 were clinically depressed. However when the BDI tool was applied to this study, Wed to 169 patients (BDI score less than 9) were not depressed and 67 had moderate mood disturbances (BDI score I0- 16) and 68 subjects (score more than 17)were severely depressed (Chi test 75.97; $p<0.001$). When the cut off value (BDI score) of 9 for the definition of depression was used the sensitivity and specificity of the SCID examination was at

70.2% and 79.8% respectively. Further the positive predictive value of the test was 89.3 but the negative predictive value was 47.4%

Conclusions:

Given the high prevalence of depression in out patients attending cancer services, it is crucial to develop an accurate procedure to screen for depression. Further, this evidence stresses the need to screen for depression and carry out suitable psychopharmacological and psychotherapeutic treatments.'

0471.Wijesundara, W.M.H.
Rapid tranquillization of agitated or aggressive patients in an in-patient psychiatric setting: Pragmatic randomized double-blind trial of intramuscular olanzapine versus intramuscular haloperidol.
MD Psychiatry – 2014   **D 3705**

Background: Industry sponsored studies including RCTs suggest superiority of IM olanzapine over IM haloperidol in acutely agitated patients, therefore need of an independent study for head to head comparison is apparent.

Aims: To compare the efficacy and tolerability of IM olanzapine and IM haloperidol in rapid tranquillization of agitated or violent patients with schizophrenia, bipolar disorder, or other psychotic disorders.

Methods: Acutely agitated patients diagnosed with schizophrenia, bipolar disorder or other psychotic disorders, aged 18-65 years with total score of Positive and Negative Symptoms Scale-Excited Component (PANSS-EC) >14 or at least one item with a score of >4 were selected. Hundred and thirty-four (134) patients who were admitted to two acute psychiatric units in public health service in Sri Lanka, were randomized using computer generated random numbers in block size of 4. They received intramuscular haloperidol 10 mg (N = 67) or intramuscular olanzapine 10 mg (N = 67). Primary outcome measure PANSS-EC and additional outcome measures (CGI, ACES and OAS), secondary outcome measures (number requiring additional medication, physical restraining and further medical attention), and adverse effects were monitored over a 2 hour study period. Patient and assessor were blind to allocation.

Results: Mean reduction in PANSS-EC after two hours in haloperidol was 15.985 and in olanzapine 18.702. Repeated measures ANOVA with a Greenhouse-Geisser correction determined that reduction in agitation (mean PANSS-EC) was significant between time points for haloperidol (F=100.945, $p<0.001$) and olanzapine (F=l51.118, $p<0.001$). But there was no significant difference between haloperidol and olanzapine (F=1.339, p=0.259). Number with extrapyramidal side effects in the group receiving haloperidol was 7.46% (N = 5) and in those receiving olanzapine was 10.45% (N = 7). Restraining was required for 31.3% (N = 20) receiving haloperidol and 35.4% receiving olanzapine *(N = 23). These differences were not* statistically significant. Additional IM medication was required for rapid tranquilization in 19.4% (N = 13) in each group. There was no significant difference in presence of any adverse effects including cardiovascular adverse effects.

Conclusion: Both haloperidol and olanzapine IM are effective in reducing agitation but there was no statistically significant difference in efficacy or tolerability among the two.

Keywords: Acute agitation, rapid tranquilization, intramuscular, olanzapine, haloperidol

Reproductive Health

0472. Dissanayake, D.M.P.
   Effectiveness of pipelle aspiration as an endometrial sampling method
   Postgraduate Diploma in Reproductive Health – 2014   D 3790

Introduction:

Menstrual problems and irregularities are common conditions for which femalesseek advice from Gynecologists. One third of these patients, with abnormaluterine bleeding, need histological evaluation. Dilatation and curettage (D&C)under general anesthesia remains the commonest procedure of abnormal uterinebleeding (AUB) and serves the purpose of differentiating uterine lesions. Inview of cutting down the cost and reducing the associated complications ofD&C, with an effective replacement, our plan is to evaluate the effectiveness ofpipelle biopsy as an endometrial sampling method.

Objective:

To find out the effectiveness of pipelle aspiration endometrial biopsy, as it is alow cost endometrial sampling method which will contribute to reduce health economical burden.

Method:

Patients with abnormal uterine bleeding prior to their Total Abdominal Hysterectomy were selected for the study. Each of them has undergone pipellaspiration biopsy while in the ward. Both pipelle biopsy and histology report of TAH, as the gold standard, were compared to evaluate the effectiveness of pipelle biopsy.

Results:

The mean age of the study group was 50.11 years and their age range was 41-64 years. Sampling by pipelle was performed in all 68 patients who have undergone TAH. Most of the patients (94%) in the study group were multiparous women while only 6% were nulliparous women. *The* most common presenting complain was irregular bleeding (53%) followed by post menopausal bleeding (29%) and menorrhagia (18%) For validation of pipelle endometrial sampling for histopathology sensitivity, specificity, positive predictive value and negative predictive values were calculated. For detection

of normal endometrium and endometrial carcinoma were equal to gold standard method of histology of hysterectomy reports. But sensitivity for hyperplasia was 89% while negative predictive value was 96%. Sensitivity for detection of hyperplasia with atypia was 60% , and the negative predictive value was 97%.Even though Pipelle is safe and cost effective device for getting an adequate endometrial sample for histology with high sensitivity and specificity for secretory, proliferative and endometrial carcinoma, detection rate of hyperplasia and hyperplasia with atypia is less according to this study. Also fragmentations of endometrial glands are seen in most reports of pipelle aspiration biopsy.

0473.Edmund, A.K.T.A.
Survey on knowledge and attitudes towards HIV & routine HIV testing among pregnant women attending antenatal clinic at GH Matara.
Postgraduate Diploma in Reproductive Health – 2016   D 4406

Background

Everyday there are nearly 1800 new HIV infections in children under 15yrs of age,more than 90% occurring in the developing world. About 90% of these infections are associated with mother to child transmission of HIV. Also about 1400 children 15yrs of age die of an HIV related illness per day. In recourse poor settings,' infection has eroded hard won gains in infant and chlio survival. Recent clinical results from international settings suggests that short course antiretroviral regimes could significantly reduce perinatal HIV transmission. So early detection and treatment plays a major role in elimination of HIV. Hence this study tried to the knowledge and attitudes towards- HIV and routine HIV testing among pregnant women attending antenatal clinics at General Hospital Matara.

Methods

Hospital based cross sectional study was conducted among 400 pregnant mothers attending antenatal clinics at GH Matara from 29/03/2017 to 25/04/2017.All pregnant women more than 24 wks of POA were selected from the antenatalattendees during data collection period. Data was collected. through structuredpre tasted questionnaire. The data entered in to Epi Info

and analyzed by using SPSS software. Association between variables were calculated using univariate and multivariate analysis - a was set at 0.05.

Results

The study showed that majority 262(65.5%) or the respondents had a good knowledge regarding HIV/AIDS but the knowledge on MTCT of HIV was poor as only 189(47.25%) had a good knowledge on MTCT. There was a statistically significant association between overall knowledge of HIV and education level, employment status and family income. Regarding attitudes on HIV testing 302 (75.5%)had good attitudes towards HIV. Majority 321(80%) believed that it is a necessity to be screened for HIV infection during pregnancy and majority 277 (69.25%) of them wanted to be screened for HIV infection. Awareness regarding their HIV status was poor as 72% didn't know their HIV status although all most all of them were screened for HIV.

Conclusion

Accordingly, most of the mothers knew about HIV but the knowledge on mother to child transmission and the preventive measures were poor. Although attitudes regarding HIV were good much has to be done to improve mother's knowledge and attitude towards HIV. This has to be done through organized intervention programs as well as by ensuring effective pre and post counseling sessions at antenatal clinics.

0474.Kumara, W.K.D.M.
Knowledge, attitude & practices regarding pre -conceptional folic acid intake among pregnant women attending ANC-GH Matara.
Postgraduate Diploma in Reproductive Health – 2015   D 4416

Background; Preconceptional Folic acid supplementation is very effective preventing NTD & other congenital anomalies like heart defects & birth complications preterm deliveries as well IT is important to estimate knowledge, attitude and practice regarding preconceptional folic acid intake among pregnant women.

Aim; The aim of this study was to determine the level of knowledge, attitude of intakes the practice of preconceptional folic acid in a sample of pregnant women.

Design; This study was a cross-sectional descriptive survey.

Settings; 3 ANC in the General Hospital Matara is the study setting avenue.

Subject; Convenience sampling method was used and representative sample of pregnant women were surveyed during the period of March to May 2016.

Methods; Interviewer administered confidential questionnaire was used to collect from pregnant women who were seeking routine antenatal care at GH Matara. Questioner covered demographic, socioeconomic characteristics and components assessing knowledge, attitude and practice.

Results; Out of 384 women 91.4% represented Sinhala ethnic group & mainly from MOH region Matara. 32% of pregnant women belonged to the age group 2529 years. Most of them are educated under GCE O/L 35.9% & unemployed 85.2%. Majority were having income 10000-15000 (19.5%). 100% reported that they heard about FA. OF these 71.1% knew FA is a vitamin. Majority were having knowledge about preconceptional FA intake 73.4%. 72.7%, knowing about exact time of starting preconceptional FA. Healthcare workers at ANC, *played an important role for covering health information to the public 41.4%, 27.3% & 21.9% out of the study population knew that the better methods of FA* intake were by tablet from and vegetables respectively 90.6% of them knew the colour of FA tablet & 39,8% the strength of it. 90.6% believed that FA intake is good to their babies and themselves also.93% of women like to take FA in current pregnancy because of that reason. A main reason for not using FA is believing that its side effects & not educated its benefits, Willingness to intake in future pregnancy is 74.2% of the population 97.7% of women were using FA and majority 80.8% in regular manner & 82% once per day. Among the study population 56.3% of them were started to intake it preconceptionally.

Conclusion; Even though the study sample was belonging poor socio-economical status knowledge, attitude, and practices regarding FA intake is excellent comparing the results of studies carried out in developed countries except very few areas. But as health care professionals some measures to be taken to improve above measures furthermore establishing best maternal and childcare.

0475.Navarajeen, S.
Awareness about pregnancy induced hypertension among antenatal
mothers attending antenatal clinic at Base Hospital Homagama.
Postgraduate Diploma in Reproductive Health – 2016   D 4409

Background: Pregnancy induced hypertension (PIH) is a chronic illness which is developed only during pregnancy. It is a form of hypertensive disorder. It is also known as gestational hypertension. PIH has no cure, but may be controlled. Maternal death due to PIH are avoidable, if detected and managed early and correctly. Delay in seeking medical care due to lack of recognition of danger sign is a common phenomenon. Creating awareness about pregnancy induced hypertension is a crucial element in the management of PIH. The knowledge on PHI and the current prevention methods among antenatal mothers is essential to direct the health interventions at hospital and national levels.

The objective of this study was to determine the knowledge about pregnancy induced hypertension, alarming signs of preeclampsia and prevention methods of PHI among antenatal mothers attending ANC at B.H. Homagama.

Methods: A hospital based cross sectional descriptive study was conducted, recruiting 407 mothers from the ANC in maternity unit at BH Homagama. An interviewer administered questionnaire was developed to collect data.

Results: A total of 119 mothers out of 407 had said that they don't know about the controllability of PIH. More than 50% of the mothers said that taking rest prevents PIH and nearly one third said avoiding intake of excess salt prevent PIH. Formal lecture about PIH was given to only 15% of the mothers attending the antenatal clinic.

Conclusion and recommendation: The level of knowledge on PIH, alarm sings of sever PIH and pre-eclampsia among mothers was low. Participation in the antenatal lectures was extremely low. Need to educate mothers on PIH during the antenatal period with special emphasis on risk factors and alarming signs of PIH. Need to assess the reason for low participation in the antenatal lecture.

0476.Tillekeratne, M.M.

Knowledge and practices of birth spacing and family planning methods among the antenatal mothers attending the antenatal clinic district hospital Beruwala and peripheral unit Dharga town.
Postgraduate Diploma in Reproductive Health – 2016   D 4407

Introduction

Birth spacing is the interval that the couple maintains between two successive children The World Health organization and other international organizations recommend the individuals and couples should wait at least 2-3 years between births. Short birth spacing has negative effects on mothers, children as well as the family. Family planning allow* couples to determine and ascertain the desired number of children as well as the spacing of their births. The study was done to find the knowledge and past practices of familyplanning/birth spacing methods among the antenatal mothers attending antenatal clinic District hospital Beruwala and PU Dharga Town.

Objectives

To assess the knowledge and past practices of family planning/birth spacing methods among the antenatal mothers attending the Antenatal clinic District Hospital Beruwala and Peripheral Unit Dharga Town.

Methods

Antenatal mothers attending antenatal clinic in DH Beruwala and PU Dharga town were recruited to the study by using non probability sampling technique (Consecutive sampling) between April to May 2017 , data was collected by using a pre tested self- administered questionnaire. Data was analyzed and presented with descriptive statistics and Chi square test was used to determine the associations.

Results

394 were participated with response rate of 98.5%.Their mean age was 27.2(sd=5.4 years) and 350(94.2%) of them were found to be Muslims. Seventy four point six percent (n= 294) were aware that adequate birth spacing is good for maternal and child health, whereas 19.3% (n=76) were not aware of birth spacing. The study results revealed that 92.4% (n=364) of the antenatal

mothers were having a good knowledge on either modem or traditional family planning methods. Among these 58.9% (n= 232) knew about OCP. Out of all family planning methods, best source of information were from the health institutions and health care workers (68%, n=268). The most ever used family planning methods by the respondents prior to the current pregnancy were OCP (17%,n=67), condoms(14.7%,n=58) and injectable progesterone(8.4%,n=53). There were failures of family planning methods in this sample. Unmet need for family p 0.8%(n=82).The most common reason for not using a family planning method was due to the past experience of side effects or fear of the side effects(19.5%,n—77). There was a statistically significant relationship with having a good knowledge on family planning / birth spacing and practice of family planning/ births pacing (p<0.001).

Conclusion & Recommendation

Good knowledge on family planning/birth spacing contributes to practice of them important to educate the people with need on family planning/ birth spacing

Keywords: Birth spacing, Birth spacing practices, Family planning, Family planning practices

0477. Vigamage, R.S.
Pattern and prevalence of the reproductive health problems among the females aged 18-50 years, who are attending to the out patient department of provincial General Hospital Rathnapura.
Postgraduate Diploma in Reproductive Health – 2016   D 4408

This research was conducted at the outpatient department of Provincial General hospital Rathnapura, which is the main health care institute in Sabaragamuwaprovince. It is closed center of the Rathnapura district. So almost all patients of Rathnapura district may havevisit to this hospital at least once in their lifetime for their health related issues. In the y<2014, more than 325,300 patients attended to the out patient department and it has exceeded350,800 in year 2015. The study is aim to find out the current pattern and prevalence of reproductive health problems of females in Rathnapura area. The source population for the study consisted of patients w were attended to out patient department for their treatment. They were females and between

18-50 years. The major reproductive issues were categorized and presented to them self-administrated questionnaire and analyzed based on their answers related to those issues. The majority of females participated for this study were Sinhalese 90% and most of them wBuddhist 89%. They were married females 70% and most were house wives. Major partparticipants educated up to Ordinary level and their usual monthly family income between 10,000 rupees to 24,999 rupees.

When considering reproductive health issues of females in Rathnapura, they have attended menarche at the age between 12-13 years. They have achieved first pregnancy at the age early twenties. Their major reproductive health issues were menstrual disorders (39^c pregnancy related complications and family planning problems.

Venereology

0478.Hathurusinghe, H.A.C.W.
HIV risks and vulnerabilities of returnee female external migrant workers in the North Western Province of Sri Lanka.
MD Venereology – 2018   **D 4415**

Introduction

Human Immunodeficiency Virus (HIV) infection and Acquired Immunodeficiency Syndrome (AIDS) is a disease with multiple complications and spectrum of conditions that can result in high mortality rate. Sri Lanka continues to be one of the few countries in the region with a low-level HIV epidemic. Migration itself act as a risk factor for HIV vulnerability. Since last four decades, the number of Sri Lankan migrant workers has been increased steadily.

Objectives

The objective of this study was to determine the risks and vulnerabilities for HIV of female migrant workers residing in the North Western Province of Sri Lanka and awaiting remigration to Middle East countries.

Methods

Study was carried out from July 2017 to March 2018 with the participation of 403 female returnee migrants who were selected using consecutive sampling method. Simple and easy to understand structured questionnaire was used for the data collection including questions about socio demographic data, knowledge on sexual health and HIV/AIDS, sexual practices and HIV vulnerability and social factors related to HIV vulnerability. Knowledge level, condom use and extramarital affairs were taken as proxy indicators for HIV vulnerability. Violent behavior of the partner, awareness of the sex life of the partner, happiness of the marriage life, living conditions while in abroad, employer's treatment while in abroad and connection between home (communication with home) while in abroad were taken as social factors.

Results

There were 43.9% of participants who were aged less than 40. Out of all the female migrants, majority (79.9%) was Sinhalese in both age categories. There was a significant difference between the two age categories by marital status (p=0.00) and by number of children (p=0.00). Females aged less than 40 years had significantly 0.49 the odds of not employed before going abroad (95%CI=.32-.74). There seems to be a significant difference between the two age categories by level of education (p=0.00), reason for going abroad (p=0.02), migration status (p=0.00), occupation (p=0.04) and number of years abroad (p=0.00). From the whole sample 95.2% stated economic reasons as the reason for going abroad and occupation of 80.2% females was domestic work. Younger age group showed statistically significant 0.32 odds of travelling to Gulf countries (95%CI= 0.17-0.63).

Source of information about STI and HIV for 53.9% of the females in both age categories was Mass media. The mode and the median for knowledge level about STI, HIV and their prevention were 4 out of 23.Younger females had 0.6 odds of having poor knowledge level (95%CI=.4-0.9). There were no statistically significant differences between females in two knowledge levels by perceptions of STI symptoms and utilizing STI services. Awareness and training of male condoms was higher in those with high knowledge levels.

Mean age of sexual debut in both age groups were approximately 20 years. There was a statistically significant difference between the two age categories by the partner for sexual debut (p=0.00) and frequency of premarital sex (p=0.00). There was a significant difference between females of the poor and good knowledge levels by sex against will variable (p=0.028). Out of returnees of both knowledge categories 61.7% has had a sexual affair with one partner while in abroad. That partner was the married partner in 98.3% of all the female migrants. When describing reason for sex while in abroad, the reason for 40.8% of females was for companionship. Less percentage of all the females were using condoms both with steady and casual partners.

Returnees who has had good living conditions (OR=1.85, 95%CI=1.2-2.85) and fair treatment by the employer (OR=2.32, 95%CI=1.42-3.81) had significantly high odds of having a good knowledge level compared to those who had poor living conditions and ill treatment from the employer. The females who were having a non-violent partner (OR=.25, 95%CI=.12-.51), aware of the sex life of the partner (OR=.31, 95%CI=.18-.54) fair employer treatment, frequent connectivity with home (OR=.33, 95%CI=.2-.55), happy marriage life (OR=.19, 95%CI=.08-.46), had significantly less odds of having an extramarital affair while in abroad.

Conclusion

Out of the participants 43.7% were below 40 years of age. Most of them went abroad for domestic work. Education level of the migrants was low, only few have studied up to advanced level. Knowledge about HIV, STI and safe sex was low among female migrants. Most of them had sex at abroad with the stable partner. Cause for sexual affair was for companionship. Skills of condom use was low among the participants. HIV vulnerability associated with unhappy marriage life, intimate partner violence, less connectivity with home, poor living conditions at abroad and unfair treatment by the employer.

0479.Jayakody, W.C.J.K.

Assessment of care given to patients with sexually transmitted infections by general practitioners in the district of Gampaha.
MD Venereology – 2010   **D 3937**

In Sri Lanka, care for sexually transmitted infections (STIs) is given by both public and private sectors. Though there is an organized system for provision of care in government STD clinics, system available for the same purpose in private sector has not being studied as there is no established system to collect data from private sector. Hence, a descriptive cross sectional study was carried out to study the management of patients presenting with symptoms and signs of STIs to general practitioners (GPs) in the District of Gampaha.

The study was carried out in Gampaha district in Western province. Study population was the general practitioners who were engaged in private practice with minimum qualifications of MBBS, RMP with SLMC registration and engaged in providing medical care for a fee. Two hundred GPs were assessed through selfadministered questionnaire in English language and a check list was used to assess the facilities available in the clinic setting. Data was analyzed using SPSS version 16 statistical package.

A response rate of 100% was achieved. Majority of the study population were male (76%) with MBBS qualifications (97%). Fifty four percent of the study population was in the age range of 36-45years with a median age of 42 years. Majority (92.5%) of them were involved in part time general practice. Self studies was the main way of learning STIs by most of the GPs. Significant number (21%) of GPs have not heard the terminology of syndromic management of STDs. Out of the GPs who knew about syndromic management, the knowledge on correct etiology for each syndrome was poor. Almost three quarter (74%) of GPs did not use any guideline for the management for STIs and 15% did not know that there is a guideline for STI management in Sri Lanka.

Although a significant number of GPs (73.5%) were always keen to take sexual history, less than half of the GPs had always done genital examination (47%). Laboratory investigations were done by only 72% of GPs. Of them, 52% and 42% have not done relevant laboratory investigations for urethral discharge

and vaginal discharge, respectively. Most of the time, they have carried out UFR, urine culture, VDRL, FBC and FBS for patients with STI symptoms. Only a minority of GPs has prescribed the recommended antibiotic combination for patients presenting with urethral discharge (10%), vaginal discharge (16%), non vesicular genital ulcers (3.5%) and vesicular genital ulcers (35%). Majority (55.5%) of GPs have done condom promotion. Counseling on STI prevention was done only by about half (48%) of the GPs. Sixty five percent said they refer patients to government STD clinics for further care. General practitioners' case load with respect to STIs was very low compared to their total. Only 6% of GPs got at least the reasonable facilities to examine a patient with STIs.

Most GPs were not aware of the syndromic management of STDs. Therefore they lacked in depth knowledge on syndromes and the steps of management in a setting where investigation facilities are not available. Diagnostic tests that have been carried out were not appropriate to the symptoms and recommended treatment was not prescribed for most of the syndromes. Most of them have tried to prevent further transmission and future acquisition of STIs for the index patient. They were unfamiliar with the STI management guidelines. Therefore, general practitioners should be educated on syndromic management to provide better STI services to the patient. User friendly information booklet on STIs should be distributed to GPs to follow during their consultations. Steps should be taken to update STI knowledge and guidelines for GPs in private sector.

0480.Jayasinghe, U.N.
Knowledge and adequacy of training on occupational exposure to HIV, its prevention and post exposure prophylaxis among final year students of state nursing schools in the Western province, Sri Lanka.
MD Venereology – 2017   **D 4149**

Background

With the rising global HIV epidemic, the risk of health care workers for Occupational Exposure to HIV is increasing each year. However, the risk of HIV transmission through Occupational Exposure can be minimized or prevented by increasing awareness on Occupational Exposures, adopting

appropriate preventive measures and timely administration of Post Exposure Prophylaxis.

Objective

The objective of the study was to assess the knowledge and adequacy of training on Occupational Exposure to HIV, its prevention and Post Exposure Prophylaxis among final year students of the state nursing schools in the Western Province, Sri Lanka.

Methods

The methodology consisted of three components. Component I was a descriptive cross sectional study. Objective of the descriptive cross sectional study was to describe the knowledge on Occupational Exposure to HIV, its prevention and Post Exposure Prophylaxis among final year students of state nursing schools in the Western Province. Study was conducted at four state nursing schools of the Western Province. The study population was final year students of all four state nursing schools of the Western Province. According to the admissions register there was a total of 456 students. All students present on the day were included in the study and a sample of 451 students was studied. Data were collected using a pretested structured self-administered questionnaire.

Component II of the study was a qualitative study. Objective of the qualitative study was to determine the adequacy of Nurses Training Curriculum in relation to Occupational Exposure to HIV, its prevention and Post Exposure Prophylaxis. Since the Nurses Training Curriculum is uniform for all state Nurses Training Schools, it was obtained from Nurses Training School Colombo for assessment. Data were collected using a data extraction format (checklist) prepared by the principal investigator. Check list assed the curriculum in relation to training on basics on HIV/AIDS, Occupational Exposure, Standard Precautions, First Aid and Post Exposure Prophylaxis. Component III of the study was Focus Group Discussion. The objective of this part of the study was to assess the adequacy of nurses training in relation to Occupational Exposure to HIV, its prevention and Post Exposure Prophylaxis. All tutor nurses (16) of Nurses Training School Colombo were included in the

Focus Group Discussion. Data were collected using two focus group discussions among two groups of tutors comprising of eight in each.

Results

The study sample was predominantly young and the mean age of the sample was 24.6 years with a standard deviation of 1.6 years. Most (87%) of them were females.

Marriage was rare as 99% were unmarried. Almost all students (99%) were Sinhala Buddhists. Students had sound background education, since 99% were educated up to GCEA/L. Their main source of information was nurses training at Nurses Training School. Students' knowledge on HIV and Occupational Exposure was satisfactory. Except one, all students correctly identified HIV as a virus and 70% correctly identified AIDS as disease with a collection of symptoms and signs. HIV as a blood borne pathogen was identified by 98% of students, while routes of HIV transmission was accurately identified as percutaneous injury (89%), mucous membrane (44%) and damaged skin (91%). However, less than half correctly identified the estimated risk of HIV transmission through percutaneous (34%), mucous membrane (27%) and non-intact skin (35%) exposure.

Students' knowledge on Standard Precautions was not satisfactory. Only 47% were aware of guidelines/circulars for Standard Precautions and only 56% knew the correct definition of Standard Precautions. In relation to First Aid following needle prick/scalpel cut, majority (77%) of students correctly said to wash the area thoroughly with soap and running water. However, incorrect measures as cleaning with surgical spirit (19%) and cleaning with antiseptic (2%) were also mentioned.

Of the sample 89% correctly mentioned irrigate thoroughly with water as First Aid following splash of blood to eyes/mouth.

Students' knowledge on Post Exposure Prophylaxis was also unsatisfactory. Only 29% had heard of any guidelines/circulars for Post Exposure Prophylaxis. Although, most (95%) students agreed it is important to report the incident after an Occupational Exposure, only 38% were aware of Post Exposure Prophylaxis medication. Of the sample, 32% believed that Post Exposure

Prophylaxis is effective in preventing HIV transmission. Only 38% knew that it is ideal to initiate Post Exposure Prophylaxis medication immediately.

The check list developed by the principal investigator assessed training on HIV/AIDS, Occupational Exposure, Standard Precautions, First Aid and Post Exposure Prophylaxis. According to the check list the nurses training curriculum addressed all these areas appropriately. The curriculum utilized standard proven effective methods of teaching and evaluation. All the answers to the variables in the check list were "yes". Based on these findings it was concluded that the Nurses Training Curriculum was comprehensive and satisfactory.

During the focus group discussion, it was identified that the nurses training was satisfactory, in relation to Occupational Exposure to HIV, Standard Precautions and Post exposure Prophylaxis. Further it was stated that students receive adequate education through standard methods of teaching, including practical sessions and there are effective methods of evaluation of students. However, some drawbacks were also identified, for example, poor application of knowledge into practice, lack of continuous training and supervision of students as well as tutors and lack of a separate clinical instructor for clinical supervision of students.

Conclusions and Recommendations

Several conclusions were drawn from the study. The knowledge of nursing students was satisfactory except for some aspects of Standard Precautions and Post Exposure Prophylaxis. Further, the Nurses Training Curriculum was adequate in relation to Occupational Exposure to HIV, its prevention and Post Exposure Prophylaxis. Although the training on Occupational Exposure to HIV, its prevention and Post Exposure Prophylaxis was adequate, there was lack of ongoing training and supervision of nursing students as well as tutors. The recommendations based on study findings were; strengthen training, disseminating updated information and focusing more on identified areas of Standard Precautions and Post Exposure Prophylaxis. In addition, continue nurses education using the Nurses Training Curriculum and update as appropriate according to future requirements. Also, strengthen ongoing training and supervision of student nurses and tutors, by increasing

participation in training programmes for students as well as tutors, and designating a separate clinical instructor for clinical supervision of nursing students.

0481.Jayasuriya, N.D,V.
Psychological impact due to genital herpes among central STD clinic attendees in Sri Lanka.
MD Venereology – 2016   **D 3960**

Background:

Genital herpes has becoming the most prevalent Sexually Transmitted Infection (STD) throughout the world during the last four decades[1] It cannot be cured completely and vaccine trials are still in the process of development. Studies have identified that, genital herpes patients are more susceptible to psychological distress, possibly due to its' natural history of incurability, asymptomatic viral shedding, recurrences, painful ulcers and risk of transmission to the partner and to the baby. Though there are studies published overseas to assess the psychological impact among patients with genital herpes, there are no such studies reported in Sri Lanka.

Objectives:

To find out the psychological impact among patients with genital herpes in central STD clinic attendees in Sri Lanka and to compare them with another group of asymptomatic STI patients without genital herpes.

Methodology:

The study was a cross sectional comparative study, among patients attending Central Sexually Transmitted Disease (STD) clinic Colombo which is the main STD clinic in Sri Lanka. The study population was patients with symptomatic genital herpes in their first episode or recurrent episode .The comparison group was asymptomatic group of patients with another group of sexually transmitted infection without genital herpes. All consecutive newly diagnosed patients and patients with recurrent episodes of genital herpes were recruited to the study over the study period. Comparison group was also recruited in the same way. Sex was matched the study instruments used for this study were General Health Questionnaire (GHQ 30), Hospital Anxiety Depression Scale (HAD

scale), and aquestionnaire on socio-demographic variables. Data collection was carried out by trained senior medical officers who work in the central STD clinic and supervised by the principal investigator. All questions were manually checked and data cleaning and coding was done by principal investigator. Data analysis was done by using SPSS-15 package. Ethical approval was obtained from Sri Lanka Medical Association, review committee.

Results:

Demographic characteristics There were 85 participants in each group, of which 61% (52/85) were males. The median age of the herpes population was 33 years and non herpes was 36 years. The mean age of herpes and non herpes group were 34 and 36 respectively. This difference was not statistically significant at $p < 0.05$. The study sample comprised Sinhalese 95%, Tamil 3 % and Muslims 2%. More than half of the patients were educated up to Ordinary Level or above in both groups. Greater proportion of patients with herpes, 73% (62/85) was married or living together, where as in the non herpes group it was 55% (47/85). But significantly higher percentages of non herpes patients were single compared to herpes patients. Majority from both samples were unemployed, Twenty four percent (28/85) of herpes and 31% (26/85) non herpes. Among herpes group 39% (17/85) were laborers and 19% (19/85) army personnel or police.

Colombo STD clinic is the main STD clinic in Sri Lanka. Even patients from far away attend to central STD clinic. This sample consisted of patients from 16 districts, about half from Colombo district. Sexual behaviour can be influenced by alcohol. Alcohol consumption was very low among this sample, and a large proportion (70%) of the sample have never used alcohol or used only occasionally. More than 90% of sample comprised of heterosexuals. However statistically significant proportion of non herpes patients had homosexual behaviour. Majority had 1-5 life time sexual partners, 57% (46/81) and 46% (39/84) in herpes and non herpes group respectively. Four respondents of herpes and one from the non herpes denied any penetrative sex; the median age of coitrache among herpes patients was 24 and 23 in non herpes. Clinical information

Sixty nine percent of respondents in the HSV group had first episode of herpes. Out of total population 69% (59/85) of herpes patients and 55% (47/85) non herpes patients were diagnosed within the last month.

Knowledge on genital herpes Majority of people had ever heard about HIV. However even among the herpes group 60 % (51/85) had ever heard about genital herpes. Those who had heard about genital herpes had a fairly satisfactory basic knowledge on genital herpes.

Psycho-social impact

More than half the study population of herpes, 58% (49/85) of the herpes group and 51% (43/85) of non herpes patients have disclosed about their current illness to their marital orregular partner, friend or other family member. Out of those who had disclosed 47 % (23/49) of the herpes group patients and 26% (11/43) of non herpes group felt that they were stigmatized .This difference was statistically significant level, (chi-square 4.48, df=l, P<0.05). Out of who had not disclosed to anyone greater proportion 71 % (35/49) of non herpes patients had fear of being found out by other people compared to the herpes group of patients 64% (23/36). Fear of transmission to their partners was more among HSV patients76% (65/85) compared to 47% (40/85) non herpes group. This difference was found to be statistically significant (chi.square 15.06, df=l, P<0.001).Two thirds of the genital reported psychological distress compared to non herpes patients. This difference was found to be statistically significant, (chi-square 22.66, df=l, P< 0.0001). Anxiety 35% (30/85) and depression was higher 24% (20/85) among genital herpes group compared to non herpes, where it was 15% (13/85) for anxiety and 9% (8/85) for depression. This difference in anxiety and depression between the two groups was found to be statistically significant; (chi- square (anxiety) 8.996, df=l, P<0.01/ (chi-square (depression) 6.15, df=l, P<0.05).

An individual's psychological status can be affected by several factors. However in this study, even one of the demographic factors were not identified as contributing factor for emotional distress (p > 0.05) among patients with genital herpes. Patients who had recurrent episodes of genital herpes and patients who had been diagnosed with genital herpes for more than one month had profound psychological impact (p <0.05) compared to those with first

episode and patients had this current illness less than one month. Similarly the herpes patients who knew on asymptomatic nature of genital herpes showed significantly higher levels of psychological distress (p <0.05) and anxiety (p <0.05) than those who did not know.

Conclusion:

In this study, there were only few demographic differences among herpes and non herpes group. Psycho-social impact was more among genital herpes patients and large proportion of patients with genital herpes had psychological distress, anxiety and depression compared to non herpes patients. Demographic factors did not contribute to their psychological status. However patients with recurrent episode of genital herpes and who had been diagnosed with genital herpes for more than one month and knew about the asymptomatic nature of genital herpes showed a significant impact on their psychological morbidity.

Recommendation :

Genital herpes patients should be counseled by properly trained doctors or counsellors as individuals or couples to reduce their emotional distress. Repeated counseling is recommended among patients with recurrent episodes. Symptomatic episodes to be treated with suppressive therapy to minimize the psychological impact related to signs and symptoms. Primary prevention also needs to be promoted among non infected people.

Limitations: This study was limited to the central STD clinic.

0482.Mallikarachchi, M.K.D.N.
Prevalence of risk factors for sexually transmitted infections and HIV among adult street dwellers in Colombo city.
MD Venereology -2010   D 3704

Introduction

Homelessness is a growing problem worldwide due to population growth and increasing poverty, leading to lack of affordable housing. If homeless people are not provided with temporary shelters they will end up in streets as street dwellers. Street dwellers live in an environment where risk factors for acquiring sexually transmitted infections (STIs) and HIV infection exist. Number of street dwellers in Sri Lanka has risen significantly over the last few

decades, nonetheless no systematic comprehensive analysis has been undertaken to assess the risk factors related to STIs and HIV in adult street dwellers.

General Objective

To describe the prevalence of known risk factors for STIs and HIV among adult street dwellers in Colombo City.A descriptive cross sectional study was conducted in 19 randomly selected Grama Niladhari Divisions in Colombo Municipality area. All the street dwellers encountered during the study period were interviewed using an interviewer administered questionnaire. Total of 464 street dwellers who fulfilled the pre specified inclusion criteria participated in the study.

Most of the participants in the study were males. Age of the participants' ranged from 19 to 85 years with a mean age of 51 years. Only 40% had been educated up to Grade 6 - GCE O/L.

Most of the participants had heard about STIs and HIV infection but their knowledge on symptoms, mode of transmission and role of condoms in prevention was inadequate. High-risk behaviours such as unprotected sex, having multiple partners, homosexual exposures, sex under the influence of doping substances, exchange of sex for money and drugs were prevalent among them. Majority did not have a current life partner but had multiple partners. Even though majority had heard about condoms, only 11% used condoms at their last sexual activity. The trust placed upon the partner was identified as the main reason for not using condoms.

Most of the street dwellers consumed doping substances and 43% have had sexual activity under the influence of substances. The main source of information on STIs or HIV/AIDS was friends. Majority preferred to attend government outpatient department for care. Knowledge on available services was poor and only 28% were aware of the presence of specific Sexually Transmitted Disease (STD) clinics.

Recommendations

The study recommends development of innovative models of healthcare delivery in order to access this vulnerable population. Special attention need to be given on symptomatology, risk of having multiple partners, benefits of

condom use, risks of substance abuse and available services when providing information. The study illustrates\identification of most appropriate ways of communication and existing social networks in order to deliver healthcare service.

0483. Mendis,B.M.M.D.
Knowledge, attitudes, practices regarding HIV/AIDS among seafarers
in Sri Lanka.
MD Venereology – 2017   **D 4151**

Introduction

Acquired Immune Deficiency Syndrome is an important global health problem. Available country statistics and global data have identified seafarers as a vulnerable population to acquire HIV infection. There are no proper studies done globally or in Sri Lanka among this population. Most of the studies are done on fishermen on fishing boats. The present study was done among seafarers in Sri Lanka attending the Director Generals Office of Merchant Shipping to assess the knowledge attitude practices regarding HIV/AIDS. At the same time following specific objectives, the level of knowledge, perception of risk, risk practices, attitude towards condoms, level of condom use and knowledge on available services in relation to HIV/AIDS among seafarers in Sri Lanka were assessed.

Method

The present study consisted two components. Component I consisted a descriptive cross sectional study. Data was collected through a well structured self administered questionnaire. Component II consisted of three focus group discussions. Both components were conducted at the Director General's Office of Merchant shipping. Director General's Office of Merchant shipping was selected as the study setting in order to get a representative sample. All the components were done while assuring maximum confidentiality and anonymity. Study population consisted of seafarers attending the Director General's Office of Merchant shipping for *sign in* prior to boarding the Seafarers identity document published by the ILO in 2006, as any person who

is employed or engaged or works in any capacity on board a vessel other than a ship of war, ordinarily engaged in maritime navigation.

Sample size consisted 422 seafarers.

Results

Four hundred and twenty two seafarers consented to the study. Most of them (33.5%) were in the age group of 26-30 years with an age range of 18-60 years. They had satisfactory educational level as had completed O/L and 89.9% of them have completed A/L examination. Majority (63.5%) of the population had more than five years of experience at sea.

Their knowledge on transmission of HIV was satisfactory apart from the transmission during pregnancy (82.5%) and breast feeding (50.7%). Knowledge on prevention gave poor results as only 31.8% of the sample considered correct condom use as a preventive method. They gathered most specific information on HIV/AIDS through maritime schools, newspapers and awareness programs. However internet and peers as source of information were very low.

Considering the perceived risk, most of them (68.8%) thought that they were at risk. On the other hand 81.1% of the population thought that other seafarers are at risk of acquiring HIV infection. Seafarers considered having multiple partners (83.1%), sex with a sex worker (79.6%) and non use of condoms (57%) as risk factors for others. But MSM activities as a risk behavior for others were considered by only 25.2% of the sample.

Seafarers had low level of alcohol consumption as only 1.2% of the sample was habitual drinkers. Drug use was also low and only 2.84% of the sample had been ever exposed to injecting drugs. Premarital sex was not uncommon. In relation to first partner 7.1% of the married population and 8.1% of the unmarried population experienced their coitarche with a FSW.

Ever having sex with a sex worker was statistically significant among the officers at a level of j$o=0.044$ than the ratings. Officers had more sexual exposures than the ratings. At the same time it was statistically significant with the educational level. Seafarers who had A/L and above had more exposures than the only O/L qualified population at a level of $p=0.036$.

Awareness on condoms was also gained by maritime schools (29.5%), awareness programmes (31.2%) and doctors (23.5%). Once again the knowledge from internet and peers were low. Majority of the seafarers identified the dispensary (77%) as the source of condoms on board. Mess was identified only by 16.1% of the sample. Condom use with sex workers high among the seafarers as 94.3% of them used condom with FSW. There was no relationship identified in condom use with FSW in relation to either type of job or marital status.

Majority (71.1%) identified NSACP as a place for HIV testing. At the same time 57.3% identified other STD Clinics as a place for testing. But only 64.5% of the sample thought that the confidentiality of the results would be maintained at the clinic. In relation to availability of treatment for HIV, only 36% thought that medication is available for HIV infection. Out of them 61.3% thought that it was given free of charge.

Focus group discussions reinforced the findings of the quantitative survey. Although there is some vulnerability towards risky sexual exposures, the level of risk low in the present era due to the international rules and regulation. Further the training offered through maritime schools and regular in service programmes have helped them to maintain low risk behavior. Although sex was freely available outside the vessel onboard sex was not a possibility.. MSM activities were a rare possibility for seafarers. They also did not identify alcohol consumption as a risk factor in the present seafarers. Seafarers did not like condoms and main reason was the lubricant out inside the condom. But they were well aware when and where to use it for prevention of STI/HIV.

Conclusions and Recommendations

There are few areas to be strengthened in relation to HIV/AIDS. Knowledge on HIV transmission has to be addressed especially on mother to child transmission. Condom as a preventive method has to be further emphasized among seafarers. This population has to be clearly educated on available services. All these components need to be included in to HIV/AIDS as NSACP can support maritime schools and NUSS in order to conduct awareness programmes to the seafarers. Options of providing resource person from NSACP need to be discussed. Internet and peers are not popular sources.

Therefore peer education is not a suitable method of providing knowledge to the seafarers. Gaps in the knowledge has to be bridged.

0484.Nanayakkara, G.A.G.
Knowledge on HIV transmission and attitude towards providing care for people living with HIV and adherence to universal precautions among attendants in the National Hospital of Sri Lanka.
MD Venereology – 2010   **D 4611**

Introduction

Human Immunodeficiency Virus (HIV) infection is a chronic, multisystem disease in which, those patients have physical, psychological, social and economic impacts starting from the beginning of the illness. In a concept of continuum of care for people living with HIV/AIDS, minimizing the stigma and discriminations is a key element. It is obvious that the level of knowledge of HIV transmission and adherence to universal precautions directly attribute to their way of handling, caring HIV positive patients. In the society, misconceptions, and misperceptions of HIV/AIDS persist in large scale and health care workers are not free of discriminatory and judgmental attitudes towards PLWHA.

Objectives

To assess the knowledge on HIV and attitudes towards caring of people living with HIV/AIDS and adherence to universal precautions in work place among attendants working in National Hospital of Sri Lanka.

Methods

Descriptive cross sectional study conducted among 224 attendants selected through simple random sampling technique, working in national hospital Colombo. Attendants who have completed attendant training for 3 months with passing their final theory and practical assessment were included. Interviewer administered structured data collection sheet was applied for data collection and data analysis was done by using SPSS 23.0.

Results

Mean age of the participants was 42.12 years (SD=10.41)and married males werepredominant in the study sample. Majority (92.4%) of the study participants wereat wards and having less than 10 years of working experience.

Majority 65.2%) of the participants had experiences of providing health care services to HIV infected patients at the time of initiating this study. All the participants had achieved a knowledge score above 50% (mean 83.8%:SD=11.5) on HIV transmission. A negative correlation (r= - 0.972:p=0.149)was demonstrated between the age of the participants and the knowledge regarding HIV transmission. A significant reduction of the knowledge among participants was (r= - 0.142:p<0.001) revealed with increased service duration of the participants. Attitude score of participants towards health care providing for patients with HIV or AIDS was ranged between 22.2% to 100 % (Mean=70.46%:SD=127.81). Mean knowledge score regarding universal precautions was 64.8% (SD= 18.5%). A significantly negative association was observed (r= - 0.393:p<0.001) between the knowledge score regarding universal precautions and the service duration and the age of the participants (r= - 0.393:p<0.001 and r= - 0.299:p<0.001). There were 46.2% of (N=90) participants who always got adhered to the universal precaution strategies.

Conclusions and Recommendations
Knowledge regarding HIV transmission negatively correlates with the service duration of the study participants. A significant majority of the attendants has positive attitudes towards providing health care facilities to HIV patients. An average knowledge score is demonstrated among the study participants regarding universal precautions. It also negatively correlates with the service duration and the age of the study. Adherence to universal precautions at all times is relatively less among the study participants and theparticipants with a longer service duration were adhering to the universal precautions more.

Regular updating of knowledge regarding HIV transmission by in-service training programmes should be done and special attention should be paid on the attendants in the elderly age group who have longer service duration. Periodical attitude changing activities should be conducted in order to minimize the impact created by the few negative attitudes prevailing among the study participants. Knowledge regarding universal precautions among

study participants should be updated and adherence to the universal precautions should be closely observed.

Keywords: Knowledge, HIV, Attendants

0485.Premadasa, P.S.
Knowledge and attitudes of STIs and HIV, and barriers experienced in conducting preventive activities among range PHIs Western Province Sri Lanka.
MD Venereology – 2017   **D 3959**

Introduction

Even though Sri Lanka currently experiencing a low level HIV epidemic, annually, a gradual increase in the number of cases detected is observed irrespective of the current preventive methods steered by the National STD/AIDS Control Programme. Over the years, being a sensitive marker for the growing HIV epidemic, the rate of other STIs also have increased giving rise to serious health consequences. The Western province of Sri Lanka bears nearly half of the total number of STI/HIV cases alone with the key populations and the vulnerable groups whom needed to be focused mainly during preventive activities. Therefore, with increasing trend of the infections, the national response need to expand the current preventive efforts by integrating STI/HIV prevention to the existing public health system comprised of community health care workers including range public health inspectors. Though the range PHIs are assigned to carry out or support HIV/STI preventive activities in the community by the ministry of health their knowledge on HIV/STI, attitude towards prevention and identified barriers in carrying out preventive activities are poorly studied in Sri Lanka.

Method

This study is a descriptive cross sectional study, conducted in the Western province of Sri Lanka. 325 range PHIs, who fulfilled the pre-specified eligibility criteria wereselected for the study. A self-administered questionnaire was used to collect data fromthe participants. Key outcomes observed were the knowledge of PHIs on STIs including HIV, their attitude, practice of carrying out preventive activities and barriers encountered in carrying out prevention activities for various groups.

Results

Majority (84%) had good overall level of knowledge (>75 marks) which included knowledge on STIs, HIV and condom use. Few gaps were noted in the knowledge among participants with regard to the identifying common STIs, methods of transmission, clinical features of STIs, prevention and risk behaviours related to STI/HIV. There were notable gaps in the practical knowledge with regard to condom use. Majority (93.2%) had overall favorable attitude towards HIV, STI and preventive programmes. However discriminatory attitudes were displayed in certain issues like divulging the sero-status and in HIV testing. Overall favorable attitude was not associated with adequate overall knowledge (p= 0.964). However both overall knowledge and attitudes had significant associations with the practice of carrying out STI/HIV awareness programmes by the range PHIs for various populations (p< 0.001). Addressing STI/HIV during routine health education programmes by range PHIs was not satisfactory. Lack of support from the stakeholders and the existing work load were the main barriers identified for both routine as well as assigned duties of range PHIs pertaining STI/HIV prevention.

Recommendations

Gaps in the knowledge pertaining to both STI and HIV should be addressed in thefuture training and regular refresher programmes should be there for PHIs to upgrade their knowledge on STI and HIV. Practical training sessions should be carried out for range PHIs covering topics like condom demonstration, counseling skills, presentation skills etc. A technical guideline should be formulated to guide range PHIs in addressing STI/HIV in the routing programmes as well as in carrying out assigned duties targeted for STI/HIV prevention in communities.

0486.Rajapakshe, R.W.K.M.D.
Knowledge, attitudes and behaviours related to sexually transmitted infections and HIV/AIDS among factory workers in the Seethawaka export processing zone, Avissawella. Sri Lanka.
MD Venereology – 2013   **D 3961**

Introduction

Rapid expansion of Export Processing Zones (EPZs) throughout the world is seen as a prominent feature of globalization. Factory workers in these zones have been identified as a social stratum and an occupational group with vulnerable behaviour for acquiring Sexually Transmitted Infections (STIs) including HIV due to many social and environmental risk factors. This study was carried out to assess the knowledge, attitudes and behaviours related to STI and HIV/AIDS among male and female factory workers in Seethawaka EPZ which were not assessed after the first round Behavioural Surveillance Survey (BSS) in 2006-2007.

Methodology

A descriptive cross sectional study was conducted in 12 factories of Seethawaka EPZ, using Probability Proportionate to Size (PPS) sampling method. Total of 430 factory workers who fulfilled the pre specified inclusion criteria participated in the study. A self-administered questionnaire was used for data collection.

Results

The study sample was predominantly young age, ranging from 17 to 45 years. Mean age was 26.87 years. The greater proportion was females (58.8%). More than 85.4% of this group were educated up to Ordinary Level (O/L) or above. Nearly half (50.7%) were single, while 39.1% were married. Considerable percentage (5.8%) was living together with a sexual partner.

Factory worker's knowledge on all modes of transmission of HIV was satisfactory (>75%) except for transmission through breast milk (59.4%). Their knowledge on role of condoms in prevention of HIV was 60.6%. There was some degree of misconceptions regarding transmission of HIV among workers. There was a statistically significant association of knowledge on HIV with age (p= 0.0001), level of education (p=0.031) and working category (p=

0.0001). Testing for HIV was very low (7.6%) despite their good knowledge on availability of testing facilities (83.2%) in Sri Lanka.

Knowledge on STI transmission was fairly good (>75%) except for transmission through non penetrative genital contact (14.8%). Asymptomatic nature of STI was also not known by many (24.4%). There was a statistically significant association of knowledge on STI with age (p= 0.0001), level of education (p=0.013) and working category (p= 0.0001).Strikingly low number (2%) who had STI related symptoms visited the government Sexually Transmitted Disease (STD) clinics. The study identified existence of stigmatizing attitudes towards People Living with HIV (PLHIV). Level of education (P=0.0001), working category (p=0.003) and level of HIV related knowledge ((P=0.0001) had a statistically significant association with their attitudes towards PLHIV.

Having sex with multiple partners, sex with non-regular partners (NRP) and commercial partners (CP) was not uncommon among workers who were sexually active during previous year. Homosexual behaviours among sexually active men were also prevalent (14.6%) with surprisingly low condom use (30%). Considerable number (14.1%) had unsafe sex at their last sexual encounter with a NRP or CP. A statistically significant association found between unsafe sex and civil status (p<0.0001) and persons at living arrangement (p<0.0001). There was no significant association between workers knowledge on HIV and their unsafe sexual behaviour.

Conclusions and Recommendations

The study identified satisfactory knowledge of factory workers on HIV and STIs but there were some areas those need further strengthening. Thus the study recommends strengthening the HIV/STI awareness programmes catering specially on correct transmission modes, symptomatology, condom as a main preventive method, availability of testing centres and effective treatment for HIV.

Very low attendance to STI clinics was also found in the study; therefore another timely step would be to establish a STD clinic in the nearby Base Hospital, where workers can be benefitted both on preventive and treatment aspects.

High level of heterosexual as well as homosexual unprotected sex was noticed in the study. Thus the study highly recommends changing the traditional methods of awareness to more focussed methods of behaviour change communication (BCC) strategies highlighting the gap found in knowledge and behaviour in the study. Implementation of condom promotion programme ensuring availability of condoms with confidential supply is also recommended.

0487.Samaraweera, E.G.R.
Knowledge attitudes and risk behavior related to HIV infection among male construction workers in the Colombo Municipality area of Sri Lanka.
MD Venereology – 2010   **D 4610**

Construction workers are predominantly consist of males who come from village to town in search of employment. Several countries have identified them as a risk group for human immunodeficiency virus (HIV) transmission. Living away from home, low level of education and young age are some of the probable reasons for such vulnerability. Colombo is the commercial capital of Sri Lanka with reported highest HIV prevalence in the country. In Sri Lanka no studies have been carried out for last ten years to assess their risks and vulnerabilities for HIV. Therefore this study was carried out among male construction site workers in Colombo municipality area with the aim of assessing their knowledge and attitudes, sexual behaviors, drug use habits and health seeking behaviors related to HIV and sexually transmitted infections (STI).

This descriptive cross sectional study was done in 10 selected construction sites in Colombo municipality area of Sri Lanka using multistage random sampling technique. According to the calculated sample size, a total of 425 male workers who fulfilled the inclusion criteria were selected and data was collected using interviewer administered questionnaire and analyzed using SPSS version 17.

A total of 420 participants competed the survey with a respondent rate of 98.8%. The majority of were in sexually active age group with a mean age of 32 years. Nearly 83% have been educated up to grade 6 or above. 61% of the

participants were Tamils followed by Sinhalese (37%). Most of the respondents were from districts other than Colombo, thus living away from their family during working. Well above half of the respondents (56%) were married and most had dependents at home.

Participant's knowledge about HIV was not satisfactory, only 76% have ever heard about HIV and only 17% had comprehensive knowledge about HIV. They had poor knowledge about HIV testing in pregnancy as well as availability of treatment. Significant proportion of workers revealed discriminatory attitudes towards people living with HIV (PLHIV) and only few of them perceived that they have a risk of getting HIV. Participant's knowledge about STI was unsatisfactory and only 38% of them have ever heard about STI.

Majority of participants (79%) were sexually experienced and their sexual debut was at a relatively young age with a mean age being 22 years. Majority (77%) had their first sexual exposure before 25 years and nearly half of them had sex with high risk partners but only 20% reported using condoms at FSI.

Significant proportion (41%) of sample reported having high risk sexual partners ever in life with 34% having sex with female casual sex partners (CSP), 10% with female sex workers (FSW) and 7.3% with male CSP. During preceding 6 months, 24% reported high risk sex while prevalence of such behaviour with female CSP, FSWs and male CSP out of total population was 19%, 5.3% and 4.3% respectively. No participants reported having sex with male sex workers (MSW) or sold sex for monitory gains. Among those who had high risk partners, mean number of partners was 2.5 during last 6 months. Reported condom use was not satisfactory as only 45% used condoms with female CSP, 54% with FSW and 17% with male CSPs during their last sexual exposure (LSE). Factors that were associated with high risk sexual behaviors were age < 25 years and being unmarred while no significant relationship was found between participant's educational level, ethnicity, district of residence, knowledge about HIV or perceived HIV risk.

Remarkable proportion of workers (17%) have used illicit drugs ever in life and of them 78% reported drug use within last 6 months. Cannabis is the commonest drug used (88%) with minority using other drugs like heroin,

cocaine and methamphetamine. No participants reported using intravenous drugs. A significant association was found between drug use behaviour and engage in high risk sex.

Most respondents preferred outpatient department for STI treatment while significant proportion also preferred sexually transmitted disease clinics and general practitioners. Only minority (5.3%) has undergone HIV test ever in life. The finding highlight vulnerability factors for HIV transmission among construction workers. Internal migration, inadequate knowledge about HIV and STI, poor HIV risk perception are some of them. Significant proportion also practice high risk sexual behaviors putting them at risk of HIV. Thus the study recommend urgent intervention to this group to reduce their risks and vulnerabilities. Interventions through workplace is highly recommended. The findings also highlights notable drugs use pattern among this group with significant relationship between drug use and high risk sex. Thus HIV and drug use prevention and harm reduction interventions should go hand in hand to maximize their effectiveness. As the construction workers prefer OPD and GP for their STI treatment, they need to be specially trained to improve their knowledge, skills "and attitudes to cater this special population. It is also important to consider alternative HIV testing strategies like outreach testing, self-testing and mobile testing to improve HIV testing among this group.

Keywords: Construction workers, HIV, Knowledge, risk behaviors

0488.Somawardhana, H.P.S.P.
Quality of life and selected aspects of reproductive health among war widows of members of tri-forces and police in Gampaha district, Sri Lanka.
MD Venereology – 2012   **D 4150**

Introduction: The social, psychological and biological issues faced by the widows worldwide are complex and this is especially true for young widows The possible high risk behavior among young widows can lead to acquisition of sexually transmissible diseases including Human Immuno Deficiency Virus (HIV) infection, unwanted pregnancies and various psychosocial problems.

Objective: To determine the sociodemographic profile, HIV/AIDS knowledge, risk of acquiring STI/HIV, contraceptive prevalence and quality

of life among war widows of members of tri- forces and Police in Gampaha district, Sri Lanka.

Method: A descriptive cross sectional study was carried out by using a self-administered questionnaire among 268 war widows of members of tri- forces and Police in Gampaha district who have not remarried. Data was analysed using the statistical package SPSS 15.

Results: The majority (98.1%) of the participants were Sinhala with only 1.5% being Sri Lankan Tamil with a mean age of 43.56 (SD 8.18). The sample was predominantly educated up to O/L and beyond with only a minority (6%) having educated up to primary level. The Majority (78.7%) of the war widows were unemployed. Mean age at marriage and age at the time of spouses' demise was 22.27 years and 32.71 years respectively. Majority (73.5%) of the participants are widows of soldiers or officers in the Sri Lankan Army. Many (53.7%) of the participants had 2 children.

Majority (64.2%) of the participants responded that their quality of life was neither good nor bad. Only 10.4% of the respondents said they have a poor quality of life. Most 44%) of the participants were satisfied with their health. When comparing the different domains in the World health Organization (WHO BREFF) quality of life (QOL) tool only the physical domain was in the average range of 70%-80%. All the other 3 domains were far behind the average range. The social domain was the lowest (54.1).A significant difference was observed in the quality of life among the less than 35 year age group when compared to the other two age categories (p= 0.001). In addition women who lost their husbands at an early age (<25 years) showed the poorest score (59) in psychosocial domain and in social domain (41.64).Majority (93.5%) of the respondents was aware that HIV is transmitted through unprotected sexual activities with a HIV positive partner. Majority (52.6%) of respondents were unaware that consistent and correct use of condoms can prevent HIV transmission. Only a minority (6.1%) of the sample was able to respond correctly to all UNGASS HIV knowledge indicator questions.

When considering the knowledge on symptoms of sexually transmitted infections, majority of the study subjects was not aware that lower abdominal pain (77.2%), foul smelling discharge (57.5%), dysuria (65.3%) and swelling

in groin area (76.1%) can be symptoms of sexually transmitted infections. On the other hand, 50.7% of the participants correctly identified genital ulcers or sores as symptoms of STIs. Majority (76.5%) of the sample said that they were not at risk of acquiring a sexually transmitted infections or HIV. None said that they were at high risk. Only 21.3% responded that they were at a small risk of acquiring STI/HIV and 2.2% said they were at a moderate risk. Only 24.3% of the participants were using any kind of contraception. Out of the 65 participants who were using contraception, the majority (66.1%) have undergone tubal ligation. Few (13.8%) were on intrauterine contraceptive devices and 7.69% were using the implant and 6.1% were using emergency contraception.

The participants who were satisfied with their sexual lives had a significantly higher quality of life when compared to the group who were not satisfied (p=0.002).The group which responded as at small or moderate risk of acquiring HIV had a significantly lower QOL when compared to the group with no risk.

Conclusion: Majority of the participants were Sinhalese and widows of privates of Sri Lankan Army. Their knowledge on STI/HIV was very poor. The overall QOL was neither good nor bad, but the social and psychosocial domains were very low. The participants believed that they were not at risk of acquiring STI/HIV. The overall health of the participants was satisfactory. QOL is significantly high among participants who are satisfied with their sexual life.

0489.Weerasinghe, D.P.K.
Selected aspects of quality of life and household cost of care among patients with genital warts attending selected STD clinics in the western province of Sri Lanka.
MD Venereology – 2012   **D 4148**

Introduction : Genital warts is the second most commonly reported ST1 in Sri Lanka. Although genital warts are commonly perceived as a non serious condition, treatment is often long, of varying effectiveness. The gravity of patient's suffering, and the impact on quality of life, household cost associated with care are important issues that have not yet been assessed in Sri Lanka.

These issues have been discussed extensively in developed countries with the availability of prophylactic quadrivalent vaccine for HPV infection that can prevent 90% of genital warts.

Objective: To assess selected aspects of disease specific quality of life and its associated factors, response to treatment and household cost of care in patient with genital warts attending selected STD clinics in the Western Province of Sri Lanka.

Method :. Study consisted of two phases. Descriptive cross sectional study was used todescribe socio-demographic factors, behavioural and clinical characteristics, and baseline disease specific quality of life in 240 patients with genital warts. Further, Prospective longitudinal follow up study was used to describe response to treatment, diseases specific quality of life in different intervals following treatment and household cost of care for recruited patient with genital warts. Disease specific quality of life was measured with a tool validated by expert panel for face and content validity, and it measured physical, emotional, sexual dimensions among patient with genital warts. Results were analyzed with SPSS version 16 and when analyzing associated factors for disease specific quality of life, non parametric tests were applied.

Results: Study sample consisted of 151(62.9%) males and 89 (37.1%) females and most (93.8%, n=225) of participants were Sinhalese. Majority of participants (79.9%, n=192) were from age group between 20 to 39 years. Mean age of males was 31.50 years with SD of 9.3 and range of 18 to 63 years. Mean age of females was 32.03 years with SD of 9.5 and range of 16 to 49 years. More of females (78.7%, n=70) in the sample were married than males (46.4%, n=70). Higher number of females (58.4%, n=52) were unemployed with no self income compared to 7% (n=10) of males. Important occupations identified among males were armed forces and drivers including three wheeler drivers. All females in the sample were heterosexual. Among males 72.8% (n=l 10) belonged to this category while 9.9% (n=15) were MSM's. Only 16% (n=24) of males had their first sexual exposure with marital partner. Majority of males had first sexual exposure with non regular female partners (53%, n=80) or non regular male partners (14.6%, n=22). Only 7.3% (n=l 1) of males had first sexual encounter with a female sex worker. Among females 82%

(n=73) had their first sexual exposure with marital partner and nearly 72% (n=64) of females had only one lifetime sexual partner. Nearly 96% (n=231) of the population had no history of STls in the past. More males (12%, n=18) gave a history of sex with a foreigner while this was 7% (n=6) among females. Cauliflower type of genital warts were the most common type (56.2%, n=135) of genital warts among the study population. Forty three percent of males had involvement of the prepuce and among females, just above 57% of them had involvement of labia majora. Almost 68% (n=102) of males got their genital warts cleared by three months compared to that of 53% (n=47) of females in the total study population.

Most common mode of treatment was TCA in both males and females followed by Liquid Nitrogen in both males and females. Usage of Imiquimod was very low. Out of 240 patient's final treatment outcome was available for 166 (69.2%) patients. Out of that 49.4% (n=82) were treated with TCA, 19.9% (n=33) were treated with Liquid Nitrogen and the rest had different treatment combinations.

There was no statistically significant difference in response to treatment among different treatment groups and although more patients had ulcers following treatment of TCA compared to Liquid Nitrogen, this difference was not statistically significant. Disease specific quality of life was measured with physical, emotional and sexual dimensions. It showed that physical discomfort caused by genital warts and treatment in subsequent visits had not affected their daily activities. However, some of the items in emotional and sexual dimension were affected significantly to most of the participants.

Emotional component "I was afraid that the lesions won't disappear" and "I worried about\whether the warts will get worse " had been answered by more than 80% of participants as"Always" or " Almost always", and were the mostly affected items in emotional dimension. However, it showed improvement in subsequent clinic visits.

Emotional component "I was anxious to know whether I am going to recover from the infection for good", "I worried that I might infect my wife / husband / future partner", and "I worried about people finding out about my illness"

were answered by more than 70% of participants as "Always" or "Almost always" at baseline and they too showed improvement in subsequent visits.

Emotional component "1 was anxious to know who infected me", and "My state of mind was upset due to genital warts (anxiety, sadness, uneasiness)"were answered by more than 60% of study population as "Always" or " Almost always" at baseline. Emotional component "My personal relationships had been affected with the partner" was answered by more than 80% of the participants as "Never or non applicable" Sexual component "I avoid sexual relations " was answered by more than 60% of the participant as " Totally agree" or " Almost agree"

There was a statistically significant difference in median scores of emotions dimension among males and females (p =0.03), those who were unmarried compared to married (p =0.012) and those who had idea of having children in future compared to those who had no idea of having children (p =0.001) at baseline. Similarly, there was a statistically significant difference in median scores of sexual dimension among males and females (p =0.001), and those who had idea of having children in future compared to those who had no idea of having children (p =0.017) at baseline.

Median spending for a clinic day among males was Rs 175 with the range of 0 to Rs 3000 and among females was Rs 441.56 with a range of 0 to Rs 1900. Among those who had complete cure (60.9% n=84) had spent episode cost for cure less than 1000 rupees and this was seen in both males and females. Nearly 11% (n=15) had spent more than 5000 rupees for episode cost for cure.

Total time spent for cure was available for 146 participants. Seventy three percent (n=73) of males spent less than 42 hours for complete cure whereas nearly 67% (n=31) of females less than 42 hours for cure. Median total time spent by males for complete cure was 35 hours with IC range of 21 - 49 hours compared to 35 hours with IC range of 21 to 56 hours among females.

Conclusions: More males than females presented with genital warts. Majority of females with genital warts belonged to low risk group. Commonest type of genital warts was cauliflower type in both males and females and there was no statistically significant difference in response among available treatment options. Patients with genital warts showed significant impairment of disease

specific quality of life in relation to emotional and sexual dimension, and being a male, currently being unmarried and having not completed family life had statistically significant associations. It was clear that treatment of genital warts is associated with considerable time loss and expenditure to patients.

0490. **Wijayawickrama, D.N**
Partner notification services of the sexually transmitted disease clinics in Sri Lanka.
MD Venereology – 2016   **D 3706**

Introduction

This study was carried out to assess partner notification process at selected Sexually Transmitted Disease (STD) clinics and to understand the knowledge, attitudes and practices of healthcare workers in relation to partner notification.

Method

The study consisted of three components. Component 1 was a cross sectional descriptive study that used a self administered questionnaire among 22 medical officers and 10 public health staff members in five selected STD clinics to assess the knowledge, attitudes and practices on partner notification. **Component 2** had two parts. First part was a retrospective descriptive study carried out at the above STD clinics to describe the burden of partner notifiable sexually transmitted infections (STIs). The second part of the component 2 was a case control study among 229 patients with partner notifiable STIs who attended the Central STD clinic, Colombo, to determine the factors associated with the compliance with partner notification services. For both parts of the **component 2,** secondary data from the patient recordsand the electronic patient information management system of NSACP was used. The component 3 was a secondary data analysis of patient records carried out at the Central STD clinic, Colombo to evaluate the partner notification services. Data analysis was done using the SPSS version 13.

Results

Component 1

All participants knew that gonorrhoea, primary and secondary syphilis and Chlamydia are partner notifiable infections. However, only 86.2% and 96.8% respectively knew that vaginal candidiasis and bacterial vaginosis do not need

c.ontact tracing. While 80.6% and 76.7% knew the correct look back periods for primary and secondary syphilis respectively, only 29% were aware of that of late syphilis. Only 83.3% and 90% knew that look back period is not relevant to genital herpes and genital warts respectively. Although 65% stated that partner notification is very important in bacterial STIs, 6.5% mentioned that it is not important. The majority (60.9%) have identified inadequate time for partner notifying interviews and inadequate public health staff as problems encountered in their clinics. The majority has mentioned the correct practices of partner notification.

Component 2-Part 1

There were 1157 episodes of partner notifiable STIs. Both syphilis (44.5%) and Non gonococcal infections (NGIs) (44.5%) were the most prevalent infections among them. Male to female ratio within the sample was 1.2:1.

Component 2-Part 2

The cases and the controls were compared according to 19 variables. Out of them being married/living together, diagnosis of NGI, last sexual partner being marital or regular partner and coitarche >19 years of age were found to be significantly associated with compliance with partner notification after binary logistic regression.

Component 3

The percentage of index cases that were interviewed at least once for partner notification was only 30.7%. The percentage of index cases having documented outcome for all contacts was only 8.05%. Verified NGI partner notification index was 0.05. Contacts infected index for gonorrhoea, syphilis and NGIs were 8.1%, 6.5% and 9.1% respectively. The majority of the contacts who have attended the clinic after the first partner interview (87%) have attended within 28 days while 50% of them have done so within the first week of the interview.

Conclusions - Although overall knowledge, attitude and practices on partner notification were satisfactory among the majority of the medical officers and the public health staff, an unacceptable number of staff had unsatisfactory knowledge, attitudes and practices. Being married or living together, a diagnosis of NGI, last sexual partner being marital or regular partner and

coitarche at or later than 19 years of age were found to be statistically significantly associated with compliance with partner notification. Partner notification services and relevant documentation was observed to be unsatisfactory within the study setting.

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