



ORAL Presentations

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Session A: Behaviour and Health Promotion

Chairpersons:

Dr Paba Palihawadana

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OPA.1

Prevalence of sugar-sweetened beverage consumption among Grade 10 school children in Panadura Educational Division, Sri Lanka

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Background: Increase in the prevalence of overweight/obesity globally during the past few decades has resulted in serious complications in adult life such as premature illnesses and deaths. Non-communicable diseases play a major role in this regard. The rising prevalence of overweight/obesity is linked to excess energy intake and reduced physical activity among children and adolescents. The consumption of sugar-sweetened beverages is associated with obesity, dental caries, diabetes and heart disease according to most of the studies done in Western countries.

Objective: To determine the prevalence of sugar-sweetened beverage consumption among Grade 10 school children in Panadura Educational Division

Methods: A cross-sectional study was done. Multistage stratified cluster sampling was used, in which the primary sampling unit was a classroom. Cluster size was 30. Students with chronic diseases were excluded. A self-administered questionnaire was used as the study instrument. Data collection was done by trained data collectors. Descriptive statistical analysis was used in presenting the findings.

Results: The sample consisted of 600 Grade 10 students. There were 319 (53.2%) female students. Majority were Sinhalese (85.5%) and Buddhists

(82.3%). Almost half (n=298) of the students and more than three quarter (82.7%) were buying beverages from the school canteen and outside school respectively. A total of 550 (92%) students were usually getting pocket money. Carbonated/soft drinks were the favourite beverage among 212 (35.5%) students. However, only seven (1.2%) students consumed carbonated soft drinks daily. Sweetened milk products were consumed daily by 16% (n=96) while tea, coffee and milk tea with added sugar was consumed by 75% (n=448). The percentage of students who consumed any type of sugar-sweetened beverage was 80% (n=478).

Conclusions & Recommendations: The study showed a high prevalence (n=478, 80%) of daily consumption of sugar-sweetened beverages. Daily consumption of soft drinks (n=7, 1.2%) were less than sweetened milk product (n=96, 16%) consumption. Findings of this study emphasized the importance of extending the colour coding and taxation to sweetened milk and milk products.

Key words: *sugar-sweetened beverages, consumption*

OPA.2

Health seeking behaviour and comparison of attitudes and practices towards dogs between adult dog-bite victims and non-victims attending the District General Hospital Nuwara Eliya, Sri Lanka

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Background: Dog bites among adults continue to be a public health problem in Sri Lanka despite multiple preventive strategies.

Objective: To describe the health seeking behaviour among adult dog-bite victims and compare their attitudes and practices with a comparable group attending the District General Hospital Nuwara Eliya

Methods: A cross-sectional study design was employed. Dog bite victims were selected from preliminary care unit of the District General Hospital Nuwara Eliya (n=275) through consecutive sampling. An age and sex matched comparable group (n=275) was selected from the outpatient department. A pre-tested interviewer-administered questionnaire was used to collect data. Differences in attitudes and practices towards dogs were compared between the two groups using Chi-squared test at 5% significance level.

Results: Majority of the victims (n=254, 92.4%) have received first aid within 30 minutes and 95% of them have received the correct first aid. Majority (n=171, 62.2%) have decided to seek medical care by themselves. The majority of dog bite victims (50.5%) and the comparable group (55.3%) had positive attitudes towards dogs (p=0.27). Although the majority of both victims (72%) and the comparable group (52.4%) had ever owned dogs, the difference between proportions was significant (p<0.001). Almost half of the victims (50.5%) and comparable group (56.2%) have not taken measures to protect others from their dogs (p=0.22). The majority of victims (85.1%) and the comparable group (81.1%) had non-disturbing practices towards adult dogs (p=0.21).

Conclusions & Recommendations: Majority had correct practices on first aid following dog bites and sought medical care without a delay. There were no significant differences in attitudes or practices towards dogs between the two groups. Responsible dog ownership should be strengthened to prevent dog bites.

Key words: *dog bites, health seeking, attitudes and practices towards dogs*

OPA.3

Awareness & utilization of the child health development record as a tool for childcare information by caregivers of children aged 12 months to 2 years in Battaramulla Medical Officer of Health area, Sri Lanka

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Background: The child health development record (CHDR) is a useful tool in child health programmes. Assessing the overall awareness and utilization of CHDR by the caregivers is paramount in improving the child health programme.

Objective: To describe the awareness and utilization of CHDR as a tool for child care by caregivers of children between 12 months and 2 years of age in Battaramulla Medical Officer of Health (MOH) area

Methods: A community-based cross-sectional study was conducted among 403 care givers from Battaramulla MOH area. The sample was selected by systematic sampling using the birth and immunization register. A pre-tested interviewer-administered questionnaire was administered by the principal investigator. Percentages and mean values were used to describe variables. Associations were tested using Chi-squared test (p<0.05).

Results: The response rate was 100%. Mother was the main caregiver (n=337, 83.6%). Majority of the caregivers (n=384, 95.3%) had good awareness on new born, child care, growth and development while 66.3% (n=267) were aware on measurements recorded in the CHDR. About 81.1% (n=327) of caregivers used the CHDR as an information source for complementary feeding, growth and development. The Chi-squared test revealed significant associations between age of the caregiver and obtaining information on complementary feeding ($\chi^2=7.69$; df=1; p=0.01). Statistically significant associations were found between caregivers' level of education and awareness on reading the yellow pages ($\chi^2=29.61$; df=1; p<0.001).



Conclusions & Recommendations: Most of the caregivers had good awareness on the information in CHDR and they utilized the CHDR as an information source for childcare. Public health midwife should pay more attention when delivering information regarding the CHDR to caregivers who are more than 40 years of age and having a low level of education.

Key words: *child health development record, caregiver, complementary feeding, growth*

OPA.4

Knowledge, practices and associated factors of public health midwives on implementing preconception care package in the district of Colombo, Sri Lanka

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Background: Preconception care is of paramount importance in reducing maternal and child morbidity and mortality. A new 'package of interventions for preconception' has been introduced in 2012 to be delivered through the existing public health system.

Objective: To assess the knowledge and practices of public health midwives (PHM) and to determine the factors associated with knowledge on implementing preconception care package in the district of Colombo

Methods: A descriptive cross-sectional study was carried out using a pre-tested self-administered questionnaire among all PHMs in Colombo District (N=366). A checklist was used in four randomly selected medical officer of health (MOH) areas to assess the practices. Data were described using mean values and frequency. Chi-squared test was used for associations ($p < 0.05$).

Results: Response rate was 97.3% (n=366). The overall knowledge of PHMs on the preconception care package was high (mean total mark of 89.7 (SD=9.1); median of 92 (IQR 88-96)). However,

knowledge on some specific components was significantly low. Knowledge levels were significantly higher among PHMs aged less than 50 years ($p=0.01$), PHMs with ≤ 10 years of service experience as a field PHM ($p=0.01$), PHMs who were spending ≤ 1 hour to come to work ($p=0.04$) and PHMs who were married ($p=0.04$). Majority of the PHMs (n=349, 95.4%) were conducting preconception care clinics. However, 292 (79.8%) conducted health education sessions. Only 3 (5.8%) PHMs had evaluated the screening tool. Nutritional assessment was done in all clinics (100%). However, laboratory investigations were not done at any of the clinics neither couples were given the information booklet.

Conclusions & Recommendations: Although overall knowledge was high, knowledge on some aspects was not adequate. Most of the practices were poor and not in par with their high knowledge level. No uniformity was observed in the practices and procedures carried out indicating lack of proper guidance and deficiencies in training. Therefore, it is recommended to have a national guideline regularized by a circular on preconception package and conduct refresher training on its implementation.

Key words: *preconception care, public health midwife*

OPA.5

Road safety related knowledge, attitudes and practices among Grade 12 students of schools in Piliyandala Educational Zone, Sri Lanka

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Background: In Sri Lanka, seven road traffic fatalities occur every day, of which 10% are related to children.

Objective: To assess the road safety related knowledge, attitudes and practices among Grade 12 students attending government schools in Piliyandala Educational Zone



Methods: A descriptive cross-sectional study was conducted among 511 students, selected using multi-stage cluster sampling. Simple random sampling was used to select 30 students from each cluster. Data were collected using a self-administered questionnaire. Cut off mark for the knowledge score (which comprised knowledge on common road signs; safety for pedestrians, bus users, bicycle and motorcycle users, vehicle drivers/passengers and three wheeler users) was decided prior to analysis of the data. Responses to individual questions were analysed using frequency tables.

Results: Knowledge on road signs and basic road safety was satisfactory, although only 300 (58.7%) knew it was illegal to travel on the footboard of a bus; and only 251 (49.1%) knew that it was mandatory by law to report all accidents to the nearest police station. Only 206 (40.3%) students thought that it was dangerous to cross the road while using a mobile phone, while a similar proportion admitted to

talking on mobile phone while crossing the street and 19.6% (n=100) using headphones while walking on the road. Notably, 128 (25.1%) students had driven a car, a three wheeler or a motorcycle without a valid driving license, and nine (1.7%) had driven a motorised vehicle after consuming alcohol. Majority (n=451, 88.3%) thought children should be taught how to use the road safely with the help of practical demonstrations.

Conclusions & Recommendations: Basic knowledge on road safety was satisfactory, but attitudes and practices regarding the use of mobile phones and headphones, and driving without a valid driving license were poor. This should be addressed when planning future road safety programmes as well as in the school curriculum.

Key words: *road traffic crashes, road traffic injuries, road safety, child injury prevention, road safety education*



Session B: Environmental and Occupational Health

Chairpersons:

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OP B.1

Burnout and its correlates among correctional and rehabilitation officers working in Sri Lankan Prisons

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Background: Burnout of Sri Lankan prison officers has not been assessed previously. As a group of employees who undergo stress at regular intervals during their work, they are highly susceptible to burnout, and various factors can affect this situation.

Objective: To assess burnout and its personal and work-related correlates among the correctional and rehabilitation officers working in Sri Lankan prisons

Methods: A descriptive cross-sectional study was carried out in 2017 among 1803 correctional and rehabilitation officers working in 32 prison institutions in Sri Lanka, selected through multistage sampling methods including random sampling and probability-proportionate-to the sample size. The self-administered, translated and validated Maslach Burnout Inventory-Human Services Survey (MBI-HSS) and a questionnaire on correlates were used as the study instruments to assess the prevalence and correlates. Chi-squared test was used ($p < 0.05$) to identify the significant correlates in the bivariate analysis, followed by the use of logistic regression in the multivariate analysis of the significant variables identified through bivariate analysis.

Results: The 'true' prevalence of burnout and its three dimensions, which indicate the proportion of participants actually suffering from burnout or a particular dimension was calculated using the number of test positives identified through the use of cut-off

values, the sensitivity values and the positive predictive values. Thus, the true prevalence of burnout was 31.1% (95% CI=22.1, 40.1%), while the true prevalence for emotional exhaustion, depersonalization and diminished personal accomplishment were 28.6% (95% CI=19.7, 37.5%), 26.9% (95% CI=18.2, 35.6%) and 37.8% (95% CI=28.3, 47.3%), respectively.

Feeling overburdened by housework (odds ratio (OR)=3.9; 95% CI=1.6, 9.3) and family-work conflict (OR=1.8; 95% CI=1.1, 2.9) were associated with a higher risk for burnout. Being married or living together was protective for burnout (OR=0.3; 95% CI=0.2, 0.5). Working in closed prisons (OR=5.4; 95% CI=1.3, 21.7), remand prisons (OR=4.9; 95% CI=1.2, 19.3) and work camps (OR=6.7; 95% CI=1.6, 28.4) was associated with more burnout compared to working in open prison camps, drug rehabilitation centres, correctional centres for youthful offenders and lock-ups. Perceived difficulty in shift work (OR=2.4; 95% CI=1.4, 4.0) and taking leave (OR=2.8; 95% CI=1.5, 5.4), poor welfare facilities (OR=3.8; 95% CI=1.6, 8.7), work overload (OR=2.1; 95% CI=1.1, 3.7), role ambiguity (OR=1.6; 95% CI=1.1, 2.3), poor relationship with colleagues (OR=10.6; 95% CI=1.1, 103.3) and families of inmates (OR=4.7; 95% CI=1.4, 16.0), perceived poor respect from inmates (OR=1.9; 95% CI=1.2, 3.0), job dissatisfaction (OR=14.3; 95% CI=4.4, 46.8), poor work environment (OR=1.04; 95% CI=1.01, 1.08) and faking emotions with colleagues (OR=1.09; 95% CI=1.02, 1.17) were associated with higher risk of burnout, whereas regulating emotions with superiors was protective of burnout (OR=0.9; 95% CI=0.84, 0.94). Work experience was not significantly associated with burnout ($p > 0.05$).

Conclusions & Recommendations: Burnout is a significant issue affecting the prison officers in Sri Lanka. It is recommended to include stress management to their basic and in-service curricula in the future.



Key words: *burnout, prison, correctional officers, rehabilitation officers, Sri Lanka*

OP B.2

Musculoskeletal symptoms and related health seeking behaviour among health activity assistants in operating theatres of teaching hospitals in the district of Colombo, Sri Lanka

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Background: Musculoskeletal disorders (MSDs) are gaining importance worldwide, causing high morbidity, disability and poor quality of life. In Sri Lanka, most of the manual tasks in health care delivery are done by health activity assistants (HAAs). Therefore, it is important to focus on musculoskeletal symptoms (MSSs), factors associated and health seeking behaviour of HAAs.

Objective: To determine the prevalence and factors associated with MSSs, and health seeking behaviour among HAAs attached to operating theatres

Methods: A workplace-based cross-sectional study was conducted among 378 HAAs attached to operating theatres of teaching hospitals in Colombo District, selected by simple random sampling. MSSs were assessed using Cornell Musculoskeletal Discomfort Questionnaire. Prevalence of MSSs was calculated for the preceding three months and one week. Associations were analysed using odds ratio (OR) and Chi-squared test at 5% significance level.

Results: The prevalence of MSSs at least in one anatomical region during the preceding three months and work week was 59.7% (n=226; 95% CI=54.8, 64.6) and 53% (n=131; 95% CI=47.9, 58.0), respectively. Transferring 15 patients or more a day (p<0.0001), pushing and/or pulling 15 trolleys or more a day with patients (p=0.002), cleaning surgical instruments for one or more hours per day (p=0.004), excessive work load (p<0.0001), fast pace of work (p<0.0001) and too many different tasks (p<0.0001) were significantly associated with developing MSSs during preceding three months. Over 60% of the HAAs with MSSs had sought health care. Others

who did not seek health care believed that medication would not resolve their symptoms.

Conclusions & Recommendations: Prevalence of MSSs among HAAs was high. Health seeking behaviour was satisfactory, but deficiencies in understanding the illness were observed.

Key words: *musculoskeletal symptoms, prevalence, factors associated, health seeking behaviour, health activity assistants*

OP B.3

High resolution spatial analysis of groundwater fluoride levels and population at risk for dental caries and dental fluorosis in Sri Lanka

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Background: Fluoride intake has both beneficial and detrimental effects to human health. The fluoride contamination in groundwater has potential risks of dental fluorosis. However, it provides natural protection against dental caries if the fluoride concentration lies within the recommended values for maximum caries protection.

Objective: To investigate the distribution of groundwater fluoride levels in natural ground water sources in Sri Lanka in relation to its population distribution and to determine the population at risk for dental caries or dental fluorosis

Methods: The study used the most upgraded spatial distribution map of groundwater fluoride levels in Sri Lanka (based on the raw data collected by Chandrajith R. et al originally and donated to this study). It was overlaid with Sri Lankan population data (2012) obtained from the Census using QGIS 2.14.1.

Results: Results indicate that 12% (0.53 million) of the children aged less than 12 years lived in high



fluoride zones (>1 mg/L), and were at risk for dental fluorosis, while 81.4% (3.57 million) of those who lived in low fluoride zones (<0.5 mg/L) might be at higher risk for childhood dental decay. Overall, 82.4% (16.1 million) of the country's total population lived in low fluoride zones (<0.5 mg/L) and 11.2% (2.2 million) in high fluoride areas.

Conclusions & Recommendations: The high resolution spatial approach provides a useful decision support tool to develop a population health strategy of safe fluoride use, based on predicted health risks in communities. A national consensus on fluoride use is needed in Sri Lanka to prevent dental caries and minimize dental fluorosis, as well as other adverse health problems associated with excessive fluoride exposure in the population.

Key words: *groundwater, dental fluorosis, dental caries*

OP B.4

Respiratory symptoms, lung functions and associated factors among quartz processing workers in Matale District, Sri Lanka

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Background: Occupational exposure to silica dust is known to cause silicosis, airway diseases and lung cancer. Hence, quartz processing industry is considered a high-risk occupation for silica-induced lung diseases.

Objective: To assess the prevalence of selected respiratory symptoms, lung functions and to determine its associated factors among quartz processing workers in Matale District

Methods: A cross-sectional study was conducted among all workers engaged in quartz industry in the

district of Matale. A total of 379 fulfilled the eligibility criteria and were included in the study. Information on socio-demographic, occupational, behavioural characteristics and personal protective equipment usage of the workers were assessed through a pre-tested interviewer-administered questionnaire. Spirometry was conducted to assess lung functions. Associations were assessed using Chi-squared test and significance of associations was identified. The confidence interval was assessed at 95%.

Results: The response rate was 98% (n=373). There were 52% (n=194) workers who had at least one respiratory symptom within the past three months. There were 19.3% (n=72) workers with abnormal forced vital capacity (FVC) and 18.8% (n=70) workers with abnormal forced expiratory volume during first second (FEV1). The peak expiratory flow rate (PEFR) was abnormal in 72.9% (n=272). Out of all workers, 276 (74%) were directly exposed to quartz dust. Among them, around 58.6% (n=162) of the workers were using at least a face mask as personal protective equipment. Having at least one respiratory symptom within the past three months showed a statistically significant association with sex (p=0.002), age (p=0.04), average monthly income (p=0.026), highest educational qualification (p=0.01), smoking during anytime of the life (p<0.001) and usage of at least the facemask (p=0.04). Abnormal FVC showed statistically significant associations with sex (p<0.001), age (p=0.04), work duration (p<0.001) and job category (p=0.02). Abnormal FEV1 showed statistically significant associations with sex (p<0.001) and age (p=0.005).

Conclusions & Recommendations: Majority of the quartz processing workers in Matale District had at least one respiratory symptom. Nearly one fifth was having restrictive type respiratory impairment while nearly 70% (n=272) had an obstructive type. Strengthening of the regulations related to worker well-being, occupational disease surveillance and provision of occupational health services to workers in quartz processing industries is recommended.

Key words: *quartz industry, respiratory symptoms, personal protective equipment, FVC, FEV1, PEFR*



OP B.5

Causes and types of injuries in patients presenting with occupational injuries to the Accident Service Unit of Colombo South Teaching Hospital, Sri Lanka

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Background: Globally, occupational injuries cause 2.3 million deaths per year and it is estimated that over 313 million non-fatal occupational injuries occur annually. Though a similar picture can be expected in Sri Lanka as well, the true magnitude on types and causes of work-related injuries is not revealed due to underreporting.

Objective: To describe the types and causes of occupational injuries in patients admitted with occupational injuries to the Accident Service Unit of the Colombo South Teaching Hospital

Methods: A descriptive 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. A pre-

tested interviewer-administered questionnaire was used as the study instrument, and two medical officers administered the questionnaire.

Results: The response rate was 100% (n=221). Cut by sharp objects was the most common cause of injury (n=72, 32.6%) followed by being struck by an object (n=58, 26.2%), falls (n=32, 14.5%) and slips (n=8, 3.6%). Only a minor proportion had injuries due to exposure to electricity (n=7, 3.2%), acids and corrosives (n=3, 1.4%) and burns (n=1, 0.5%). Of the type of injuries, lacerations constituted a majority proportion (n=91, 41.2%) followed by fractures/dislocations (n=47, 21.3%), superficial injuries/abrasions (n=38, 16.3%) and crush injuries (n=22, 9.4%). Only one patient (0.5%) presented with spinal injury following an occupational accident.

Conclusions & Recommendations: The study revealed that there was a wide range of injuries and causes. Accurate data is important to plan and implement preventive programmes. Since there is no organised mechanism to capture data on occupational injuries at present, it is recommended that the existing injury surveillance system of the Ministry of Health include data on occupational injuries which would greatly overcome the issue of under-reporting of occupational injuries.

Key words: *occupational injuries, occupational accidents, cut injuries, lacerations*



Session C: Health Systems

Chairpersons:

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OPC.1

Suitability of verbal autopsy to improve the quality of mortality statistics for community deaths in Sri Lanka

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Background: Sri Lanka has a well-established death registration system; the completeness of it is close to 100%. Of the 130,000 annual deaths, nearly 50% takes place ‘out-of-hospital’ and the cause of death for these is declared by non-medical persons (Coroner, Grama Niladhari officer), reducing the reliability of data to determine health priorities and preventive strategies.

Objective: To test the suitability of SmartVA to assign a reliable cause for community deaths in Sri Lanka

Methods: ‘SmartVA’ uses a validated automated questionnaire and computer algorithms to diagnose the cause of death. The cause of death is established based on a structured interview conducted with the family on signs, symptoms and events prior to death. SmartVA questionnaire was translated into Sinhala and Tamil languages. A cross-sectional study was conducted to pilot test SmartVA in seven medical officer of health (MOH) areas, representing three districts (Colombo, Kurunegala and Jaffna) while 146 public health midwives (PHMs) were trained as interviewers and 12 medical officers of health (MOHs) as supervisors. Data collection was carried out through the existing PHM domiciliary care model and 286 VA were conducted from January-March 2017 on all ‘out-of-hospital’ deaths. Data entered on android tablets were analysed using the ‘Tariff’

method (computer algorithms) to assign a probable cause of death for 55 main diseases.

Results: Comparison of results with the Global Burden of Disease estimates for Sri Lanka showed similar distributions among the leading causes of death (stroke, cancer, ischaemic heart disease, chronic respiratory diseases and diabetes). Compared to Registrar General’s data for all ‘out-of-hospital’ deaths, there was a significant improvement in the proportion of causes of death for utility for policy. Consequently, it was decided to expand the pilot to more MOH areas for final evaluation based on a larger number of VAs.

Conclusions & Recommendations: Application of SmartVA has shown the ability to significantly improve the quality of cause of death information for ‘out-of-hospital’ deaths. Until all deaths are medically certified in Sri Lanka, SmartVA can be used to obtain a valid cause of death for deaths that are not medically certified.

Key words: verbal autopsy, SmartVA, community deaths, cause of death

OPC.2

Knowledge, practices and the factors associated with Mother Baby Friendly Initiative among postpartum mothers at Colombo South Teaching Hospital, Sri Lanka

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Background: In 2014, International Federation of Gynecology and Obstetrics launched guiding principles for mother baby friendly birthing facility. These are evidence based, simple, cost effective

measures that could navigate the world towards anticipated low maternal and neonatal morbidity and mortality rates. Such agenda warrants correct knowledge and practices of the service recipients.

Objective: To describe knowledge, practices and the factors associated with Mother Baby Friendly Initiative among postpartum mothers at Colombo South Teaching Hospital

Methods: A cross-sectional descriptive study was conducted among 384 immediate postpartum mothers at Colombo South Teaching Hospital using non-probability sampling method and an interviewer-administered questionnaire. Percentages and mean values were used to describe variables while associations were tested using Chi-squared test.

Results: The mean age was 27.9 (SD=5.57) years and 66.6% (n=256) was educated up to GCE Ordinary Level. Knowledge on ability to have a light diet in first stage of labour was 8.2% (n=32) while it was 4.9% (n=19) for having a companion during labour, 93% (n=357) for timing of initiation breastfeeding, 76% (n=292) on how to identify hunger cues and 72.2% (n=279) for exclusive breastfeeding. Only 2.3% (n=8) had correct knowledge on the need for discouraging artificial teats on a breastfeeding baby. As for the practices, 56.5% (n=217) was able to correctly perform positioning and 55.5% (n=213) on attachment of baby, but only 12.2% (n=47) was confident on cup feeding practice. Educational level showed a significant association with knowledge on breastfeeding initiation (p=0.04), identifying hunger cues (p=0.01), correct positioning of baby (p=0.04) and cup feeding practice (p=0.01).

Conclusions & Recommendations: The need for further knowledge improvement was identified. More evaluations, awareness creating and training appear to be appropriate.

Key words: *mother baby friendly initiative, postpartum mothers*

OPC.3

An intervention to improve the quality of cause of death certification in Sri Lanka by introducing WHO recommended format of the medical certificate of cause of death

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Background: Previous studies in Sri Lanka suggest poor cause of death certification by medical officers. The poor quality was partly attributed to the non-use of a medical certificate of cause of death, as recommended by the World Health Organization (WHO).

Objective: To evaluate the impact of introducing the WHO recommended format of a medical certificate to improve the quality of cause of death certification by medical officers

Methods: A hospital-based interventional study was conducted. At baseline, a proportionate sample (n=1585 from each district) of death declaration forms (Old B33) was randomly selected, and the corresponding medical records were retrieved from selected hospitals of Colombo and Galle districts. A new WHO format compatible death declaration form and an information booklet were introduced in Colombo district hospitals; Galle district hospitals were selected as controls. Post-intervention assessments were done at 12 and 18 weeks. Cause of death was validated with the data obtained from corresponding medical records by trained study physicians.

Results: At baseline, 4.5% and 4.9% of death declaration forms were of 'good' quality in Colombo and Galle districts, respectively. 'Use of abbreviations' was 54.3% in Colombo compared to 57% in Galle; 'legibility' was 54% in Colombo compared to 51.4% in Galle. The overall sensitivity of the vital registration system for leading causes of death was 0.43 and 0.4 in Colombo and Galle districts, respectively. 'Good' quality cause of death certificates in Colombo district significantly increased to 57.2% and 64%, at the two post-intervention assessments, respectively (p<0.001) in contrast to no such change in Galle district. The overall sensitivity and positive predictive values



increased significantly at the post-intervention assessments in the Colombo district but not in the Galle district.

Conclusions & Recommendations: The intervention significantly improved the cause of death certification in the intervention group. It is recommended that the new death declaration form (New B33) be introduced in Sri Lanka.

Key words: *quality of certification of cause of death, accuracy of cause of death*

OP C.4

Internet usage patterns, its health impacts and factors associated among internet users aged 18-60 years in Sri Lanka

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Background: Internet is becoming an integral part of today's lives. New health problems related to internet behaviour are rising.

Objective: To describe the epidemiology of internet behaviour, its health impacts and factors associated among internet users in Sri Lanka

Methods: A web-based cross-sectional study was conducted among 323 adults aged 18-60 years with at least one valid e-account, using respondent-driven sampling technique. Data were collected through web-based self-administered questionnaire including the Internet Addiction (IA) Test. The analysis was conducted using descriptive statistics and Chi-squared test.

Results: Response rate was 70.6% (n=323). Mean age of the participants was 33.5 (SD=8.24) years with 54.5% (n=176) being males. Approximately 94%

(n=287) used internet for official work with a mean duration of 2.41 (SD=2.35) hours per day for communication (n=259, 84.9%), searching literature (n=129, 42.2%), marketing (n=60, 19.6%) and developing software (n=36, 11.8%). All used internet for non-official work for a mean duration of 2.74 (SD=1.96) hours per day for communication (n=318, 98.5%), networking (n=270, 83.6%), gossip (n=165, 51.1%) and gaming (n=98, 30.3%). Out of all respondents, 94.4% (n=305) used Facebook; 76.6% (n=241) WhatsApp; 76.8% (n=248) Viber; and 57.3% (n=185) Skype. About 86% (n=278) used smart phones; 67.2% (n=217) laptops; 49.8% (n=161) desktops; and 41.2% (n=133) PC tablets to access internet for leisure time activities. Frequent backache (n=57, 17.6%) and neck pain (n=70, 21.7%) were common physical complaints. IA score (out of 100) ranged from 0-91 (Mean=47.35, SD=25.8). Mild, moderate and severe internet addiction were seen in 27.6% (n=89), 22.9% (n=74), and 18.3% (n=59), respectively. Internet addiction was significantly associated with age (p<0.001), marital status (p=0.02), level of education (p=0.003) and employment status (p=0.005).

Conclusions & Recommendations: Internet addiction is affecting a remarkable proportion of internet users. Age, marital status, education and employment status could be considered as vulnerable factors for internet addiction. Musculoskeletal complaints are the commonest physical problem. Tailor-made interventions need to be done targeting vulnerable groups to reduce internet addiction while awareness needs to be carried out about correct postures when devices are used to access the internet.

Key words: *internet, usage patterns, addiction*

OP C.5

Epilepsy profile adherence to medication and knowledge of caregivers of children attending the epilepsy clinic at the Lady Ridgeway Hospital for Children, Sri Lanka

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Background: Approximately 50 million people currently live with epilepsy worldwide. Childhood epilepsy is reported to affect 6-10 per 1000 children in developing countries. Promotion of medication adherence is important particularly in a disease like epilepsy which needs long term medication.

Objective: To describe the epilepsy profile, adherence to medication and knowledge of caregivers in children attending the epilepsy clinic at the Lady Ridgeway Hospital for Children

Methods: A descriptive cross sectional study was conducted among 349 children with epilepsy attending the epilepsy clinics at the Lady Ridgeway Hospital for Children. Systematic sampling method was applied. A pre-tested interviewer-administered questionnaire was used to collect data. A medical officer administered the questionnaire.

Results: The response rate was 98.6%. The com-

monest type of epilepsy was generalized epilepsy (30.8%, n=106). Epilepsy syndromes were diagnosed in 24.7% (n=85) of children and 14.8% (n=51) had focal epilepsy. In 24.1% (n=83) the type of epilepsy was not clear. Of the children 52.3% (n=180) were on mono therapy while 47.7% (n=164) were on more than one drug. Good adherence to antiepileptic medication, which is a score of 6 or more out of 8 in Morisky Medication Adherence Scale, was seen in 83.7% (n=288). It was revealed that 84.6% (n=252) of the children who did not miss clinic visits had good adherence. Of the main caregivers 82.6% (n=284) had above average knowledge with a score of 50 or more on emergency management at home in an event of an acute seizure.

Conclusions & Recommendations: The study revealed that there was a high level of adherence to medication, regular clinic visits and good level of knowledge among caregivers. It is important to sustain these factors by regular assessment of adherence to anti-epileptic medication and updating care givers' knowledge on the disease to improve the overall care in children with epilepsy.

Key words: *epilepsy profile, epilepsy control, care givers, children, epilepsy clinic*



Session D: Mental Health

Chairpersons:

Dr Chithramali de Silva

Prof. Wasantha Gunathunga

OP D.1

Level of emotional intelligence and its association with perceived stress and coping strategies among primary grade school teachers in Homagama Educational Zone, Sri Lanka

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Background: Emotional intelligence (EI) among teachers has been found to be an important area in educational reforms globally. However, studies on emotional intelligence in this study group are scarce in Sri Lanka.

Objective: To determine the level of emotional intelligence and its association with perceived stress and coping strategies among primary grade school teachers in Homagama Educational Zone

Methods: A descriptive cross-sectional study was carried out from August 2017 to November 2017 among primary grade school teachers with ≥ 6 months experience in teaching in Homagama Educational Zone, using a self-administered, pre-tested and validated questionnaire consisting of 'Schutte Self Report Emotional Intelligence Test', 10 item 'Perceived Stress Scale' and 'Brief Cope'. Level of emotional intelligence was described using percentages and mean values. Associations were assessed using Chi-squared test and p value less than 0.05 was considered as significant.

Results: Response rate was 95.8% (n=549). Among them, 72.1% (n=396) showed a normal level of EI and 14.2% (n=228) a high level. Of the participants, 13.7% (n=75) had low EI. The majority (n=453, 82.5%) had low perceived stress (0-20). Results

showed statistically significant associations between EI with perceived stress ($p < 0.05$), problem focused coping strategies ($p < 0.001$) and emotional focused coping strategies ($p < 0.05$) among them. Pearson correlation coefficient showed significant and negative correlation between EI and perceived stress ($r = -0.27$; $p < 0.01$). Both emotional focused coping and problem focused coping strategies were significantly and positively correlated with EI ($r = 0.21$; $p < 0.01$ and $r = 0.27$; $p < 0.05$), respectively.

Conclusions & Recommendations: Majority of the primary grade teachers were found to be having high or normal level of EI. A significant negative association was seen between EI and perceived stress. Significant positive associations were seen between EI with emotional focused and problem focused coping. Training programmes for teachers to further develop EI are recommended.

Key words: *primary grade teachers, emotional intelligence, perceived stress, coping*

OP D.2

Perception on knowledge and beliefs related to the management of depression among engineering undergraduates of the University of Peradeniya, Sri Lanka

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Background: Depression, the most common mental health problem accounts for second highest global burden of disease due to the high rate of suicidal attempts, reduced productivity of the workforce and



other socio-economic problems. The knowledge and beliefs on management of depression lead to timely utilization of available treatment facilities.

Objective: To assess the perception on knowledge and beliefs related to the management of depression among engineering undergraduates at the University of Peradeniya and associated factors

Methods: A descriptive cross-sectional study was conducted at the Faculty of Engineering, University of Peradeniya in 2016 among 1631 undergraduates using a self-administered vignette-based questionnaire consisting of their knowledge and beliefs on the management of depression and associated factors. Percentage scores for knowledge and beliefs were presented with median and inter quartile range (IQR). Associated factors were assessed using odd ratio (OR) and 95% confidence interval (CI), and p value. Data were analyzed using univariate analysis.

Results: The median percentage score for knowledge and beliefs on the management of depression were 20.6 (IQR=17.6-36.8) and 22.1 (IQR=17.6-38.2). Significantly higher knowledge was seen among females than males (OR=1.56; 95% CI=1.2, 2.0), Sinhalese than non-Sinhalese (OR=2.53; 95% CI=1.6, 4.0) and Buddhists than non-Buddhists (OR=2.43; 95% CI=1.53, 3.85). Significantly better beliefs were seen among Sinhalese than non-Sinhalese (OR=2.82; 95% CI=1.76, 4.49) and Buddhists than non-Buddhists (OR=2.67; 95% CI=1.67, 4.27).

Conclusions & Recommendations: Study shows the inadequacy of mental health literacy on the management of depression among engineering undergraduates. Study recommends implementation of interventions to increase mental health literacy among this group at institutional level taking associated factors into account.

Key words: *depression, management, knowledge, beliefs*

OPD.3

Prevalence of factors associated with psychoactive substance use and practices among late adolescents schooling in Wattala Educational Division, Sri Lanka

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Background: Substance abuse is a devastating problem in Sri Lanka. Adolescence is the critical transition period where risk taking behaviour is a key characteristic.

Objective: To describe the prevalence of selected factors known to be associated with psychoactive substance use and practices among late adolescents schooling in Wattala Educational Division of the district of Gampaha

Methods: A cross-sectional study was conducted among 15-19 year old 600 adolescents selected from 24 schools of Wattala Educational Division with probability-proportionate-to the size, using multi-stage stratified random cluster sampling. A structured, pre-tested, self-administered questionnaire was used to assess the prevalence and pattern of ever using alcohol, smoking, smokeless tobacco, heroin and marijuana; and factors within the family context, environmental factors and knowledge on health effect of using psychoactive substances. Chi-squared test was used to evaluate the strength of association between ever use of psychoactive substance and selected factors at 5% significance level.

Results: A total of 152 (25%) adolescents had used some form of substance at least once in life time. Prevalence of ever use of alcohol, smoking, smokeless tobacco and illicit drugs was 17.7%, 8.3%, 3.2% and 3.2%. Age ($\chi^2=15.9$; df=1), ethnicity ($\chi^2=11.8$; df=4), enjoying in schooling ($\chi^2=10.4$; df=2), engage in extracurricular activities ($\chi^2=12.8$; df=2), presence of peer influence ($\chi^2=120.6$; df=2) and psychoactive substance use by a family member ($\chi^2=25.4$; df=2) showed significant associations with the ever use of psychoactive substances ($p<0.05$). In contrast, living with a single parent, parents' level of education and employment status, perception on relationship with family members and knowledge on health effects of substance abuse did not show significant associations with ever use of psychoactive substances ($p>0.05$).



Conclusions & Recommendations: Many environmental factors and factors within family context have significantly influenced the substance use among adolescents. A prospective cohort study with an in-depth assessment of the factors associated with such use should be conducted, in view of improving the effectiveness of risk focused prevention programs.

Key words: *adolescents, substance abuse, psychoactive substances, associated factors for substance abuse*

OPD.4

Utilization of information sources on depression by patients followed-up at the general psychiatric clinics of National Institute of Mental Health, Sri Lanka

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Background: Depression is a widely prevalent, highly disabling mental illness. Being well-informed on the disorder has been shown to reduce the rate of relapses and diminish the severity of symptoms among patients with depression.

Objective: To describe the utilization of health information sources on depression among patients followed-up for depression at general psychiatric clinics of the National Institute of Mental Health (NIMH)

Methods: A cross-sectional study was conducted among 385 patients with depression followed up at general psychiatric clinics of the NIMH. 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.

Results: Among the respondents, 97.9% (n=377) claimed that they almost always use the treating

clinician as the source of information while only 4.4% (n=17) claimed to be using internet to seek information on depression. While 99.2% (n=382) were extremely confident in seeking information from the treating clinician only one among the 385 patients was extremely confident in using internet for the purpose. Only 29.6% (n=113) of the patients had ever come across any form of reading material on depression and 52.3% (n=90) of them admitted of hardly being confident in seeking information through printed sources. Although only 7.5% (n=29) of them had ever been at a health education session, 96.5% (n=17) of others said the knowledge imparted at the session was useful while 86.2% (n=25) perceived it to be an extremely credible source.

Conclusions & Recommendations: Clinicians were the most widely utilised source of information. Internet and printed material are seldom used and the majority of patients who had ever used them lack confidence in their ability to do so. Past experience of patients and the confidence placed on it make health education sessions an effective tool in educating patients at the clinic.

Key words: *depression, information seeking, health information*

OPD.5

Prevalence & associated factors of depression among Army personnel in Security Forces Headquarters area, Jaffna District, Sri Lanka

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Background: Depression is one of commonest mental disorders, a major contributor to the global disease burden. Military environment is more vulnerable for depression.



Objective: To describe the prevalence and associated factors of depression among army personnel in Security Forces Headquarters (SFHQ), Jaffna

Methods: A cross-sectional descriptive study was conducted in a sample of 986 military personnel of SFHQ, Jaffna. A self-administered questionnaire including depression scale and alcohol risk assessing scale were used. Chi-squared test was used to assess significance.

Results: Mean age of the participants was 30.7 years (SD=6.47). Majority (72%) had not passed GCE Ordinary Level. The married proportion was 68.2% (n=640). Monthly salary of 82% (n=779) lied between Rs. 30,000-50,000. 48.1% (n=451) had service period of 6-10 years. Further, 54.8% (n=513) had engaged in battle and 18% of them (n=90) got battle injuries. Current Smoker percentage was 40% (n=375) while 4.6% (n=45) were high risk alcohol consumers. Prevalence of probable major depression was 9.7% (95% CI=7.84, 11.56). Unsatisfied married life ($p<0.05$) and bank saving status ($p<0.001$) were

the significantly associated family and socio-demographic-economic related factors. Total service period, leave frequency, combat exposure period, feeling fear of death at battle and been injured at battle ($p<0.05$) showed significant associations with depression. However, the exposure to battle, age at first exposure and absenteeism were not significant. Psycho-social factors including childhood abuse, family history of psychiatric illness ($p<0.05$), hazardous behaviour of smoking and alcohol misuse ($p<0.001$), and all work life balance related factors ($p<0.001$) were significantly associated with depression.

Conclusions & Recommendations: There is a high prevalence of probable major depressive disorder among army personnel in Security Forces Headquarters in Jaffna. It would adversely influence on the achievement of organizational goals of Sri Lanka Army. Utilizing the findings for designing future mental health programmes is recommended.

Key words: *depression, prevalence, military personnel, Sri Lanka Army*



Session E: Non Communicable Diseases

Chairpersons:

Dr Nalika Gunawardena

Dr Sudath Samaraweera

OPE.1

The burden of chronic kidney disease of uncertain aetiology in Anuradhapura District, Sri Lanka

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Background: Chronic kidney disease of unknown aetiology (CKDu) is known as a problem among paddy farmers of the North Central Province. Ministry of Health published a three-tiered epidemiological case definition in 2016 as suspected, probable and confirmed CKDu. Suspected CKDu provides a uniform method to estimate the burden in epidemiological studies and is defined as the presence of essential criteria of eGFR<60mL/min AND/OR albuminuria ≥ 30 mg/g. Among those satisfying the essential criteria, those with urine protein:creatinine ratio > 2 g/g creatinine OR urine albumin:creatinine ratio > 0.3 g/g creatinine; hypertensive on more than 2 drugs OR untreated blood pressure $> 160/100$ mmHg; history of diabetes OR being on treatment OR capillary random plasma glucose > 200 mg/dL were excluded.

Objective: To assess the prevalence of 'suspected CKDu' in Anuradhapura District

Methods: A cross-sectional study in five Grama Niladhari (GN) areas of Anuradhapura District

included adults over 18 years of age resident during the past six months other than being pregnant and on treatment for cancer. The study was based on the published standardized international protocol DEGREE. A sample of 1000 per area was required to estimate the prevalence with 2.5% precision. Recruiting the study units was through a household survey while laboratory testing was in 'clinics' organized in the locality. Medical history was through an interviewer-administered questionnaire. Laboratory testing was done at Anuradhapura Teaching Hospital.

Results: Response rate was 88.7% (n=4803). Among them, 68.2% (n=3274) were females and 46.3% (n=2225) were 31-50 years of age. In the sample, 85.7% (n=1310) of males were full time/part time farmers. The prevalence of 'suspected CKDu' was 10.7% (n=442) (95% CI=9.8, 11.7) with a marked male preponderance (n=229, 17.5%) versus females (n=213, 6%).

Conclusions & Recommendations: Prevalence of 'Suspected CKDu' is a considerable public health problem. Periodic estimation using the same case definition and protocol is recommended to observe the trends.

Key words: chronic kidney disease of uncertain aetiology, creatinine, hypertension, DEGREE protocol

OPE.2

Factors associated with drug compliance among coronary heart disease patients attending the outpatient cardiology clinic, National Hospital of Sri Lanka

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Background: Recent data show a rapid rise in chronic non-communicable diseases (NCDs) in Sri Lanka. Coronary heart diseases (CHDs) are responsible for a major proportion of chronic NCDs. Drug compliance among CHD patients has become an important issue in the current field of medicine. Since poor drug compliance is associated with increased morbidity, mortality and economic cost, identification of drug compliance and factors related to drug compliance is a timely need.

Objective: To describe the factors associated with drug compliance among CHD patients attending the National Hospital of Sri Lanka

Methods: A descriptive cross-sectional study was conducted among CHD patients attending the outpatient cardiology clinic of National Hospital of Sri Lanka during 2017. The calculated sample size was 403. Study participants were selected by systematic random sampling. An interviewer-administered questionnaire was used. Drug compliance was measured by adapting MMAS-8 questionnaire. Associations of drug compliance with patient related, disease and treatment related, and healthcare system related factors were identified by applying Chi-squared test. Significance level was tested at 0.05.

Results: Response rate was 97.5% (n=393). Among them, 43.0% (n=168) had good compliance while 57% (n=222) had poor compliance to their drug treatment. Patient related factors such as age, sex, marital status, ethnicity, educational level, current employment status and monthly income were not significantly associated with drug compliance (p>.05). Disease related factors significantly associated with poor drug compliance were, longer duration of the disease from diagnosis (p<0.001) and the presence of severe disease symptoms (p=0.01). Of the treatment related factors, individuals with higher number of drug types per day (p=0.03), higher daily dosing frequency (p=0.03), frequent change of drugs (p=0.04) and drug side effects (p=0.01) were more likely to have poor drug compliance. Healthcare system related factors significantly associated with poor drug compliance

were, lesser time spent by doctor to see the patient (p=0.03), not providing explanations about the treatment and compliance (p=0.02), longer time taken to complete the clinic visit (p=0.04) and higher cost per clinic visit (p=0.01).

Conclusions & Recommendations: The drug compliance was found to be low among CHD 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.

Key words: *coronary heart disease, drug compliance, factors associated, MMAS-8*

OPE.3

Physical activity and functional status in knee osteoarthritis patients attending clinics at the National Hospital Sri Lanka

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Background: Knee osteoarthritis is one of the leading causes for knee pain and functional limitations in elderly people, which in turn affects the quality of life. Functional limitations result in weakening of the muscles and loss of flexibility in the joints.

Objective: To assess the avoidance of physical activity and functional status of knee osteoarthritis patients

Methods: A descriptive cross-sectional study was carried out among 120 knee osteoarthritis patients 60 years or below attending the National Hospital Sri Lanka using systematic consecutive sampling. Knee pain, functional status and avoidance of physical activity were assessed using the visual analogue scale, knee injury and osteoarthritis outcome score, and pain coping inventory. Pearson correlation was done to analyse the relationship between the level of avoidance of activity and functional status.



Results: Majority were females with bilateral knee osteoarthritis. Majority (n=117, 97.5%) were in moderate to severe pain categories. Resting was the mostly used coping style to avoid physical activities. The passive coping style which includes resting was used than the active coping style to avoid physical activities. There were significant negative moderate to high correlations between functional status QOL component with avoidance factors ($p<0.01$). Functional status sports component showed significant negative moderate correlations avoidance factors ($p<0.01$).

Conclusions & Recommendations: Most of the patients suffered from knee pain with majority adopting passive coping style. Avoidance of physical activity subscales (distraction, resting, decreasing demands and worrying) showed significant relationships with QOL and sports. It is recommended that to identify each patient's coping style of pain to improve functionality. Further studies can be recommended with more qualitative studies on non-pharmacological methods of pain relief which osteoarthritis patients have successful experiences from their application.

Key words: *avoidance of physical activity, functional status, knee pain*

OPE.4

Prevalence and associated psychosocial factors of depression among postpartum mothers in Kolonnawa Medical Officer of Health area, Colombo, Sri Lanka

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Background: Postpartum depression (PPD) is gaining importance as a public health concern globally. The prevalence of PPD in Sri Lanka ranges from 27.1% to 32.1%. Depression can occur in postpartum mothers irrespective of their psychosocial status. Therefore, active screening is necessary during the postpartum period. By finding out the associated factors of PPD, quality of care for postpartum mothers can be improved.

Objective: To determine the prevalence of depression among postpartum mothers in the MOH area, Kolonnawa, Sri Lanka and to describe the psychosocial factors associated with it

Methods: A clinic-based cross-sectional study was conducted among all mothers in 4-8 weeks of postpartum period attending the child welfare clinics at Kolonnawa MOH area during the first quarter of 2017 (N=341). A self-administered questionnaire including Edinburgh Post-Partum Depression Scale (EPDS) was used for data collection. A cut-off value of 9 was used for the EPDS. Prevalence of PPD was calculated. Associations were analysed using odds ratio (OR) and Chi-squared test with p value at 5% significance level.

Results: Median EPDS score among post-partum mothers was 4 (IQR=2-8). Prevalence of PPD in this study sample was 15.24% (n=52). Thought of self-harming (item number 10 of EPDS) was reported by 21 postpartum mothers (6.15%). None of the psychosocial factors were significantly associated with PPD or thought of self-harming in this study sample.

Conclusions & Recommendations: Prevalence of PPD in Kolonnawa MOH area was relatively high, which is compatible with the available literature on Sri Lankan studies. Depression can occur in postpartum mothers irrespective of their psychosocial status. Therefore, active screening is necessary during postpartum period.

Key words: *postpartum depression, prevalence, associated factors*

OPE.5

Development and validation of a quality of life tool for stroke survivors in Sri Lanka: Post-Stroke Quality of Life Index

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Background: Burden of stroke is rising due to the demographic and epidemiological transitions in Sri Lanka. Assessment of the success of stroke management requires tools to assess the quality of life of stroke survivors. Most of the currently used QOL tools are developed in high income countries and may not reflect domains relevant to poorer countries.

Objective: To develop and validate a new QOL tool for stroke survivors in Sri Lanka

Methods: The Consensus-based Standards for the selection of health Measurement Instruments (COSMIN) checklist was referred. A conceptual framework was prepared. Item generation was done reviewing the existing QOL tools, inputs from experts and from stroke victims. Non-statistical item reduction was done for the 36 generated items with Delphi technique. Retained 21 items were included in the draft tool. A cross-sectional study was done with 180 stroke survivors. Exploratory factor analysis was done and factors identified were subjected to varimax

rotation. Further, construct validity was tested with six a-priori hypotheses using already validated tools (SF-36, EQ-5D-3L) and a formed construct. Reliability was assessed with internal consistency.

Results: Four factors identified with principal component analysis explained 72.02% of the total variance. All 21 items loaded with a level >0.4. The developed tool was named as Post-stroke QOL Index (PQOLI). Four domains were named as “physical and social function”, “environment”, “financial-independence” and “pain and emotional-wellbeing”. Four domain scores of PQOLI correlated as expected with the SF-36, EQ-5D Index and EQ-5D-VAS scores. Higher domain scores were obtained for ambulatory group than the hospitalized group. Higher scores for financial independence domain were obtained for the group without financial instability. Five a-priori hypotheses were completely proven to be true. Cronbach-alpha level ranged from 0.91 to 0.68 for the four domains.

Conclusions & Recommendations: PQOLI is a valid and reliable QOL tool for measuring the QOL of stroke survivors.

Key words: *stroke, quality of life, quality of life tool, Sri Lanka*



Session F: Maternal and Child Health

Chairpersons:

Dr. Anuradhini Kasturiratne

Dr N Mapitigama

OPF.1

Proportion of unplanned pregnancies, their associated factors and health outcomes of women delivering at Colombo North Teaching Hospital, Ragama, Sri Lanka

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Background: Unplanned pregnancy is a significant public health issue in the developing world and its burden is reflected in women opting for pregnancy terminations despite the presence of well-established family planning services. Quality data on unplanned pregnancies are needed to address issues in the Sri Lankan context.

Objective: 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 494 pregnant women selected by non-probability consecutive sampling who were awaiting delivery at CNTH. A pre-tested interviewer-administered questionnaire was used to collect data on antenatal women. Intention of the pregnancy was measured using a self-administered culturally adapted Sinhalese translation of six item London Measure of Unplanned pregnancy (LMUP).

Results: Response rate was 97.8% and mean age of conception was 28.5 year. Study reported 17.2% unplanned pregnancies, 12.7% ambivalent and 70.1% planned pregnancies. Majority (n=141, 95.2%) of women with unplanned pregnancy were married; 43.9% (n=65) married at their teens,; and 18.2% (n=27) were teenage mothers.

Associated factor profile of women with unplanned pregnancies include; not married women (OR=17.13; 95% CI=2.09, 140.5), educated up to passing of GCE Ordinary Level by women (OR=2.33; 95% CI=1.56, 3.47) and spouse (OR=3.33; 95% CI=2.14, 5.17) and monthly household income below Rs.40,000 (OR=1.82; 95% CI=1.23, 2.68), women who had initiated sex before 20 years of age (OR=2.74; 95% CI=1.81, 4.13), being a teenager (OR=4.06; 95% CI=2.16, 7.65), multi parity (p=0.01) and inadequate knowledge on emergency contraceptives (OR=1.52; 95% CI=1.03, 2.24). Less planned pregnancies were also significantly associated with anemia, low mood for last two weeks, having a partner with problematic alcohol consumption, presence of gender-based violence, poor relationship with partner and family. Inadequate pre-pregnancy preparation and antenatal care were associated with unplanned pregnancy. No difference was found in neonatal outcomes.

Conclusions & Recommendations: A sizeable proportion of pregnancies were unplanned. Teenage pregnancies, non-marital relationships and inadequate knowledge on emergency contraceptives, maternal anaemia, low mood and gender-based violence were modifiable associated factors that could be prevented by evidence-based locally applicable approaches.

Key words: *unplanned pregnancy, maternal and newborn health outcomes*

OPF.2

Comparative study on unmet need of family planning and associated factors among postpartum mothers aged 20-35 years and over 35 years attending the child welfare clinics in Colombo Municipal Council area, Sri Lanka

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Background: Unmet need of family planning highlights the gap between women's reproductive goals and their contraceptive behaviour. This leads to unwanted outcomes, which in turn negatively affects the health and wellbeing of woman and the whole family.

Objective: To compare the unmet need of family planning and associated factors among postpartum mothers aged 20-35 years and over 35 years attending child welfare clinics in Colombo Municipal Council (CMC) area

Methods: A comparative cross-sectional study was carried out among 212 postpartum mothers aged more than 35 years and 212 postpartum mothers between 20-35 years having a child less than seven months attending the child welfare clinics in CMC area. Older mothers were recruited using non-probability consecutive sampling method and multistage systematic sampling for younger mothers. An interviewer-administered questionnaire was used for data collection. Chi-squared test was done for associations and $p < 0.05$ was considered as the statistical significant level.

Results: The proportion of unmet need of family planning was 30.2% (n=64) in more than 35 year age group while it was 31.1% (n=66) in the 20-35 group. Not having sex ($p=0.02$) and health concerns ($p=0.04$) were the statistically significant reasons for unmet need among two groups. A higher proportion of mothers in the over 35 age group had good knowledge than their counterpart, yet this difference was not statistically significant ($p=0.39$). More than 35 year old mothers who were less educated ($p=0.02$), being a nuclear family ($p=0.01$), had no family support ($p=0.04$) and with more children ($p=0.001$) were not using any family planning method compared to the 20-35 age group and this difference among the two groups was statistically significant.

Conclusions & Recommendations: Proportion of unmet need of family planning is high among both study groups. Family planning programmes should be streamlined to address the high unmet need of

family planning, and health education programmes should be targeted for a behavioural change among couples.

Key words: *unmet need, family planning, postpartum mothers*

OPE.3

Validity and reliability of a new multi-dimensional instrument to assess maternal perceptions of the quality of immediate postnatal care services in Sri Lanka

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Background: Immediate postnatal period or the first 24 hours after delivery is a period where high quality services are required to prevent adverse health outcomes for mother and baby. Mothers' perception of the care received during this period is considered an important attribute in assessment and improvement of quality of care provided by the hospitals. However, this should be assessed using a valid and reliable instrument to guarantee the validity of the data.

Objective: To determine the validity and reliability of a newly developed instrument to measure maternal perceptions of quality of routine care provided in the immediate postnatal period following a normal vaginal delivery, by the state sector specialized care health institutions in Sri Lanka

Methods: Multiple qualitative methods were used to generate culturally suitable items for the instrument. The developed instrument was validated using an exploratory factor analysis. Data were collected among 200 mothers who had undergone normal vaginal delivery in Colombo North Teaching Hospital and were in the immediate postnatal period. Consecutive sampling technique was used to recruit eligible mothers until the required sample size was



achieved. Reliability was estimated by measuring internal consistency and test retest method.

Results: The qualitative methods were able to generate an item pool of 28 items. Following factor analysis, the instrument consisted of 23 items. Three main domains identified were: Interpersonal care, Technical care and Information, and Ward facilities and Cleanliness. The three-factor model identified was able to explain 58.9% of the total variance of the scale. Cronbach's alpha value for the total scale was 0.94. The spearman's rank correlation coefficient value for the test retest reliability was 0.94.

Conclusions & Recommendations: The newly developed 23-item instrument demonstrated satisfactory level of validity and reliability. Application of this instrument will provide health managers with valuable information which can be utilized to improve the quality of routine care in the immediate postnatal period.

Key words: *client-perceived quality, instrument development, exploratory factor analysis, validation, postnatal care quality*

OPF.4

Service-related factors associated with antenatal screening for gestational diabetes mellitus among mothers delivering at secondary care hospitals in Matara District, Sri Lanka

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Background: Gestational diabetes mellitus (GDM) defined as 'any degree of glucose intolerance with onset or first recognition during pregnancy', accounts for certain adverse maternal and perinatal outcomes. Early detection and prompt glycaemic control can minimize such outcomes, thus universal screening for GDM is recommended. It has been incorporated to

the maternal care programme since 2014 and carried out twice during the antenatal period at field antenatal clinics.

Objective: To assess the service-related factors associated with effective implementation of antenatal GDM screening programme among mothers in Matara District

Methods: In a cross-sectional study, 423 postpartum mothers delivered at three secondary care hospitals in Matara District were recruited using a proportionate sampling technique. Data on access to antenatal GDM screening services and screening process were collected using an interviewer-administered questionnaire. Data on the availability of screening facilities were collected using a data record sheet. Chi-squared test and Fisher's exact test were used to test the associations between variables.

Results: Response rate was 92.3% (n=420). Distance to the nearest laboratory with blood sugar testing was within 30-minute reach for 91.7% (n=385). Area public health midwife was not available during the time of first and second GDM screening for 5.5% (n=23) and 13.2% (n=55) of the participants, respectively. Availability of logistics to perform screening test were 22.7% (n=85) and 11.5% (n=43). Coverage of first and second screening was found to be 91.4% (n=384) and 94.5% (n=393) while timeliness was 72.4% (n=278) and 59.5% (n=234), respectively. Proper documentation was done in 76.8% (n=295) and 65.4% (n=265); and 47.7% (n=21) and 21.2% (n=7) reported appropriate referral, respectively after first and second screening. Screening coverage was negatively associated with a longer distance to nearest laboratory (p=0.002) and timeliness with non-availability of logistics (p=0.002) in second screening, but not in first screening.

Conclusions & Recommendations: Despite higher coverage, GDM screening programme needs improvement in timeliness, proper documentation and appropriate referral. Availability of logistics at MOH level will improve the performance of GDM screening and hence the maternal care package.

Key words: *GDM screening, service related factors, antenatal mothers*



OPF.5

Preference and associated factors for the caesarean section as a mode of delivery among primi-pregnant mothers attending selected antenatal clinics of Bandaragama Medical Officer of Health in Sri Lanka

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Background: Increasing caesarean section (CS) rate is observed in the world, which has a significant negative impact on the health of pregnant mother, family and the economy of country.

Objective: To describe the preference, and associated factors for the caesarean section as a mode of delivery among primi pregnant mothers attending antenatal clinics of the medical officer of health (MOH) area of Bandaragama

Methods: This study was a descriptive cross-sectional study among 238 primi pregnant mothers who were in their second and third trimester and who would undergo planned caesarean section (those

with severe heart diseases, pelvic deformities, HIV and multiple pregnancies) attending antenatal clinics in Bandaragama MOH area. They were selected by systematic random sampling method. A pre-tested interviewer-administrated questionnaire was used. Associated factors of preferred mode of delivery were determined using Chi-squared test. Significance level was set at 5%.

Results: Response rate was 90% (n=217). Prevalence of preferred mode of delivery for caesarean section was 12% (n=26). Factors significantly associated with caesarean section were high maternal age (p<0.05), being Sinhalese (p<0.05), private job sector (p<0.05) and monthly income more than Rs. 40,000 (p<0.05). There was no significant association of preferred mode of delivery with period of gestation, having planned pregnancy, body mass index and channelling an obstetrician in the private sector (p>0.05).

Conclusions & Recommendations: As the preferred mode of delivery, caesarean section is significantly associated with high maternal age, being a Sinhalese, private job sector and monthly income more than Rs. 40,000. Health education interventions are recommended to educate pregnant mothers in reducing the caesarean section rate in Sri Lanka.

Key words: *pregnant mothers, caesarean section, preferred mode of delivery*



Session G: Patient Care Quality

Chairpersons:

Dr. Manuj C Weerasinghe

Dr S Sridharan

OPG.1

A strategy to train doctors in medical certification of cause of death in selected large hospitals in Sri Lanka

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Background: Poor quality of cause of medical certification of cause of death (MCCOD) 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 MCCOD by medical officers.

Objective: To pilot a strategy and training approach to improve the quality of MCCOD in selected large hospitals in Sri Lanka

Methods: Twenty-five hospitals in Sri Lanka were selected based on being large hospitals, where a considerable proportion of deaths are taking place. A baseline of the quality of certification practices was done on a sample of death declarations using the University of Melbourne's (UoM) death certification assessment tool. After six months of in-hospital training, another sample of death declarations will be drawn to assess progress in each hospital. The intervention package introduced by the Bloomberg data for health initiative of the UoM included two-day training workshops for five doctors from each hospital on correct MCCOD. The material provided for in-hospital training includes handbook, assessment

tool, training prospectus, power point presentations, etc.

Results: Master trainers (n=125) from 25 large hospitals were trained. A two-hour training package comprising general and specific certification guidelines and case scenario discussions were developed for the hospital roll-out by master trainers. A Google group was formed to communicate with all the trainers. Master trainers were added to the UoM MCCOD master trainers' Facebook forum for posting training news and sharing experience with international trainers. Some hospitals set up MCCOD call centres to answer queries from doctors. A number of hospitals have completed training all the doctors. In the pre-assessment, only 2.17% of the death declarations were without errors. The commonest error was missing time intervals. Incorrect sequence, reporting multiple causes in a line, and ill-defined UCOD were among the other errors.

Conclusions & Recommendations: The pre-intervention results show that the certification practices are poor in the 25 hospitals. In the pilot, this seems to be a feasible approach to train them. Post-intervention results will demonstrate how effective the strategy and training are in improving the cause of death certification practices in the selected hospitals.

Key words: *quality of medical certification, cause of death*

OPG.2

Service quality for patients with mental illnesses at the National Hospital Sri Lanka

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Background: In Sri Lanka, mental health has been given a low priority, despite one out of ten in population suffering from a mental illness. Most patients are treated and followed up at psychiatric clinics at government hospitals.

Objective: To assess perception and expectations of clinic attendees on quality of services, factors affecting quality and opinion of the consultant psychiatrists at psychiatric clinics of the National Hospital of Sri Lanka (NHSL)

Methods: A descriptive cross-sectional study was carried out at psychiatric clinics of NHSL, among 292 clinic attendees in remission, followed-up at the clinics for ≥ 1 year, and decided by treating team as capable of giving information and consent. Participants were recruited through systematic sampling method. Perception and expectations on five quality dimensions of SERVQUAL model (tangibles, reliability, responsiveness, assurance, empathy) were assessed using pre-tested, interviewer-administered questionnaire with 30 items on a five-point Likert scale. In-depth interviews were conducted among consultant psychiatrists ($n=5$). Associations were tested through Chi-squared test. Thematic framework approach was used for analysis of qualitative data.

Results: Response rate was 93% ($n=274$). Majority were aged 45-54 years ($n=61$, 22.4%), males ($n=161$, 59.2%), married ($n=145$, 53.3%), Sinhala ($n=179$, 65.8%), passed GCE Ordinary Level ($n=72$, 26.5%), currently unemployed ($n=186$, 68.3%) and on treatment for 2-5 years ($n=117$, 43.5%). Tangibility scored highest (mean=1.48; SD=0.001), assurance scored least (mean=1.11; SD=0.001) for expectations. Responsiveness scored highest (mean=2.98; SD=0.164) and tangibility scored least (mean=2.14; SD=0.001) for perceptions. Overall perception (mean=2.55; SD=0.66) regarding the quality of service was higher than expectations (mean=1.22; SD=1.36). Perception of tangibility was associated with level of education ($p=0.004$), ethnicity ($p=0.01$) and empathy with unemployment ($p=0.03$). In-depth interviews revealed the need for privacy and confidentiality at clinics, avoiding stigma during communication by the staff.

Conclusions & Recommendations: Service quality for patients with mental illness at NHSL was

found to be better than their expectations. In-service training of the staff, creating a culture where patients are treated with respect and dignity is recommended.

Key words: *service quality, psychiatric patients, clinics, perceptions and expectations*

OPG.3

Evaluation of the effect of pre-operative over-fasting on post-operative vomiting in children undergoing bone marrow aspiration at a tertiary care setting in Sri Lanka

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Background: Fasting prior to induction of anaesthesia is the main requirement to prevent aspiration. Keeping children fasting is a major challenge in many instances. Not adhering to proper standard fasting guidelines and subsequent over-fasting are known to cause many complications including post-operative vomiting.

Objective: To determine the association between pre-operative, over-fasting and post-operative vomiting among children undergoing general anaesthesia in Sri Lanka

Methods: A prospective cohort study was conducted in children undergoing bone marrow aspiration under general anaesthesia. The exposure status was determined by the duration of fasting time of the child. Children kept fasting for three or more hours from last clear fluid intake constituted the exposed group, while children fasting for less than 3 hours constituted the non-exposed group. The calculated sample size was 202 participants in each group. Both groups were followed-up till six hours following induction of anaesthesia. The outcome of interest was development of post-operative vomiting during the follow-up period.

Results: The mean (SD) duration time of fasting of the exposed and non-exposed groups were 7.2 (2.4)



and 2.2 (0.3) hours, respectively. Thirty two (15.8%) children in the exposed group and 17 (8.4%) children in the non-exposed group developed post-operative vomiting. The relative risk of developing post-operative vomiting among over-fasting children was 1.9 (95% CI=1.1, 3.3) while adjusting for age, it was 2.1 (95% CI=1.1, 4.0). Significantly more caregivers were clear about the fasting advice in the non-exposed group than in the exposed group ($p < 0.001$).

Conclusions & Recommendations: Over-fasting is a significant risk factor to develop post-operative vomiting in paediatric anaesthetic practice. Needful measures need to be taken to minimize over-fasting.

Key words: *fasting, vomiting, paediatric, caregiver, general anaesthesia*

OPG.4

Validation and application of a verbal autopsy tool in Sri Lanka: basic steps of a crescendo to improve the quality of cause of death data

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Background: Sri Lanka's poor quality of cause of death (COD) data is due to two main reasons; first, all deaths that occur outside of hospital settings are not certified by doctors but by non-medically trained staff (coroners and registrars of births and deaths), and over half of all deaths in Sri Lanka occur outside hospitals; second, CODs are not accurately recorded for some deaths certified in health facilities by doctors. Verbal autopsy (VA) is a tool used to ascertain valid CODs where medical certification of COD is not possible.

Objective: To assess the effectiveness of verbal autopsy in improving the quality of cause of death data of adults and adolescents

Methods: The study consisted of two parts; validation study (a) and an implementation study (b). a) International Standard Verbal Autopsy Questionnaire designed by the World Health Organization

was translated into Sinhala language, pre-tested and validated (judgmental and criterion validity). To determine the criterion validity, a study was conducted in Kandy Teaching Hospital using in-hospital deaths in the year 2010 (n=316). b) A descriptive cross-sectional study was done retrospectively to redistribute unusable CODs in Gangawatakorallaya registration division, Kandy. A medical record assistant coded deaths in the division from 1 January to 30 June 2010. The causes coded as signs symptoms or ill-defined conditions (432 deaths) were selected to administer VA questionnaire to re-distribute the CODs.

Results: Sensitivity for ischemic heart disease, intentional self-harm and transport accidents exceeded 90% while chronic lower respiratory tract diseases and pneumonia were 77.5% and 74.7%, respectively. Positive predictive values of the above categories were over 75%. In the implementation study, verbal autopsy was done to 405 deaths, and 55.8% (n=226) CODs were redistributed to usable CODs.

Conclusions & Recommendations: Verbal autopsy can be used in Sri Lanka to redistribute unusable CODs into valid CODs.

Key words: *verbal autopsy, cause of death*

OPG.5

School dental service in Sri Lanka: geo-spatial analysis of access to oral healthcare

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Background: The school dental service has long been recognised as a cost-effective approach for the provision of oral healthcare for school children. It contributes to the reduction of social inequalities in oral health among children.



Objective: To investigate the distribution of school dental clinics manned by school dental therapists in Sri Lanka in relation to the distribution of child population and socio-economic status

Methods: School dental clinics were mapped using geographic information system (GIS) software and overlaid with population data of 3-13 year old children, including poverty status.

Results: Overall, there was an uneven geographic distribution of the total 422 school dental clinics and the attached 374 school dental therapists. Sri Lankan children have restricted access to school dental care in a few poverty-stricken districts in the Northern, Eastern, North Central and Uva Provinces. Overall, 61% were within 5km of dental care, and the

accessibility was remarkably high in the Western and Central regions. When the geographic distribution of children by poverty status was analysed, it was found that in Sri Lanka only 53% of the most socially disadvantaged children lived within 5km from a school dental clinic, compared to 75% of the least disadvantaged.

Conclusions & Recommendations: A coordinated national school dental service strategy is needed in response to identified areas of poor or inadequate accessibility to dental services for large parts of the child population, especially those from low socio-economic backgrounds.

Key words: *school dental service, school dental therapist, Sri Lanka, spatial distribution*



Session H: Health among Vulnerable Populations

Chairpersons:

Dr Aindralal Balasuriya

Dr Janaki Vidanapathirana

OPH.1

Perceived self-efficacy in managing chronic diseases among elders attending medical clinics at Mulleriyawa Base Hospital, Sri Lanka

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Background: Self-efficacy is posited as fundamental to achieve behaviour change of individuals. Study aims to fill the present gaps in self-management of chronic diseases.

Objective: To assess the perceived self-efficacy and associated factors in managing chronic diseases among elders in a clinic setting

Methods: An institution-based descriptive cross-sectional study was conducted. By systematic sampling, 461 eligible patients diagnosed with five chronic diseases were interviewed using pre-tested, validated Chronic Disease Self-efficacy Questionnaire. Self-efficacy was calculated by averaging the mean scores of 10 efficacy domains and categorized as good, satisfactory and poor levels.

Results: Response rate was 92% (n=424). Mean age was 69.5 years, while 75.7% (n=321) consisted of females, 95% (n=402) were educated and 70.6% (n=298) were living with children. 46.3% (n=193) were economically dependent on children. Mean perceived self-efficacy was 3.64 (SD=0.54) with good (n=128, 31.4%), satisfactory (n=141, 34.6%) and poor (n=138, 33.9%) self-efficacy levels. Risk factor control domain (diet, exercises and substance) had the lowest mean efficacy (2.195). Age category (p=0.004), education (p=0.007), income levels (p=0.015), impaired vision (p=0.002), impaired mobility (p=0.017), multiple co-morbidities (p=0.02),

blood pressure (p=0.04) and total blood cholesterol control (p=0.04) had statistically significant associations with self-efficacy levels but not the blood sugar control (p=0.64) and recent hospitalizations for chronic illness (p=0.2). Those of 60-69 years were mainly (n=84, 38.7%) in good efficacy level. Percentages of good self-efficacy increased with improved education. 52.1% (n=25) of good self-efficacy was seen in higher income group. A higher proportion of poor self-efficacy was found among elders with disabilities. Multiple co-morbidities showed a decrease in good self-efficacy with the number of co-existing diseases.

Conclusions & Recommendations: Perceived self-efficacy levels were significantly associated with socio-demographic factors, disability status and multiple co-morbidities, which are important factors to address self-management of chronic diseases. Improvement of self-efficacy may have a beneficial effect on blood pressure control, total cholesterol and risk factor management. Further cohort studies are needed to assess the temporality of perceived self-efficacy and its determinants.

Key words: *self-efficacy, chronic diseases, elderly*

OPH.2

Level of stress and selected socio-demographic factors among grandparents upbringing of grandchildren aged six months to five years in Homagama Medical Officer of Health area, Colombo, Sri Lanka

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Background: The traditional role of enjoying the grandparenthood without many responsibilities has been changed. The growing trend of grandparents as primary caregivers is seen throughout the world. In the recent past, the role of grandparents has changed to fulltime caregivers because of the failure of their parents to meet the parenting responsibilities.

Objectives: To assess the level of stress and selected socio-demographic factors among grandparents caring upbringing of grandchildren in Homagama Medical Officer of Health (MOH) area in Colombo District

Methods: A community-based cross-sectional study was conducted among 510 grandparents upbringing their grandchildren aged six months to five years in Homagama MOH area. An interviewer-administered questionnaire, Parental Stress Scale and Ten-item Perceived Stress Scale were used to assess the overall stress among the grandparents. P value less than 0.05 was considered as the statistical significant level.

Results: Majority (n=383, 76%) were grandmothers. The mean age of grandparents was 62.6 years (SD=6.55). Nearly two thirds (>65%) of grandparents lived in their own place. Approximately 51% (n=256) of grandparents reported as having a chronic disease and were on regular clinic follow up. Mean parental score was 34.9 (SD=8.27) and perceived stress level was 20.2 (SD=7.0). Being a grandfather, having a chronic disease, higher income level, advancing age of the grandchild, higher the duration of upbringing and presence of a housemaid were significantly associated with parental stress in grandparents (p<0.05). However, educational level and their occupational status were not significantly associated with the parental stress level (p>0.05).

Conclusions & Recommendations: Grandparents who look after their grandchildren should be given more free time to enjoy their hobbies, to meet their friends and to engage in religious activities which would improve their quality of life.

Key words: *grand parenting, grandchildren, caring practices, stress level*

OP H.3

Assessment of HIV related stigma among people living with HIV in Sri Lanka

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Background: People living with HIV face stigma during their lives which can affect them adversely in many ways, as well as have adverse outcomes on the community with regard to the transmission of HIV infection. Stigma can undermine the HIV prevention efforts and practice of safe behaviours.

Objective: To assess the stigma associated with HIV among people living with HIV in Sri Lanka

Methods: A descriptive cross-sectional study was carried out in 2017 among 150 people living with HIV in Sri Lanka selected through purposive sampling, which is the common method of sampling in similar studies. The judgmentally validated Stigma Index was administered as an interviewer-administered questionnaire by four data collectors who were living with HIV themselves. It included personal information, experience of stigma and discrimination from others, access to work, health and education services, internal stigma, among other details, and was pre-tested prior to administration. Descriptive data were analysed as frequencies and proportions.

Results: The study population consisted of 54% (n=81) of males and the age varied from 15 to 70 years. Of them, 68% (n=102) were living with HIV for five or more years. Fourteen Participants (9.3%) have not declared their HIV status to their spouse or partner. HIV positive people have found it easier to share their status with other people living with HIV. Verbal abuse, harassment or threat due to HIV status was experienced by 10% (n=15). Four percent (n=6) suffered physical abuse, harassment or threat directly related to their HIV status. Only 6% (n=9) of the study population indicated that the loss of a job or another source of income was due to their HIV status. Regarding internal stigma, self-blame (46.7%)



and shame (42.7%) were the most prevalent feelings, followed by guilt (31.3%), low self-esteem (n=38, 25.3%) and suicidal thoughts (20%).

Conclusions & Recommendations: Stigma among people living with HIV still prevails in the community, where many are not willing to share their status due to fear of stigma. Awareness on HIV and attitudinal change can improve the situation. Psychological services should be strengthened to overcome internal stigma.

Key words: *stigma, people living with HIV, Sri Lanka*

OPH.4

Water, sanitation and hygiene promotion among adolescents: knowledge, attitudes and practices

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Background: Communicable diseases, mainly respiratory and intestinal infections, cause suffering, lifelong disability or untimely death of millions predominantly in developing regions of the world. Knowledge, attitudes and hygienic practices among young school children in Sri Lanka are poorly understood though it is critical for prevention and sustainable control of communicable diseases.

Objective: To describe the knowledge, attitudes and practices on hygiene among Grade 7 school children

Methods: A cross-sectional descriptive study was conducted among students of Grade 7 in 12 out of 36 schools in Kalutara Medical Officer of Health area. Data were gathered under three main sections: personal hygiene, knowledge, attitudes and practices. Two checklists and a self-administered questionnaire were used.

Results: The response rate was 92.6% (n=574). Females had better practices of cleaning with soap and water after defecation, drinking boiled water and

washing hands after playing. Males had better bathing practices and higher knowledge on personal hygiene. Students with satisfactory knowledge on personal hygiene practised cleaning with soap and water after defecation. Conversely, they used boiled water for drinking less than the ones with unsatisfactory knowledge. Students with mothers having an education beyond GCE Ordinary Level had better bathing practices, better practices of brushing teeth, washing clothes, drinking boiled water and hand washing after playing. Students with fathers having an education beyond GCE Ordinary Level drank boiled water and practised washing hands after using toilet more, but washed hands less frequently after playing.

Conclusions & Recommendations: Majority of students were aware of personal hygiene and practised it routinely. Most of the students had positive attitudes towards key aspects of personal hygiene. There is an alarming disparity between awareness on hygiene and its implementation especially on drinking boiled water. Mothers' level of education has a prominent influence on children's hygiene, whereas fathers play a less significant role.

Key words: *water and sanitation, adolescents, communicable diseases, school health*

OPH.5

Pattern of screen time and association of caregiver practices with screen time among 3-5 year pre-school children in the Medical Officer of Health area of Kegalle, Sri Lanka

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Background: 'Screen time' is the time spent with any screen including television, computer screens and smartphones. Caregivers play an important role in deciding screen time of pre-schoolers.

Objective: To assess the pattern of screen time among 3-5 year old pre-school children and its association with caregiver practices in Kegalle Medical Officer of Health area



Methods: A community-based cross-sectional study was conducted among 510 caregivers, selected by two-stage cluster sampling. A pre-tested interviewer-administered questionnaire was used for data collection. Associations were assessed using Chi-squared test. Associations were considered as significant when the p value is less than 0.05.

Results: The response rate was 91.3% (n=466). Television (96.1%) was the most popular screen media device. The average television viewing time was 67.6 minute/day (SD=56.1). The prevalence of screen time of any duration was 85.5%. High screen time (>60min/day) and normal screen time (\leq 60min/day) was 32% (95% CI=27.9, 36.3) and 52.7% (95% CI=48.3, 57.4), respectively. The majority (n=280, 70.8%) used screen devices during 4-6 pm. The majority (n=229, 59.3%) watched cartoon mostly. A small proportion (n=33, 8.3%) used devices in the

bedroom. The caregiver practices of enforcing rules on the duration (p=0.003), on time (p=0.02) and on days of the week (p=0.005) of screen viewing, and on the type of program (p=0.04) were significantly associated with high screen time. Rewarding good behaviour (OR=7.04; 95% CI=4.39, 11.29) and co-viewing (OR=1.54; 95% CI=1.01, 2.34) were significantly associated with high screen time.

Conclusion & Recommendations: Prevalence of screen media use is high among pre-schoolers. Several caregiver practices were associated with high screen time. Awareness programs need to be conducted for caregivers. Further research is necessary to identify prevention and intervention strategies.

Key words: *screen time, pre-school children, caregiver practices*