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The College of Community Physicians of Sri Lanka
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Session A: Quality of Care

Chairpersons:

Dr. Hemantha Herath

Prof. Rohini de A Seneviratne

OPA.1

Management of mass casualty incidents following disasters: a capacity assessment of the medical officers at Teaching Hospital Kurunegala, Sri Lanka

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Background: The foremost concern of disaster management is to minimize the human suffering where the health sector has to play a critical role. The medical officers play a major role by getting directly involved as the decision makers and first respondents of patient management.

Objective: To assess the capacity of the medical officers to manage mass casualty incidents following disasters

Methods: An institution-based descriptive cross-sectional survey was carried out at Teaching Hospital Kurunegala, from March 2016 to January 2017, among all grade medical officers who were permanently attached to the institution and having more than one-year working experience in the health sector, using self-administered, pre-tested, validated questionnaire. Good knowledge was considered in those having a score of more than 70% and good attitude was categorized as those having a score of 32 or more for a total score of 40.

Results: Response rate was 89.9% (n=346). Among them, 28.9% (n=100) had good knowledge, and

27.5% (n=95) had good attitudes towards the better management of mass casualty incidents. In the study group, 38.2% (n=132) had prior experience, 25.7% (n=89) have undergone formal training and only 6.9% (n=24) participated for simulations. Further, 46.8% (n=162) had desired goal for the management of mass casualty incidents. Those at first respondent units were more likely to have good knowledge than those at other units ($p<0.05$). Participants with prior experience were significantly more likely to have had prior training ($p<0.05$). Those who had desired goals were significantly more likely to have good knowledge, good attitudes and prior training on management of mass casualty incidents ($p<0.001$).

Conclusions and recommendations: There is a clear need for improvement of the individual level capacity by conducting awareness programs and programs on attitudinal change among medical officers at Teaching Hospital Kurunegala to achieve desired goals to manage mass casualty incidents.

Key words: disaster, individual capacity, mass casualty incidents, goals

OPA.2

mHealth: vehicle for health system strengthening in Sri Lanka

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Background: Sri Lanka has a unique primary healthcare system with diverse community-based healthcare services. Emerging health challenges in sustainable development era need to be addressed with special emphasis on universal health coverage. mHealth technology is an evidence-based intervention to cater novel healthcare priorities. mHealth is defined as “medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants and other wireless devices”. mHealth needs to be integrated into the existing health system functions, rather than stand-alone resolutions.

Objective: To identify mHealth interventions to strengthen the health system in Sri Lanka

Methods: Five focus group discussions (FGD) were carried out. First group consisted of participants who are working at field level and the other groups consisted of programme managers, administrators and medical officers of health. Purposive sampling was used. Approximately 8-10 participants were selected for each FGD. A semi-structured FGD guide was used to facilitate the discussions and collect information. Thematic analysis of the findings of FGDs was carried out.

Results: The majority (64%) of field workers stated that mHealth is useful for health education and behaviour change communication. All programme managers believed that mHealth is beneficial for data collection at community level while 45% of them highlighted the importance of digital vital event registration and electronic health record using mHealth. Most (76%) of the medical officers of health at divisional level emphasised the value of mHealth on provider-to-provider communication and 48% stated its value in point-of-care diagnosis at field level. The majority (80%) of medical administrators emphasised the use of mHealth for human resource management and supply chain management initiatives.

Conclusions and recommendation: mHealth interventions are dynamic ground-breaking approaches that can be used at community level through grass root community health workers. It is the right time for Sri Lanka to implement these mHealth innovations at community level to encounter the upcoming health challenges.

Key words: *mHealth, health system strengthening, Sri Lanka*

OPA.3

Biomedical hazards management in selected units of National Hospital of Sri Lanka and knowledge, practices and perceptions among health assistants

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Background: Practising of different treatment modalities and technologies in health sector institutions has increased the risk of biomedical hazard (BMH) among healthcare workers. Knowledge, perceptions and practices of healthcare workers directly affect the proper management of BMH at the institutional settings.

Objectives: To assess the biomedical hazards management in surgical units and operation theatres of National Hospital of Sri Lanka and to study the knowledge, practices and perceptions among health assistants on BMH handling

Methods: A cross-sectional study using self-administered questionnaire was conducted to assess the knowledge, practices and perceptions on BMH handling among 420 health assistants in surgical units and operating theatres. Management of BMH in above units (n=60) was assessed with an observational checklist. Practices on selected types of BMH handling among a sub-sample (n=40) was done using an observational checklist.

Results: Majority (75%) of units had well-established waste disposal systems with a guidance (>70%). Hand washing facilities were available in 60-70% with cleaning facilities in more than 90% and personal protective equipment in more than 90% of studied units. However, instructions given to patients and visitors on BMH management (38%), hand washing (58%) and facilities for hand drying (27%-66%) were inadequate. Overall knowledge (79.3%, n=311),

practices (90.8%, n=356) and perceptions (95.9%, n=376) of health assistants on BMH management was satisfactory. Training status ($p=0.048$) and experience at work ($p=0.048$) were found to be significantly associated with the knowledge but not with practices or perceptions.

Conclusion and recommendations: Although BMH management together with overall knowledge, practices and perceptions of the health assistants were satisfactory, there was a gap in knowledge and practices in certain aspects which might make them vulnerable to hazards.

Key words: *biomedical hazards, health assistants, biomedical hazards prevention*

OPA.4

Perceived level of satisfaction on clinic care and associated factors among caregivers of children with cerebral palsy attending the rheumatology and rehabilitation clinics at Lady Ridgeway Hospital, Sri Lanka

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Background: Cerebral palsy is the commonest childhood physical disability and requires life-long care, which is multi-disciplinary and an on-going process that has to be continued at home.

Objectives: To describe the perceived level of satisfaction on clinic care and associated factors among caregivers of children with cerebral palsy attending the rheumatology and rehabilitation clinics

Methodology: An institution-based descriptive cross-sectional study was conducted over a period of one month. Sample size was 246. All the caregivers of children with cerebral palsy attending the clinic fulfilling the inclusion and exclusion criteria were

included. An interviewer-administered questionnaire and data extraction form were used to collect data. Chi-squared test was used in analysing associations.

Results: The response rate was 96.4%. Most of the caregivers (n=235, 95.6%) were parents; and 92.3% (n=227) were mothers. Most were in the 30-34 year age category (n=63, 25.6%, mean=36.09 years); 59.3% (n=146) had an education level above GCE O/L. Children attending the clinic were mostly boys (n=142, 57.7%), first born (n=128, 52%) with no other living siblings (n=101, 41.1%) and belonged to nuclear families (n=126, 51.2%). Most children (n=196, 79.7%) had associated conditions; 11.8% (n=29) had illnesses unrelated to cerebral palsy and 36.6% (n=90) had minimum disability level of GMFCS level I. Most caregivers (n=188, 76.4%) were satisfied with the overall clinic care, of which the process component was satisfactory among 91.8% (n=226) caregivers, but the structural component was found to be unsatisfactory among 53.3% (n=131) of caregivers. Unavailability of special facilities for disabled children, lack of comfort in the waiting area and lack of good toilet facilities accounted for this outcome. Caregivers' age ($p=0.038$) and child's family type ($p=0.005$) showed significant associations with the overall satisfaction on clinic care.

Conclusions and recommendations: Caregivers were satisfied with overall clinic care, but specifically unsatisfied with the structure component of clinic care. Improving facilities in the hospital and improving access to disabled children are recommended.

Key words: *cerebral palsy, caregivers, satisfaction on care, rehabilitation*

OPA.5

Association between resilience at work and work performance among nursing officers working in government hospitals in the district of Colombo, Sri Lanka

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Background: Developing resilience at work is gaining increasing attention as a primary preventive measure for work stress and related health impacts. However, the benefits of developing resilience extend further beyond mitigating work related stress, to include a number of positive outcomes related to increased productivity at work. Hence, the findings of this study will be valuable to convince employers to invest on resilience development programmes.

Objective: To assess the relationship between resilience at work and nursing performance among nursing officers working at government hospitals

Methods: Two hundred and thirteen nursing officers, representing all the government hospitals (DH-Type B and above) in Colombo District were recruited through multi-stage sampling, stratified by work strata. The resilience level was measured using “Resilience at Work” scale (RAW-S) Sinhala version while nursing performance was assessed using “6-Dimension scale of Nursing Performance”. Both tools were validated for Sri Lanka. Association

between work performance and resilience was assessed using bivariate correlations and multiple linear regression modelling based on tool scores.

Results: Mean age of the participants was 34.96 (SD=8.08) years and majority were females (n=203, 95.3%). Total RAW-S scale score showed strong correlation with each of the six domains of nursing performance, varying from $r=0.6$ obtained for education domain to $r=0.89$ obtained for leadership domain. A strong positive correlation was seen between resilience and nursing performance ($r=0.87$, $p<0.01$), with six sub-scales of RAW-S predicting 70% of the variance in performance.

Conclusions and recommendations: The strong association between performance and work resilience should be used for advocating positive health promotion of nursing officers than focus on stress management through coping skills.

Key words: *resilience, work performance, nursing officers*

Session B: Non-Communicable Diseases

Chairpersons:

Dr. Suraj Perera

Dr. Sudath Samaraweera

OP B.1

Treatment compliance among adult asthmatic patients: experience from Base Hospital Homagama, Sri Lanka

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Background: Asthma affects an estimated 300 million people worldwide. Low rates of compliance with medication pose a major challenge for effective management of the disease.

Objective: To determine treatment compliance and its associated factors among adult asthmatic patients attending medical clinic in Base Hospital Homagama

Methods: A descriptive cross-sectional study was conducted among 374 adult asthmatic patients attending medical clinics selected through systematic sampling method. Interviewer-administered questionnaire was used and inhaler technique was observed among 30 patients using a checklist. Chi-squared test was performed to assess associations.

Results: The mean age was 52.3 years (SD=11.7) and the sample comprised mainly females (56%, n=205). Good treatment compliance was demonstrated in 65% (n=208) of patients. A great proportion had poor inhaler technique (76.7%, n=23). Younger age, being female, and higher educational and income levels were significantly associated with good compliance ($p<0.05$). Perception of susceptibility, belief on severe consequences and believing therapy is effective and beneficial were positively attributed to compliance ($p<0.05$). Erroneous beliefs of diminished effectiveness and fear of dependence with long term treatment, believing asthma was uncontrollable contributed to poor compliance ($p<0.05$).

While forgetfulness (35.2%, n=129) and presence of other chronic diseases (45.1%, n=165) adversely affected compliance, regular attendance to monthly clinics (78%, n=287), being on dry powder inhalers (55.5%, n=203) and using combined inhalers (78%, n=287) enhanced compliance. Clinic waiting time of less than an hour, instructions on inhaler technique received by demonstration and practising under the guidance of an expert enhanced compliance significantly ($p<0.05$).

Conclusions and recommendations: Patients' perceptions regarding disease and treatment influence treatment compliance significantly. Provision of clear rationale for treatment, consonant with patients' perception of their illness and addressing concerns related to erroneous beliefs need addressing. Regular assessment of patients' inhaler technique and physical demonstration is recommended.

Key words: *treatment compliance, asthma*

OP B.2

Development and validation of a risk prediction model for colorectal cancer among Sri Lankan adults

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Background: Colorectal cancer is the fourth leading cancer among men and sixth leading cancer among women in Sri Lanka. Use of a simple risk prediction tool, will offer Sri Lanka a mechanism to identify the high-risk individuals and refer them for colonoscopy examination to detect colorectal cancer in order to reduce morbidity and mortality.

Objective: To develop and validate a risk prediction model for colorectal cancer for Sri Lankan adults

Methods: Development of a risk prediction model to estimate the risk of an adult developing colorectal cancer was performed based on the risk factors identified through logistic regression and expert opinion, and was further refined with receiver operator characteristic curve performance. A case control design was conducted to assess the criterion validity and reliability, utilizing 65 colorectal cancer new cases and 65 hospital controls, aged 30 years or more who provided information on the risk predictors in the model, which was designed as an interviewer-administered questionnaire.

Results: The developed and validated model consists of eight predictors with an area under the curve of 0.849 (95% CI=0.8, 0.9; $p<0.001$). The model demonstrated a sensitivity of 76.9% (95% CI=66.7, 87.1%), specificity of 83.1% (95% CI=74.0, 92.2%), positive predictive value of 82% (95% CI=72.3, 91.6%) and negative predictive value of 79.3% (95% CI=68.5, 88.0%) with positive and negative likelihood ratios of 4.6 (95% CI=2.6, 7.9) and 0.3 (95% CI=0.2, 0.4), and a Kappa coefficient of 0.88 with respect to test re-test reliability.

Conclusions and recommendations: The model developed to predict the risk of colorectal cancer among adults aged 30 years and above was proven to be valid and reliable, thus recommended as a screening instrument to be applied to detect those 'at risk' of colorectal cancer.

Key words: *risk prediction model, colorectal cancer, adults*

OP B.3

Prevalence of post mastectomy pain syndrome and quality of life of females followed up after mastectomy at National Cancer Institute, Sri Lanka

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Background: Breast cancer is the commonest carcinoma among females in Sri Lanka, and the majority of them are offered mastectomy as a treatment. However, mastectomy itself causes many complications including post mastectomy pain syndrome (PMPS), which deteriorates one's quality of life (QoL). This study gives an account of the prevalence of PMPS, QoL and associated factors among patients who underwent mastectomy.

Objective: To determine the prevalence of PMPS and to assess the QoL of patients who underwent mastectomy and were followed-up at clinics in National Cancer Institute, Maharagama (NCIM), Sri Lanka.

Methods: A descriptive cross-sectional study was conducted at clinics in NCIM. The total sample size was 360 and all consecutive patients who met the eligible criteria were recruited for the study. An interviewer-administered questionnaire was used to ascertain socio-demographic characteristics. Perceived pain and severity were assessed with numerical pain scale. The WHOQOL-BREF questionnaire was used to assess QoL. The association between domain scores and associated factors were assessed with χ^2 test. Chi-squared test was used to find associations of categorical variables.

Results: Mean age of the study sample was 54.5 years (SD=9.9), of whom 236 (65.5%) were above 50 years. Among the study population, 99 patients (27.5%) had symptoms of PMPS. Patients with PMPS had significantly low scores ($p<0.001$) in all four domains of QoL. PMPS was common ($p=0.014$) among the patients who had surgery within 18 months. The prevalence of PMPS was comparatively higher among young patients than older patients ($p<0.001$) and patients who underwent axillary clearance ($p<0.001$).

Conclusions and recommendations: More than one fourth of mastectomy patients were suffering from PMPS and had a negative impact on QoL. Patients less than 50 years and patients who had undergone axillary clearance were more likely to suffer from PMPS. Measures need to be taken to manage PMPS and improve the QoL of mastectomy patients.

Keywords: *breast cancer, mastectomy, post mastectomy pain syndrome, quality of life.*

OP B.4

Non-conventional risk factors of oesophageal carcinoma among adults in the Western Province, Sri Lanka

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Background: Risk factors of oesophageal carcinoma (OC) are important for implementing prioritized primary prevention.

Objective: To identify the non-conventional risk factors of OC specific for Sri Lankan adults in the Western Province

Methods: A case control study was conducted in the Western Province among 49 incident cases of OC recruited from the National Cancer Institute, Maharamgama using a non-probability sampling method, and unmatched ambulatory controls (n=196) excluded of OC recruited from the endoscopy unit at the National Hospital of Sri Lanka using an incidence density sampling method. Data were collected using an interviewer-administered questionnaire at the patient's residence on potential risk factors.

Results: Bivariate analysis using odds ratio (OR) with 95% CI identified the following non-conventional risk factors of OC: ever betel quid chewing (at least three times per week, continuously for six months or more) (OR=14.4; 95% CI=6.9, 30.0); use of tobacco (OR=11.0; 95% CI=4.6, 24.6) and lime (OR=11.7; 95% CI=5.7, 24.4) as accompaniments with betel; consumption of beverages at burning temperature (OR=15.6; 95% CI=6.5, 37.4); daily consumption of meals with excessive chilies (OR=33.4; 95% CI=14.7, 76.0); food/drinks with excessive colouring (items that would stain lips and tongue upon its consumption) (OR=21.2; 95% CI=9.4, 47.7); exposure (at least for six months) to agrochemicals (OR=5.9; 95% CI=2.8, 12.4) and home/industry based chemicals (exposure at least for six months) (OR= 6.0; 95% CI=2.3, 15.5); consumption of pipe-

borne water (OR=2.5; 95% CI=1.3, 4.7); and ever exposure (within the past 10 years) to radiation (OR=5.9; 95% CI=2.8, 12.4).

Conclusions and recommendations: The non-conventional risk factors specific for OC among adults in the Western Province included environment related factors and a few lifestyle related factors. Community based educational programmes should address these to prevent OC.

Financial support: Medical Research Institute, Colombo

Key words: oesophageal carcinoma, non-conventional risk factors, environmental risk factors, betel chewing

OP B.5

Factors associated with the decision on kidney transplantation among patients with advanced chronic kidney disease attending District General Hospital Polonnaruwa, Sri Lanka

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Background: Chronic Kidney Disease (CKD) is an emerging non-communicable disease. Even though the definitive treatment for end stage CKD is kidney transplantation (KT), not all eligible patients decide to undergo KT.

Objectives: To assess factors associated with the decision on KT of advanced CKD (stage 4 & 5) patients attending low clearance clinic at DGH Polonnaruwa.

Methods: A hospital-based descriptive cross-sectional study was carried out among 359 patients selected using systematic sampling method. Data were collected using an interviewer-administered questionnaire. Associated factors were tested for statistical significance using chi-squared test and odds ratio (OR). 'p' value less than 0.05 was considered as statistically significant.

Results: Majority of the patients (78%, n=280) were males. The highest number of patients (47.1%, n=169) were in the age group of 50-59 years. Overall, 63.8% (n=229) of the participants had good awareness and more than 60% positive responses for each question regarding social support. Most of them (67.7%, n=233), have decided to undergo KT. Gross family income of Rs.50,000 or more per month (OR=6.3; 95% CI=1.9, 21.1), availability of finances (OR=23.7; 95% CI=13.1, 42.9), living with three or more family members (OR=2.3; 95% CI=1.4, 3.5), having a donor (OR=6.6; 95% CI=2.0, 21.7), having close contact with religious leaders (OR=2.9; 95% CI=1.2, 6.9), receiving encouragement from friends

and family for KT (OR=7.8; 95% CI=4.8, 12.8) and satisfied with the overall social support (OR=2.7; 95% CI=1.5, 4.7) showed statistically significant positive association with taking the decision to undergo KT.

Conclusions and recommendations: Several socio-demographic factors, awareness, financial feasibility and social support were associated with deciding to undergo KT. It is recommended that these factors be further explored and used to facilitate KT among patients needing it.

Key words: *chronic kidney disease, kidney transplantation, awareness, financial feasibility, social support*

Session C: Adolescent Health

Chairpersons:

Prof. Wasantha Gunathunga

Dr. Janaki Widanapathirana

OP C.1

Attitudes and practices of smoking and associated factors among boys of Advanced Level Biology stream tuition classes in Gampaha District, Sri Lanka

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Background: Smoking has become a major public health problem worldwide, including Sri Lanka. In most of the cases, initiation of smoking is seen in adolescence. Once an adolescent initiates smoking, that behaviour and the newly acquired status of a smoker may influence his perception and attitude on smoking.

Objective: To describe the attitudes and practices of smoking and associated factors among boys in Advanced Level Biology stream tuition classes in Gampaha District

Methods: A descriptive cross-sectional study was conducted from April 2016 to October 2016 among students of two selected Advanced Level Biology tuition classes in Gampaha. Two hundred male students were selected by a systematic sampling method. A self-administered questionnaire on socio-demographic data, questions to assess attitudes and practices of smoking and associated factors, was given. Chi-squared test was used to assess the significance and significance level was set at 5%.

Results: All study participants were Sinhalese. The majority were Buddhist (92%) and received more than Rs.1000 per month for their expenses (60.5%). The overall prevalence of ever smoking was 16%. Among them, 27.3% had smoked more than 100

cigarettes (5 packs) up to now. Seven percent were daily smokers. Majority had tried their first cigarette at the age between 14-16 years (54.5%). Current smoking habit observed among boys was positively associated with having a close friend who is a smoker ($p=0.001$), father ($p=0.013$) and brothers ($p=0.001$) who are smoking, and favourable home environment for smoking ($p=0.001$). There was no significant association between academic performance and smoking behaviour ($p=0.061$). Anti-smoking advertisements had no association with current smoking ($p=0.96$). About one third of ever smokers (30.3%) had a positive impact after seeing pictorial health warnings on cigarette packets.

Conclusions and recommendations: Parental, siblings and close friends' smoking was found to be a significant factor for smoking among adolescents. Pictorial health warnings on cigarette packets had created a positive impact.

Keywords: smoking, adolescents, attitudes, practices

OP C.2

Perception of parenting styles and its association with self-esteem and life satisfaction of adolescents in Grades 9 and 10 in Panadura Education Division, Sri Lanka

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Background: Demandingness and responsiveness of the parent are the two categories of parenting styles. The impact of parent-adolescent relationship on psychosocial well-being of the adolescent is not optimally explored in Sri Lanka.

Objective: To describe the adolescents' perception on maternal and paternal parenting styles, and to determine its association with self-esteem and life satisfaction among schooling adolescents studying in Grades 9 and 10 in Panadura education division

Methods: A cross-sectional descriptive study was carried out among 439 adolescents selected through cluster sampling in Grades 9 and 10 in four public schools in Panadura education division in Sri Lanka. They completed a self-administered questionnaire consisting of socio-demographic details and questions extracted from parent authority questionnaire, Rosenberg's self-esteem scale and life satisfaction scale. Percentages and mean values were computed and associations were tested for statistical significance using chi-squared test.

Results: Response rate was 99.8% (n=439) for the parent authority questionnaire, 86.1% (n=379) for the Rosenberg's self-esteem scale and 99.8% (n=439) for the life satisfaction scale. Permissive mothering (n=252, 57.3%) and permissive fathering (n=248, 56.4%) were found to be the commonly existing types of parenting followed by authoritarian mothering (n=122, 27.7%) and authoritarian fathering (n=131, 29.8%). Adolescent females (n=147, 61.7%) perceiving their mothers as permissive was significantly ($p=0.044$) higher when compared to adolescent males (n=105, 52.2%). Of the adolescents, the majority had normal level of self-esteem (n=370, 86.2%) and were satisfied with life (n=363, 82.7%). Even though the paternal parenting of permissive and authoritarian styles were significantly related to higher self-esteem ($p=0.002$) and higher life satisfaction ($p<0.001$) compared to authoritative parenting, the relationship was less defined for maternal parenting styles. Different combinations of parenting styles were not significantly associated with the self-esteem and life-satisfaction of the adolescent.

Conclusions and recommendations: Authoritative parenting is not popular among Sri Lankan parents and it is not associated with the optimum psychological well-being of the Sri Lankan adolescents as defined by self-esteem and life satisfaction.

Key words: *parenting styles, self-esteem, life satisfaction*

OP C.3

Common psycho-social issues and factors associated with health seeking behaviour among Grade 12 students in government schools in Maharagama Medical Officer of Health area, Sri Lanka

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Background: Risk taking behaviours are common in adolescence. Nevertheless, under-utilization of adolescent health facilities is a growing concern for the policy makers and programme managers involved in adolescent health.

Objective: To describe the common psycho-social issues and factors associated with health seeking behaviour among Grade 12 students in government schools of Maharagama Medical Officer of Health (MOH) area.

Methods: This was a descriptive cross-sectional study. A pre-tested self-administered questionnaire assessed common psycho-social issues and factors associated with health seeking behaviour among Grade 12 students (n=606) in type 1AB and type 1C schools in Maharagama MOH area.

Results: A total of 585 students participated in the study. The majority were females (n=330; 56.4%). The most worrying issues encountered by adolescent males and females were related to facial acne, and body shape and size. Exams were a worrying reason for both male (51%) and female (65.1%) students. Of the study population, 20.8% of males and 0.9% females have ever smoked and 27.1% of males have ever consumed alcohol while that among females was 4.2%. The study further revealed that government health institutions including youth friendly services in hospitals were under-utilized. Nearly half of the study population (47.5%) was not aware of the school counsellor in schools. A significantly ($p=0.003$) higher proportion of females had sought help for psycho-social issues compared to the male population. Among those students who had some issues and sought help, a significantly ($p=0.012$) higher proportion had mothers educated only up to O/Level, compared to those whose mothers were educated above O/Level.

Conclusions and recommendations: Adolescents are facing a variety of psycho-social issues that need to be addressed through the health services provided for them. Gaps in the utilization of health services were evident, thus the need for provision of health services in a more adolescent friendly manner is recommended.

Key words: *adolescents, psychosocial issues, health seeking behaviour*

OP C.4

Adolescent and youth friendly health services in Sri Lanka: where are we?

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Background: One fourth (five million) of the Sri Lankan population consists of adolescents and youth.

Objective: To assess the existing level of implementation of new standards on adolescent youth friendly health services (AYFHS) in early 2016 as a baseline

Methods: A descriptive cross-sectional study was conducted in three out of nine provinces in Sri Lanka in 2016. One facility providing AYFHS and a school located nearby were selected from Western, North-Western and Central Provinces. Assessment tools developed by the World Health Organization were adopted. The tools were interviewer-administered questionnaires for facility manager, health care provider, supportive staff and clients, an observation checklist for the facility, and a coverage questionnaire for the community. Four clients from one centre and 40 adolescents from one school were interviewed. Data collection was done by external medical officers. Percentage scores for each of the eight standards were

assessed, and categorised as in global standards with: <10% as “not meeting standard”, 10%-40% as “need major improvement”, 40%-80% as “need minor improvement” and >80% as “meeting standard”.

Results:

Facility assessment: Total percentage scores of health empowerment of adolescents and youth (standard 1), and community support (standard 6) were in “need major improvement” with scores of 35.6% and 35.4%, respectively. The AYFHS facility characteristics (standard 2), competencies and characteristics of service providers and supportive staff (standard 3), appropriate package of services (standard 4), information system and quality Improvement (standard 5), participation of adolescent and youth (standard 7) and equity and non-discrimination (standard 8) were in “need minor improvement” with the scores of 64.9%, 67.6%, 63.5%, 62.8%, 42.9% and 56.8%, respectively.

Community assessment: Standards 1,2,3,6 and 7 were assessed. Standards six and seven were “not meeting standard” while standard three was “meeting standard”. Standard one was in “need major improvement”.

Conclusions and recommendations: Assessment directs the need of strengthening health, empowerment of adolescents and youth, community support and youth participation.

Keywords: *adolescents, youth, adolescent and youth friendly health services, Sri Lanka*

OP C.5

Safe sexual behaviours among youth: current status and its association with knowledge and attitudes on sexually transmitted infections among young male full time students of a technical training institute in Sri Lanka

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Background: To achieve zero new HIV infection by 2030, it is important to identify the sexual behaviour of the youth. An increasing trend was seen in new HIV infections among the 15-24 year age group during the past few years in Sri Lanka. It is important to identify unsafe sexual behaviour among youth, so that they could be directed to safe practices.

Objective: To identify the current sexual behaviours and factors associated with sexually transmitted infections among young males following full time courses in a technical training institute in Sri Lanka

Methods: A cross-sectional study was conducted in Ceylon German Technical Training Institution, Moratuwa, where 1500 young male (16-24 years) students were trained. All male students who followed courses for more than one year were recruited for the study. The number of students from each course was selected using probability proportionate to size, and simple random sampling to select that number from each course. A pre-tested, self-administered questionnaire with open ended questions was used to collect data.

Results: Around 43% of the study participants have ever had sex, with the majority (56.6%) having their first sexual experience within the age range of 19 to 22 years. They have had sex in the past three months with commercial sex workers (32.9%), girlfriend (43.9%) and non-regular casual partners (68.1%), while condom use was 50.6% among them. Male to male sexual practices were seen in 2.7% and 28% had been under the influence of alcohol, during the last three months.

Those who ever had sex showed significant associations with increasing age ($p=0.03$) and the province of living ($p=0.03$), where the majority who had sex were from Western Province. Increased knowledge level on STIs was significantly associated with increased condom usage with commercial sex workers ($p=0.04$), girlfriend ($p=0.04$) and casual partner ($p<0.05$). The participants who ever had sex ($p<0.01$) and the participants who had their first sex experience at an advanced age ($p=0.04$) had favourable attitudes towards people with STIs.

Conclusions and recommendations: Almost half of the study participants had pre-marital sex while

the condom usage was very low. Skill based sexual education and condom promotion programmes should be intensified to improve safe sexual behaviour among youth at the recruitment course in this institution.

Key words: *sexually transmitted infections, youth, current sexual behaviours*

OP C.6

Perceived body image and associated factors among Grade 12 students in Nugegoda Educational Division in Colombo District, Sri Lanka

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Background: Perceived body image can be explained as how a person sees himself in his mind or how he sees himself in a picture or mirror image. Understanding the concept of perceived body image and associated factors is considered an essential public health aspect as it plays an integral role in person's health.

Objective: To describe the perceived body image and its associated factors among Grade 12 students in Nugegoda Educational Division in Colombo District

Methods: A cross-sectional study was carried out in a sample of 642 Grade 12 students in Nugegoda educational division, selected using a stratified cluster sampling method. They were assessed on demographic characteristics, perception of body image, socio-cultural attitudes towards appearance, level of self-esteem, eating behaviour and level of physical activity using a self-administered questionnaire. The body mass index (BMI) was calculated by measuring weight and height. Chi-squared test and Mann Whitney U test were performed in analysis.

Results: Fifty-two percent perceived their body image as normal and 72% was dissatisfied on their perceived body image. Perceived body image and actual BMI category were same in the majority of thin (86.8%) and normal (60.2%) groups. Body image satisfaction was significantly associated with BMI category

(OR=3.42; 95% CI=2.47, 4.75), eating behaviour (OR=0.54; 95% CI=0.34, 0.85), perceived pressure, internalization-general ($p<0.05$). Level of self-esteem, level of physical activity and gender did not show significant associations with body image satisfaction.

Conclusions and recommendations: Majority of the adolescents were dissatisfied on their perceived body image. It is recommended to embark on the topic and fill the gaps between perceived body image and associated factors in our context.

Key words: *perceived body image, associated factors*

OP C.7

Associated factors of emotional and behavioural problems among school going late adolescents in Mawanella Medical Officer of Health area, Sri Lanka

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Background: Adolescents confronted with emotional and behavioural problems (EBP) are challenged with feelings of discomfort on a daily basis within their home and school environment.

Objective: To assess the associated factors of EBP among school going late adolescents in Mawanella Medical Officer of Health (MOH) area

Methods: A cross-sectional study was conducted in Mawanella MOH area among 311 school going late adolescents in eight government schools, using a two-staged cluster sampling method proportionate to the size of the student population. A self-reported Sinhala version of the Strength and Difficulty Questionnaire was used to detect the problematic students with EBP. This contains five sub-scales namely; emotional symptoms, conduct problems, hyperactivity intention, peer relationship problems and pro-social domain, to which a total difficult score was given. A self-administered questionnaire collected the information on socio-demographic factors, individual, family and

school characteristics to detect the factors associated with EBP.

Results: Prevalence of EBP was 24.1% ($n=74$). There was a statistically significant difference in mean total scores between males and females ($p<0.001$), while all EBP sub-scale values were higher among males compared to females. Having a stressful life event showed a statistically significant association ($p=0.02$). Having EBP was significantly associated with some family characteristics such as low family income status ($p=0.001$) and the unhappy perception regarding home environment ($p=0.01$). Ability to maintain friendships at school ($p=0.03$) and not participating in extra-curricular activities at school ($p=0.001$) were significantly associated with the presence of EBP as well.

Conclusions and recommendations: As most of the individual, family and school environmental related factors are associated with the occurrence of EBP, these factors could be prevented by improving awareness about them among adolescents, parents and teachers.

Key words: *adolescents, emotional and behavioural problems, associated factors*

OP C.8

Reproductive health education package to reduce risky sexual behaviours among undergraduates in state universities of Western Province, Sri Lanka a randomized controlled trial

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Background: Risky sexual behaviour (RSB) is increasing globally. For most undergraduates, university life is a shift towards greater freedom from home setting and may provide many opportunities to engage in risky behaviours.

Objective: To assess the effectiveness of an intervention to reduce RSB among undergraduates in the state universities of Western Province

Methods: A randomized controlled trial was conducted among undergraduates in state universities of Western Province in 2014. A reproductive educational package was developed with reference to a curriculum by Centre for Disease Control, adjusted locally. It consisted of two health educational sessions aimed at reduction of RSB. Out of the four universities in Western Province, two were selected randomly and from each, 10 clusters were selected randomly. Intervention team (n=309) received two health educational sessions with a gap of one week while the control group (n=431) did not receive any. The primary outcome was reduction of RSBs while the secondary outcomes were improvement of overall knowledge and overall attitudes. Intention to treat analysis was performed. Baseline imbalances were controlled by applying logistic regression. Results were expressed as adjusted odds ratios (adj. OR) and 95% confidence interval (CI).

Results: The reproductive health education was not significantly associated with any reduction of RSB after three months follow-up (adj. OR=0.8; 95% CI=0.28, 2.31). However, it showed significant improvement of knowledge (adj. OR=11.75; 95% CI=7.04, 19.6) and desirable attitudes towards reproductive health (adj. OR=6.13; 95% CI=3.64, 10.32).

Conclusions and recommendations: The intervention did not show a statistically significant effect for reduction of RSB after three months. However, it was effective for improvement of knowledge and desirable attitudes on reproductive health.

Financial support: Ministry of Health, Medical research Institute.

Key words: *health education, randomization, reproduction, sexual behaviour, undergraduates*

Session D: Maternal Health

Chairpersons:

Dr. Aindralal Balasooriya

Dr. Kapila Jayaratne

OP D.1

Prevalence of exclusive breastfeeding and barriers for its continuation up to six months among mothers in selected medical officer of health areas in Kandy District, Sri Lanka

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Background: Exclusive breastfeeding (EBF) up to six months is the recommendation for Sri Lanka. However, barriers towards continuation of EBF do exist.

Objectives: To assess the prevalence of EBF and barriers for its continuation up to six months, among mothers in selected Medical Officer of Health (MOH) areas in Kandy District

Methods: A cross-sectional study was conducted from August to November 2016, in six randomly selected MOH areas in Kandy. A total of 354 mothers with infants aged six months, attending the child welfare clinic were selected proportionate to the population of each MOH area (proportionate stratified sampling). 71 clinics were visited until the required number from each MOH area was completed. Data were collected by an interviewer-administered questionnaire and analysed using chi-squared test. A focus group discussion (FGD) was conducted to complement the quantitative study.

Results: Prevalence of EBF at six months was 50.8% (mother recall data at six months), for which the mean duration was 5.2 (SD=0.9) months. Being occupied in government or private sector ($p<0.001$) and being the first born child ($p=0.007$) were significantly associated with early discontinuation of EBF.

Mother's poor knowledge on what is meant by EBF ($p<0.001$), poor knowledge on expressed breast milk ($p=0.03$), poor attitude towards EBF ($p=0.03$), difficulty in getting health care worker's help ($p=0.02$), poor family support ($p=0.04$), family members' negative attitudes (as perceived by mother) regarding breastfeeding ($p=0.02$) and obtaining leave for less than 6 months ($p=0.008$) had significant associations towards early cessation of EBF. Unsupportive environment in public places was not significantly associated. FGD revealed traditional practices, controversy in health messages and unsupportive environment at work and public places.

Conclusions and recommendations: Rate of EBF up to six months should be improved. Public health interventions and revisions in legislations should be introduced and strengthened to address identified barriers.

Key words: *exclusive breastfeeding, prevalence, mothers*

OP D.2

Knowledge, attitudes, practices and factors associated with exclusive breastfeeding among working mothers attending child welfare clinics in selected medical officer of health areas in Jaffna District, Sri Lanka

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Background: Benefits of breast feeding are proven beyond doubt. The World Health Organization recommends exclusive breastfeeding (EBF) up to six months and continue breastfeeding up to 2 years or

beyond with adequate complementary feeding. Working mothers face challenges in exclusive breastfeeding on returning to work.

Objective: To assess knowledge, attitudes, practices and factors associated with EBF among working mothers attending child welfare clinics in selected Medical Officer of Health (MOH) areas in the district of Jaffna.

Methods: A clinic-based cross-sectional descriptive study was conducted among 270 working mothers with infants aged 6-12 months attending the child welfare clinic in four MOH areas, selected by non-probability convenient sampling method. The WHO definition on EBF up to 6 months was used in this study. An interviewer-administered questionnaire was used. Associated factors were tested for statistical significance using chi-squared test and p value less than 0.05 was considered as statistically significant.

Results: Prevalence of EBF at six months among working mothers was 58.1% (95% CI=52.2%, 63.9%). Awareness on the definition and the optimal duration of EBF was 66.3% and 81.1%, respectively. Majority had positive attitudes on breastfeeding (83.3%, n=225) while 78.9% disagreed that formulae milk is better than breast milk. Among mothers, 54.8% returned to work before completing 6 months and out of them, only 28.9% gave expressed breast milk after assuming work. Lactation rooms (94.1%, n=254) were not available at most work places. Longer maternity leave ($\chi^2=58.9$; $p<0.001$) and supportive workplaces ($\chi^2=23.4$; $p<0.001$) were significantly associated with EBF. Mother's level of education ($\chi^2=32.5$; $p<0.001$), occupation ($\chi^2=36.4$; $p<0.001$) and income ($\chi^2=40.9$; $p<0.01$) were also significantly associated with EBF.

Conclusions and recommendations: Special attention should be paid to support mothers to prepare for continuation of breastfeeding on returning to work. It should address and strengthen breastfeeding supportive workplace policies such as establishing lactation rooms and flexible work schedules.

Key words: *working mothers, breastfeeding, knowledge, attitudes, practices*

OP D.3

Impact of preterm birth on the family of children aged three years in Gampaha District, Sri Lanka

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Background: Preterm born child is known to affect the well-being of the family in both positive and negative aspects.

Objective: To describe the impact on the family due to preterm birth at the age of three years to the child in Gampaha district

Methods: A community-based retrospective cohort study was conducted among mothers of children in the age range of 36 to 42 months living in the district of Gampaha. Study unit was a child. Sample size was 790 children. At the point of recruitment, children were categorized to preterm or term groups based on the gestational age at birth. Sampling technique was multi-stage cluster sampling. Gestational age at birth was established using maternal pregnancy records. Outcome was the score of the Sinhala version of impact on the family scale which consisted of perceived financial burden, coping, social relationships and the general impact on the family. A self-administered questionnaire and a data extraction form were used, and the impact was assessed using multiple linear regression.

Results: Response rates for preterm and term born groups were 94.7% (n=379) and 94.5% (n=378), respectively. Mean total impact score among the families with a preterm born child was 54.88 (SD=9.85) and the score for a term born children was 52.64 (SD=9.16). The difference was statistically significant ($p=0.001$). Presence of a preterm born child in the family showed statistically significant associations in the aspects of social relationship ($\beta=0.127$), general family impact ($\beta=0.077$), coping ($\beta=-0.078$) and in overall total impact score ($\beta=0.063$)

in the multi linear regression analysis. Further, maternal perception on the child's health status, prolonged illness and family income were among the additional predictors of impact on the family score.

Conclusions and recommendations: A higher negative impact was observed in families of preterm born children in comparison to families with term born children at three years.

Key words: *impact on family, preterm birth, pre-school children*

OP D.4

Health care received by preterm born children at the age of three years in Gampaha District, Sri Lanka

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Background: Preterm born children have increased health care needs in comparison to term born children.

Objective: To describe health care received by three year old preterm born children in Gampaha district

Methods: A community-based cross-sectional descriptive study was conducted among 390 preterm born children living in the district of Gampaha, who were currently aged 36-42 months. They were selected using a multi-stage cluster sampling method. A pre-tested interviewer-administered questionnaire with a data extraction form was used to collect data. Mothers of the children responded to the study.

Results: Response rate was 95.4% (n=379). All children were weighed at least once while 147 (38.8%) were weighed once a month during past 6 months according to the child health development record (CHDR). Only 61.5% of preterm born children were visited at home by a public health midwife during the past six months (n=233; 95% CI=56.6, 66.4).

Developmental milestones were marked among 33.5% of children (n=127; 95% CI=28.8, 38.2) in the CHDR. Less than 5% of preterm children had received medical screening during past six months. Of all children, 10.8% (n=50; 95% CI=7.7, 13.9) were on regular hospital clinic follow-up. Mean number of visits to a general practitioner during the last 3 months was 2.47 (SD=1.8). Proportion of children who had more than three visits to any primary health care centre was 18.5% (n=70). Primary health care utilization among preterm children was significantly higher than term born children of the same age (p=0.041). There were 10 hospitalizations over a period of one year among preterm children.

Conclusions and recommendations: Screening for medical and developmental disorders should be incorporated to the routine care package provided for preterm born children. Home visits and service provision for pre-school aged children by public health midwife should be strengthened.

Keywords: *health care utilization, preterm birth, pre-school children*

OP D.5

Maternal outcomes of women with pre-gestational excess weight

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Background: An increasing trend of overweight and obesity is noted worldwide over the past few decades. Pre-gestational excess weight has shown negative impact on maternal morbidity and mortality. This study describes the characteristics, associated factors and maternal outcomes of women with pre-gestational excess weight.

Objective: To assess the maternal outcomes of pre-gestational over-weight and obese women delivered at Colombo North Teaching Hospital, Ragama

Methods: A hospital-based descriptive cross-sectional study was conducted. A sample of 535 women with reported pre-gestational body mass index (BMI) >25 kg/m² in the pregnancy record delivering at all postnatal wards of Colombo North Teaching Hospital, Ragama were recruited by consecutive sampling. Data were collected by an interviewer-administered questionnaire.

Results: More than 75% of women belonged to 26-30 (38.1%) and 31-35 (38.5%) year age groups. A majority (n=410, 81.8%) had an education above GCE (O/Level). Monthly income level above Rs. 50,000 was reported by 60.0% (n=321). Majority of women (n=374, 69.8%) were multipara while 35.7% (n=191) had a history of subfertility.

During the current pregnancy, 47% (n=251) had gestational diabetes (GDM), 33% (n=177) had pregnancy induced hypertension and 9.35% (n=50) had both. According to the mode of delivery, 54% (n=288) delivered by caesarean section and 7.28% (n=39) by instrument. Postpartum period was complicated with haemorrhage (35.3%, n=189), difficulty in mobilization (15.1%, n=81), wound infection (15.2%, n=82), elevated blood pressure (13.5%, n=72), difficulty in passing urine (2.8%, n=15), intensive care (1.1%, n=6) and hospital stay of more than five days in 70.1% (n=375). Advanced maternal age (p<0.05), high income (p<0.05), being employed (p<0.05), multi-parity (p<0.05), and GDM (p<0.001) were significantly associated with high maternal BMI.

Conclusions and recommendations: Well-educated, employed, multiparous and elderly women from high economic backgrounds reported excess pre-gestational BMI. They reported numerous antenatal and postnatal complications which could be prevented by evidence-based and locally applicable approaches.

Key words: *obesity in pregnancy, body mass index, maternal outcomes*

OP D.6

Incidence and outcomes of teenage pregnancies in estate communities in Rathnapura District, Sri Lanka

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Background: Teenage pregnancy is one of the major underlying causes of maternal morbidity and mortality. It prevents girls entreating their lives and reduces the quality of life early in life.

Objective: To study the incidence and related outcomes including maternal and neonatal complications of teenage pregnancies in estate communities in the district of Rathnapura.

Methods: A descriptive study was conducted among 346 women who got pregnant within the period from January 2015 to December 2015. The women were selected by cluster sampling technique from all the estates in the district. Data were collected by trained health volunteers using an interviewer-administered questionnaire. Incidence of teenage pregnancies was expressed in percentage with 95% confidence interval (CI). Pregnancy outcomes between teen and non-teen mothers were calculated using chi-squared test.

Results: Incidence of teenage pregnancies among the study group was 10.1% (95% CI=7.7, 12.52). Of them 22.9% (n=8) were below 18 years of age and not legally married. Among the pregnancy outcomes, significant associations were not seen with; whether it was a live birth or abortion ($\chi^2=2.61$; p=0.10), birth weight ($\chi^2=3.672$; p=0.055), starting breast feeding within one hour of delivery ($\chi^2=0.0024$; p=0.961) and whether the newborn got complications within 48 hours of delivery ($\chi^2=1.369$; p=0.237). Significant associations were observed for encountering problems in breast feeding within the first 48 hours of delivery ($\chi^2=6.652$; p=0.009), satisfactory weight gain within first month ($\chi^2=6.71$; p=0.009) and whether the mother initiated any modern family planning method at six weeks after delivery ($\chi^2=7.2603$; p=0.007).

Conclusions and recommendations: High incidence of teenage pregnancies with poor pregnancy

outcomes in estates warrants identification of risk factors in future studies to design preventive programmes to improve maternal and child health in estates.

Key words: *teenage pregnancy, outcome, estate sector*

OP D.7

Proportion, knowledge, attitudes and correlates of advanced maternal age among pregnant women attending ante natal clinics in the Colombo Municipal Council areas in Sri Lanka

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Background: Advanced maternal age shows an increasing trend at present. It is known to significantly increase the risk of maternal and foetal morbidity and mortality. Reasons for childbearing in the latter part of the reproductive life can be diverse and influenced by various factors.

Objective: To estimate the proportion and to assess the knowledge, attitudes and correlates of advanced maternal age among pregnant women attending the antenatal clinics in Colombo Municipal Council (CMC) areas

Methods: A descriptive cross-sectional study was conducted among pregnant women attending antenatal clinics conducted by the CMC. A sample of 427 women from 14 antenatal clinics was included in the study using multi-stage systematic sampling. A pre-tested interviewer-administered questionnaire was used. The knowledge score was calculated on a 0-10 scale. Marks obtained for each question was added, and the total mark was converted into a percentage. Responses to the statements on attitudes were assessed on a five-point Likert scale. Significance of the correlates was evaluated using chi-squared test at 0.05 significance.

Results: The proportion of women in advanced maternal age (35 years and older) was 14.4%. Only 20.3% (n=86) of them were having a 'good' level of knowledge while 49.0% (n=207) of participants had 'poor' to 'very poor' knowledge. Overall, positive attitudes were observed among 67.1% (n=207) of the respondents while 22.5% (n=95) had negative attitudes. Pre-existing medical conditions ($\chi^2=18.84$; $p<0.001$), antenatal morbidities ($\chi^2=14.93$; $p<0.001$), failure of family planning methods ($\chi^2=12.36$; $p<0.001$) and a history of caesarean section ($\chi^2=16.62$; $p<0.001$) were significantly associated with advanced age.

Conclusions and recommendations: The overall level of knowledge among the participants was inadequate. However, positive attitudes on advanced age seemed to prevail in the sample. By improving awareness on advanced maternal age through public health interventions targeting females of reproductive age, this high risk pregnancy could be reduced to some extent.

Keywords: *advanced maternal age, knowledge, attitudes, correlates*

OP D.8

Contraceptive behaviour among ever married reproductive aged women in Horana Medical Officer of Health area, Sri Lanka

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Background: Practice of modern family planning methods remains the most effective means of preventing unplanned pregnancies and their consequences.

Objective: To determine the contraceptive prevalence and reasons for not using modern methods among 15-49 year old ever married women in Medical Officer of Health (MOH) area, Horana

Methods: A descriptive cross-sectional study was conducted to assess the contraceptive prevalence among 199 individuals selected from 20 clusters (PHM area) using probability proportionate to size of population. Data were collected using an interviewer-administered questionnaire by the investigators and completed within one month. Contraceptive prevalence and future preferences were expressed as percentages of the study participants. The statistical associations between different categories and the non-use of any modern family planning method were assessed by the chi-squared test.

Results: Contraceptive prevalence was 68.5% (95% CI=60.6, 76.4), and that for modern methods was 63.8% (n=127). The prevalence was 22% for intra-uterine devices; 10% for condoms; 10% for sub-

dermal implants; 9% for oral pills; 8% for female sterilization; and 5% for depo medroxy progesterone acetate. No spouse had undergone vasectomy. Among 62 non- users, only 23% were willing to use a modern method in future. Reasons for not using modern methods were fear of side effects (33%), no faith on methods (23%) and infrequent sex (15%). The PHM was the source of information for 93.5%. A significant association was observed for having more than two children ($\chi^2=7.779$; $p=0.02$) but not for the age of woman ($\chi^2=6.789$; $p=0.079$), educational status ($\chi^2=2.331$; $p=0.312$) and family income ($\chi^2=0.748$; $p=0.688$).

Conclusions and recommendations: Identified reasons warrant clear information coupled with good counselling services disseminated to the public to increase the use of modern methods of family planning in the community.

Key words: *contraceptive prevalence, modern methods, reasons*

Session E: Child Health

Chairpersons:

Dr. Dhammica Rowel

Prof. Upul Senarath

OP E.1

Knowledge on unintentional injuries and pre-hospital care among caregivers of children under five years registered in Kolonnawa Medical Officer of Health area, Sri Lanka and assessment of their home safety level for injuries

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Background: Childhood unintentional injuries are considered a major public health problem with significant morbidity and mortality of children all over the world.

Objective: To describe the knowledge on unintentional injuries and pre-hospital care among caregivers of children under five years registered in Kolonnawa Medical Officer of Health area and assessment of home safety level for injuries

Methods: This was a community-based cross-sectional study. A pre-tested interviewer-administered questionnaire assessed the knowledge on unintentional injuries and pre-hospital care among caregivers (n=480) of children less than five years while a home safety checklist assessed home safety level for injuries.

Results: The response rate was 97.3%. More than half (51.2%, n=239) of the caregivers reached the cut off mark of “good knowledge” about childhood unintentional injuries. More than half (62%, n=291) of caregivers obtained a total mark on or above the cut-off value of “good knowledge” which indicates knowledge of first aid was good in the majority of the study population. Caregivers with age less than 30 years had significantly better knowledge on

childhood unintentional injuries when compared to caregivers with age more than 30 years. Caregivers educated up to GCE A/Level or above had significantly better knowledge on childhood unintentional injuries when compared to those educated up to GCE O/Level or below ($p<0.005$). There were many hazards identified in the homes studied using the home safety checklist.

Conclusions and recommendations: Community-based education programs, legislation and household inspections for hazards for unintentional childhood injuries need to be implemented. Hazards in the home environment require assessment, and the safety checklist used in this study is recommended for that purpose.

Key words: *childhood unintentional injuries, caregiver, pre-hospital care*

OP E.2

Association between parenting styles and food habits of pre-schoolers in Nugegoda Medical Officer of Health area, Sri Lanka

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Introduction: Food habits are acquired without the child's knowledge during the pre-school age and are also known to track to adult life. The child's environment, parental food practices and adult food choices act as important determinants of a child's food habits. Therefore, parents play an important role in the development of healthy food habits in their children.

Objective: To determine the association between parenting styles and food habits of pre-school children

aged three to five years attending pre-schools in Nugegoda Medical Officer of Health (MOH) area.

Methods: A cross-sectional study was conducted among 432 parents/principal care givers of pre-school children aged three to five years, attending randomly selected pre-schools in Nugegoda MOH area. A pre-tested, interviewer-administered questionnaire was used as the study instrument. A locally adapted version of Parenting Styles and Dimensions Questionnaire was used to assess the parenting styles. A short food frequency questionnaire was used to assess children's food habits. Independent sample t-test was used to find the association between parenting styles and food habits.

Results: Authoritative parenting style was the predominant parenting style (98.8%, n=427) in the sample. Authoritative parenting was significantly associated with pre-school children's daily fresh fruit and vegetable consumption ($p=0.001$). Interestingly, authoritative parenting was also significantly associated with children's habit of sugar sweetened beverage intake ($p=0.026$). Authoritarian parenting was significantly associated with children's low consumption of fresh fruits and vegetables ($p=0.009$) and frequent consumption of sweet snacks ($p=0.031$). Permissive parenting style was significantly associated with pre-schooler's habitual consumption of dairy products ($p=0.009$) and sweet snacks ($p<0.001$).

Conclusions and recommendations: Authoritative parenting is associated with healthy food habits of children, in comparison to other parenting styles. Therefore, authoritative parental approach should be promoted through parenting programmes considering the long-term positive health outcomes for the future generation.

Key words: *parenting styles, food habits, preschool children*

OPE.3

Childhood unintentional burn prevention: knowledge and practices among caretakers in a semi-urban community in Sri Lanka

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Background: Accidental burns are a common cause of morbidity and mortality among children under five years. Knowledge and practices of the principal caretakers are directly associated with child's safety.

Objective: To describe the knowledge and practices on childhood unintentional burn prevention among the principal caretakers of children under five years in a semi-urban community in Sri Lanka

Methods: A community-based cross-sectional study was conducted. The computed sample size was 506. A two-stage cluster sampling technique was used to select the study population of principal caretakers having children under five years in Chillaw MOH area. A pre-tested, interviewer-administered questionnaire was used. Multiple linear regression analysis was used to identify the socio-demographic factors associated with caretakers' knowledge and practices.

Results: Mother was the principal caretaker in 90.5% of the households. The median age of principal caretakers was 27 years (IQR=24-31 years). The mean scores obtained for knowledge and practices were 75.8% (SD=11.2%) and 67.6% (SD=12.8%), respectively. These scores revealed a moderate positive correlation ($r=0.59$, $p<0.001$). Three-quarter of caretakers were aware that children are more vulnerable for burns while 63.1% believed that accidental burns are preventable. Over 70% of the caretakers knew that many injuries can be avoided by keeping children away from the kitchen, but only 39.2% houses had safety barriers to stop children entering the kitchen. Two-third of the caretakers ensured that their children were constantly under close supervision. Significantly better knowledge scores were seen when mother was the principal caretaker ($p=0.002$), with higher education level of the caretaker ($p<0.001$) and with higher family income ($p=0.04$). Significantly better safe practices were demonstrated by the caretakers with higher education level ($p<0.001$) and higher family income ($p=0.01$), and of higher social class ($p=0.01$).

Conclusions and recommendations: The overall knowledge and practices on burn prevention were

satisfactory among principal caretakers of children under five years. However, the study identified certain instances the caretakers had failed to apply their knowledge in safety practices. It's recommended to initiate interventions to transform the knowledge in to a sustainable behavioural change among child caretakers.

Key words: *burns, unintentional injuries, burn prevention*

OPE.4

Barriers for seeking health care for refractive errors among children aged 5-15 years in the district of Colombo, Sri Lanka

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Background: Although Sri Lanka has a well-established primary healthcare system, which screens the vision of schoolchildren of Grades 1, 4, 7 and 10, the burden of refractive errors implies that further provoking into the issue is needed to identify and rectify causative situations.

Objective: To determine the barriers for seeking health care related to refractive errors among children aged 5-15 years attending state schools in Colombo District

Methods: A descriptive study using qualitative techniques was conducted among members of the preventive healthcare team in 15 Medical Officer of Health (MOH) areas and parents of children with refractive errors in schools in the district of Colombo. Theoretical sampling was used to identify the categories of people to be sampled. Purposive sampling was used to select schools and MOH areas. Maximum variation sampling was used to select parents within schools. Purposeful random sampling was used to select categories of health staff using three different purposely chosen sample frames from which cases were randomly selected. In-depth

interviews were conducted among the health staff while focus group discussions were conducted among parents of children with refractive errors until theoretical saturation was achieved.

Results: Barriers for seeking health care related to refractive errors among parents were related to trust and confidence in the existing health care structure, bullying, peer related factors, inadequate knowledge and defects in service provision. The themes that emerged among the health staff were related to defects in service provision, defects in follow-up, capacity building and specialized services, peer factors and revision of cadre positions.

Conclusions and recommendations: Barriers identified within the existing system of services related to refractive errors should be rectified by incorporating these changes into the school health programme in order to effectively treat children with refractive errors.

Financial support: University Grants Commission.

Key words: *preventive ophthalmology, ophthalmological health care, childhood eye disorders*

OPE.5

Availability of services and service provision in Sri Lanka on nutritional rehabilitation programme for severe acute malnutrition among 6 to 59 month old children in secondary and tertiary level hospitals in 2016

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Background: Nutrition rehabilitation programme provides ready to use therapeutic food for the management of severe acute malnutrition (SAM) in all hospitals in Sri Lanka. Periodic evaluation of the existing interventions is paramount to guide the effective implementation.

Objectives: To assess the current availability of services and service provision on Nutrition Rehabilitation Programme (NRP) for children under five years in secondary and tertiary level hospitals

Methods: A cross-sectional descriptive study included all secondary and tertiary level government hospitals with specialist paediatric units in Sri Lanka (N=101). A specialist clinic was selected randomly from each hospital to obtain clinic related data. Data collection was done using an observation checklist and a pre-tested interviewer-administered questionnaire.

Results: Response rate was 89% (n=90). Ninety percent (n=81) of hospitals have had therapeutic food while only 82% (n=67) were currently providing BP 100, therapeutic biscuit (a ready to use therapeutic biscuit). In 82% (n=66) of the hospitals, BP 100 stocks were maintained at the drug stores. Stock out situations were experienced in 59% (n=48) hospitals during the year 2016. Forty two percent (n=34) of hospitals maintained a clinic register for SAM children. With regard to clinic care, weight of SAM children was measured at first visit in 93% (n=75) of hospitals, while height was measured in 88% (n=71). Consultant or the medical officer regularly examined SAM children at clinic setup in 86% (n=70) of the hospitals while they calculated the BP 100 dose in 84% (n=68) of the hospitals. Only 19% (n=15) of hospitals had a system to track defaulted SAM children.

Conclusions and recommendations: Therapeutic feeding services should be strengthened in all hospitals. Tracking of defaulters of SAM children was poor and is recommended to have a proper system to improve the compliance.

Key words: *nutritional rehabilitation, severe acute malnutrition, hospitals*

OPE.6

Health promotion intervention to improve the knowledge on nutrition and dietary practices among primary caregivers of pre-school children in a rural area of Kalutara District in Sri Lanka

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Background: Malnutrition among pre-schoolers is a major problem in rural areas of the country while primary caregivers are the most important target group in an endeavour to overcome this burden.

Objective: To improve the knowledge and practices on nutrition among primary caregivers of pre-school children in Ethanamadala public health midwife (PHM) area

Methods: A community-based quasi-experimental study was conducted targeting all primary care givers (49) of the main pre-school in Ethanamadala PHM area. A series of pre-tested health promotional activities was conducted within a one month period which included development of a nutrition support group, soliciting stakeholder support, health education session conducted by experts in the field of nutrition and practical sessions on preparation of nutritious meals and home gardening. Pre and post intervention results were obtained through a pre-tested questionnaire.

Results: Mean age of the sample was 33.7 years (SD=6.1) and only a small proportion was educated beyond Advanced Level (24.4%). The mean monthly family income was Rs.30,081 (SD=9827). Pre-intervention mean knowledge score was 52.7% and the mean practice score was also 52.7%. Maternal education level was found to be a correlate of both knowledge and practices. Those educated at least up to O/Level had significantly better knowledge (p=0.01) and practice (p=0.02) scores. There was a low positive correlation (r=0.414, p=0.003) between knowledge practice. The post intervention evaluation conducted two weeks later revealed mean knowledge and practice scores of 66.7% and 64.5% respectively, which were statistically significant (p<0.001).

Conclusions and recommendations: Health promotional activities leading to community empowerment revealed positive short-term results. Further evaluation is necessary to assess their long-term impact.

Key words: *health promotion, malnutrition, nutrition intervention*

Session F: Epidemiology

Chairpersons:

Prof. R Kumarasiri

Dr. Deepa Gamage

OPF.1

Knowledge, attitudes and practices of medical officers at Lady Ridgeway Hospital, Sri Lanka on preparedness for selected diseases with pandemic potential

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Background: Pandemics are unpredictable but recurring events with devastating consequences. Medical officers are at the forefront of managing a pandemic response and they are at increased risk of getting exposed to such infections.

Objective: To assess knowledge, attitudes, and practices of medical officers at Lady Ridgeway Hospital, Colombo on preparedness for selected diseases – highly pathogenic Avian Influenza (HPAI) and Ebola virus disease (EVD)

Methods: A descriptive cross-sectional study was carried out at Lady Ridgeway Hospital, Colombo from August to October 2016 among all (N=119) medical officers working in the out-patient department, primary care unit, medical intensive care unit, medical wards and isolation unit. A pretested self-administered questionnaire was used to assess the knowledge on causative organism, transmission, clinical manifestations, laboratory diagnosis, treatment, notification, surveillance procedure, attitudes towards working during such pandemics, learning more about the disease, willingness to participate in simulation exercises, awareness of practices standard and isolation precautions. Data were analysed using SPSS version 21 software.

Results: Response rate was 93.27% (n=111). Of them, 31.5% (n=35) had good knowledge on HPAI while 43.2% (n=48) had average level knowledge, with 60.3% (n=78) correctly stating notification of cases to relevant medical officer of health. Further, 39.6% (n=44) had ‘good’ and 49.5% (n=55) ‘average’ knowledge on EVD. Of respondents, 64.0% (n=71) and 59.5% (n=66) had favourable attitudes towards working during a pandemic of HPAI and EVD, respectively. However, 36.9% (n=41) and 46.8% (n=52) were scared of contacting HPAI and EDV respectively and 5.4% (n=6) considered resigning due to the risk, but 73.9% (n=82) wanted to participate in simulation exercises. Most of them (46.8%, n=52) demonstrated an average score for knowledge. Although, 20.7% (n=23) have undergone training on personal protective equipment, only 14.4% (n=16) reported the correct sequence of donning such equipment. Only 45% (n=50) accurately reported the minimum distance that a bed should be kept to prevent airborne transmission.

Conclusions and recommendations: Overall knowledge and awareness on practices was average, but elicited favourable attitude towards working in pandemic situations and participating in simulation exercises. Regular training programmes should be conducted on specific infection control measures for pandemic situations with simulation exercises at least once a year.

Key words: *pandemics, preparedness, avian influenza, ebola*

OPF.2

Level of health literacy of school teachers and factors associated with it in Colombo Education Zone, Sri Lanka

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Background: Health literacy refers to competencies to access, understand, judge and apply health information in healthcare, disease prevention and health promotion.

Objective: To describe the level of health literacy (HL) of school teachers in Colombo Education Zone and the factors associated with it

Methods: A cross-sectional study was conducted among a sample of 520 teachers, selected using a two-stage cluster sampling method along with probability proportionate to the size of the teacher population in schools of Colombo Education Zone. Health literacy was assessed using the culturally adapted and translated self-administered Health Literacy Survey-European Union (HLS-EU). Teachers were classified as having 'limited' and 'adequate' HL based on a score. Data on factors associated with 'limited' HL was obtained through a self-administered questionnaire and were determined through univariate and multivariate analysis. P value of 0.05 determined the significance.

Results: The response rate was 96.5%. Mean age was 43 years (SD=9.75). 81.7% (n=410) consisted of females and 66.1% (n=332) of graduates. 'Limited' HL was found in 32.5% (95% CI=28.4%, 36.6%). Service as a teacher being < 10 years (p=0.042), monthly income less than Rs.50,000 (p=0.024), not being a member of health club/welfare group (p=0.034) and visit to a medical practitioner/preventive health staff for within 6 months (p=0.002) were found to be associated with limited HL among school teachers, when adjusted to the confounding of other factors.

Conclusions and recommendations: The high proportion of 'limited' HL among school teachers needs to be addressed. Modifiable factors associated with 'limited' HL should be taken into account when designing targeted interventional activities.

Key words: health literacy, factors, HLS-EU

OPE.3

Prevalence of psychological distress and associated factors among trainee teachers in National Colleges of Education in Western Province, Sri Lanka

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Background: Pragmatic evidence suggests that trainee teachers face a lot of challenges when achieving their academic goals which have the potential to impact on their psychological wellbeing.

Objectives: To determine the prevalence and associated factors of psychological distress among trainee teachers in National Colleges of Education (NCOE) in Western Province.

Methods: A descriptive cross-sectional study was conducted among 404 trainee teachers from all four NCOE in Western Province using stratified random sampling with probability proportionate to size in 2016. General Health Questionnaire-30 was used as the assessment tool to identify psychological distress, considering more or equal score of 6 out of 30, as the cut-off score. A self-administered questionnaire was used to determine the associated factors of psychological distress. Data analysis was carried out using SPSS package, associations were determined using odds ratio (OR) and 95% confidence interval (CI).

Results: Out of 404, 387 trainee teachers (95.8%) responded. The prevalence of psychological distress was 37.2% (n=144; 95% CI=32.5%, 41.9%). Year of study (p=0.193), age (p=0.234), position in the family (p=0.542), presence (p=0.832) and the employment status of parents (p=0.061) and place of residence while attending the NCOE (p=0.977) were not associated with psychological distress. Dissatisfaction at work (OR=2.83; 95% CI=1.85, 4.34), work overload (OR=1.88; 95% CI=1.2, 2.93), not being rewarded for good work (OR=2.08; 95% CI=1.37, 3.17), lack of teaching competence (OR=2.24; 95% CI=1.41, 3.56), lack of opportunities to use abilities

(OR=1.64; 95% CI=1.08, 2.5), fear of failure in examinations (OR=1.89; 95% CI=1.24, 2.88), inadequacy of their monthly allowance (OR=2.97; 95% CI=1.27, 6.91) and having financial problems (OR=1.97; 95% CI=1.27, 3.06) were identified as associated factors of psychological distress ($p<0.05$). Satisfaction with choice of career (OR=0.52; 95% CI=0.32, 0.83) and the training environment (OR=0.55; 95% CI=0.36, 0.84) were identified as protective factors.

Conclusions and recommendations: Study highlights the high prevalence of psychological distress and its association with work-related factors. Findings reflect the need of improving the curriculum, inclusion of a module on coping strategies into teaching and making the training environment trainee-friendly in NCOEs in Western province.

Key words: *psychological distress, associated factors, coping strategies, trainee teachers*

OPF.4

Personality traits, self-esteem and leadership styles: trending qualities of individuals in leadership roles in the capital of Sri Lanka

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Background: Individual personalities and unique leadership styles define leaders of organizations, to lead the workforce towards goals. Self-esteem allows fair judgement, promotes motivation and positively influences personality traits and leadership styles.

Objective: To identify the personality traits (PT), leadership styles (LS), their associations and influence of self-esteem (SE) among individuals with leadership roles in Colombo, Sri Lanka

Method: A cross-sectional study was conducted, with convenience sampling. Data were collected from 150 individuals holding leadership roles for more than one year, in Colombo; via online and printed survey

forms. Study instruments were the Big Five personality test, Rosenberg self-esteem scale, Northouse leadership style questionnaire and a demographic survey form. Data were analysed using SPSS version 20.

Results: The age range was 25 to 68 years (Mean =40.02, SD=11.65) with equal gender distribution ($n=76$, 50.7%) males and ($n=74$, 49.3%) females. Findings revealed significant associations between PT and LS ($\chi^2(16)=54.6$; $p<0.005$; $\phi=0.064$; $p<0.005$), PT and SE ($F(4,145)=2.47$; $p<0.05$; $\omega^2=0.038$; $\eta^2=0.064$), and LS and SE ($F(4,145)=2.85$; $p<0.05$; $\omega^2=0.047$; $\eta^2=0.073$). Agreeableness showed the strongest, while extra-version PT was least related to LS. Transformational LS was related to the agreeableness and conscientiousness; extraversion to transactional LS, and neuroticism was related to both transactional and transformational LS, while openness was associated with Laissez-Faire LS. Extraversion was the strongest and neuroticism was least related to SE (5.2; 95% CI=0.46, 10.0); $p=0.03$). Self-esteem significantly differed between transformational and Laissez-Faire LS (3.3; 95% CI=0.05, 6.6; $p=0.04$). Openness predicted transformational LS and extraversion predicted Laissez-Faire LS with no effect from SE. No significant gender difference was found for LS. Self-esteem was higher in males than in females ($U=2168$; $z=-2.426$; $p=0.015$).

Conclusion and recommendations: The associations and predictions between PT and LS, mediated by SE revealed a transformational leader with conscientiousness or agreeableness personality trait and high self-esteem as ideal. Delegating work and leadership roles to subordinates is a crucial decision made by human resource managers and administrators.

Key words: *personality traits, full-range model, leadership styles, self-esteem*

OPF.5

Electronic and electrical waste and its management: correlates of usage pattern and current disposal modalities at household level in Nivithigala Medical Officer of Health (MOH) area, Sri Lanka

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Background: Economic and social development due to technological revolution has led to the high demand for the production and consumption of electronic and electrical equipment (EEE). Disposal of waste EEE in an unsound manner has created significant public health problems needing urgent attention world over, and Sri Lanka is no exception.

Objectives: To identify the correlates of usage pattern and current disposal modalities of e-waste at household level in Nivithigala MOH area

Methods: A cross-sectional study was conducted among all 570 Grade 10 students found in the 19 schools in Nivithigala MOH area. Using a pre-tested, self-administered questionnaire, usage at household level was evaluated as the availability of equipment on six EEE categories and usage pattern was assessed according to the number of equipment groups. Availability of more than three groups was categorized as 'high usage' and three or less than three groups as 'low usage'. Disposal was assessed using seven common methods. Analysis was done descriptively and associations were assessed using chi-squared test.

Results: Response rate was 95.9% (n=547). Mobile phone (n=508, 92.9%) and television (n=505, 92.3%) were the commonly used equipment. High usage pattern was prevalent (65.8%, n=360) at household level. Average monthly income and the usage pattern showed a significant association ($\chi^2=8.4$; p=0.01). With regards to disposal, 32.5% (n=178) store their e-waste at home and 25.8% (n=141) recycle. High usage pattern was associated with selling ($\chi^2=4.1$; p=0.04) and storing the used equipment at home ($\chi^2=10.5$; p=0.001).

Conclusions and recommendations: Safe e-waste disposal was not adequately practised in the community. Strategies for safe disposal of e-waste need to be identified and implemented by the relevant stakeholders urgently.

Key words: e-waste, usage pattern, disposal modalities

OPE.6

Knowledge, attitudes and practices on management of plastic waste among main female householders in Kalutara Medical Officer of Health (MOH) area, Sri Lanka

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Background: Plastic waste is a growing problem in Sri Lanka and is aggravated in the absence of a proper management system. It is well known that improper management of plastic waste creates environmental and health issues.

Objectives: To describe the knowledge, attitudes and practices in managing plastic waste at domestic level among main female householders in Kalutara MOH area and challenges faced by them.

Methods: A community-based descriptive cross-sectional study was carried out among 630 female householders. Twenty one clusters with 30 subjects were selected randomly using cluster sampling technique. The information on knowledge and attitudes of plastic waste and methods used by them to dispose plastic were collected using a structured interviewer-administered questionnaire. Data analysis was performed using SPSS version 20.

Results: Majority of the respondents were Sinhalese (94%, n=578) and Buddhist (87%, n=536). Currently unemployed proportion of the study sample was 76.8% (n=470). Significant proportion (40.5%, n=248) had completed their O/Level. The mean age of the sample was 40 years (SD=12). Burning was the most commonly practised method of disposal of plastic waste (72%, n=444) followed by handing over to local authorities after separation by 38% (n=233). Handing over to recyclers was done by 17% (n=107). The main challenge was unavailability of the convenient place to handover plastic waste (78%, n=477). Most of the participants have good knowledge on plastic waste and its

harmful effects (78%, n=477). Around 51% (n=312) of the sample had good attitude on minimization and recycling of plastic. There was a statistically significant association between the level of education and the knowledge on managing plastic waste of the study group ($p=0.000$). There was no significant association between the knowledge and the disposal methods of the sample ($p=0.136$). The association between knowledge and total attitude score was significant ($p=0.000$).

Conclusions and recommendations: Despite the good knowledge, majority in the sample burnt plastic waste. Non-availability of the proper plastic waste management system is the main challenge. Motivation of the people for minimization, reuse and recycling of plastic together with implementation of environmentally sound waste management practices can be considered as a timely need.

Key words: *plastic waste, householder, knowledge, attitudes*

POSTER Presentations

Session G: Maternal and Child Health

PP G.1

Perinatal and delivery outcomes of mothers with gestational diabetes mellitus delivered at Colombo North Teaching Hospital, Sri Lanka

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Background: Gestational diabetes mellitus (GDM) carries significant and potentially grave maternal and foetal complications. The pregnancy outcomes of mothers with GDM are well studied in the world. However, studies conducted in the Sri Lankan context are scarce.

Objective: To describe the perinatal and delivery outcomes of mothers with GDM delivered at Colombo North Teaching Hospital (CNTH), Ragama

Methods: This is a descriptive cross-sectional study. Pregnant mothers diagnosed with GDM admitted to CNTH for delivery during the period of March to September 2013 were included. A pre-tested interviewer-administered questionnaire was used for data collection. Additional information was gathered from bed head tickets.

Results: The sample consisted of 202 mothers with mean age of 32 years (SD=4.256). One-hundred-eighteen (58.9%) were aged between 30 to 39 years. There were 12 (5.94%) mothers above 40 years of age. GDM was diagnosed in the third trimester in 135 (67%) mothers. Ninety four (46.5%) mothers were managed only with dietary control while 35 (17.5%) mothers received insulin treatment. Seventy three (36.1%) mothers had GDM in past pregnancies.

With regard to pregnancy outcome, most mothers delivered at term (n=185, 92.7%). Eighty four (41.6%) delivered normally while 41 (20.2%) underwent an emergency caesarean section. About one-fourth (n=52, 25.7%) of mothers developed complications such as premature rupture of membranes, polyhydramnios and prolonged labour. Birth weight of most of the neonates were above 2.5kg (n=185, 92.7%). Only 27 (13.3%) neonates reported as having complications such as hypoglycaemia and sepsis. Thirty four (16.8%) neonates were admitted to special care baby unit.

Conclusions and recommendations: Adverse maternal and foetal outcomes associated with pregnancies complicated by GDM in the Sri Lankan context are comparable with global data. The relationship between adverse pregnancy outcomes and GDM needs to be explored further to formulate preventive strategies for both GDM and its consequences in Sri Lanka.

Key words: gestational diabetes mellitus, polyhydramnios, premature rupture of membranes

PP G.2

Follow up and outcome of women with positive pap smear results screened at Family Health Bureau, Sri Lanka

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Background: Cervical cancer is the second commonest neoplasm among women in Sri Lanka. According to the current estimates, 1544 women are annually diagnosed with cervical cancer in Sri Lanka

while 840 women die from this disease. Pap smears are carried out to screen for cervical pre-cancerous lesions. As such, women with positive pap smear results should be followed up cautiously, so as to prevent precancerous lesions being developed into cervical cancer.

Objective: To describe the follow up and outcome of women with positive pap smear results screened at Family Health Bureau (FHB) laboratory in 2011

Methods: In year 2011, the laboratory of FHB has screened 14,408 slides, out of which 311 (2.16%) had positive results. Information was collected from the relevant medical officers of health (MOH) regarding the follow up of the above positive clients, by using a record sheet. Only 288 data sheets were returned to FHB after completion.

Results: Out of the low-grade positives, only 62% had been followed up by the MOH up to one year. Out of the clients with high grade lesions, only 87.8% had been referred to a consultant gynaecologist, and only 78% had visited the consultant and this matter has not been followed up by the MOH.

Conclusions and recommendations: Overall results have shown poor follow-up of the outcome of women with positive results. As a result of this study, a positive follow-up register to be maintained by the MOH was developed, with clear instructions for proper follow-up of women with positive results. Printed version would be available in 2017, after piloting the developed positive follow up register.

Key words: *positive pap smear, follow-up, register*

PPG.3

Factors associated with utilization of well woman clinic by the 35-year old birth cohort at Kopay Medical Officer of Health area, Sri Lanka

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Background: Well woman clinics (WWC) were established to improve the reproductive and sexual health needs of women over 35 years of age, and to provide screening for common non-communicable diseases. WWCs in the study area are under-utilized by the population and reasons are not well understood. Objective: To assess the factors influencing utilization of WWC by the birth cohort of 35-year-old women at Kopay Medical Officer of Health (MOH) area.

Methodology: A cross-sectional study was conducted among 380 women in birth cohort of 35 years living in the study area, selected through a two-stage cluster sampling method. Data were collected via an interviewer-administered questionnaire.

Results: Among the total sample, 33.95% (n=129; 95% CI=29, 39%), had utilized the WWC. Invitation letter from the MOH to utilize WWC ($\chi^2=23.094$; df=1; p<0.001), public health midwife conveying information to target population on WWC ($\chi^2=67.87$; df=1; p<0.001) and presence of awareness on WWC ($\chi^2=44.10$; df=1; p<0.001) showed highly significant associations with utilization of WWC. High knowledge scores on screening of cervical ($\chi^2=12.71$; df=2; p=0.002) and breast carcinomas ($\chi^2=19.89$; df=2; p<0.001) and high gross knowledge score regarding screening of non-communicable diseases ($\chi^2=9.685$; df=1; p=0.002) were also significantly associated with increased utilization of the service. Having a positive family history of cervical carcinoma was significantly associated ($\chi^2=3.705$; df=1; p=0.05) with utilization of WWC. The study identified 'leaving of children unattended during clinic visits' (70%, n=175), 'unavailability of female doctor' (64.9%, n=163) and 'failure of recognizing the need of screening' (58.1%, n=145) as important demotivating factors among the non-utilizing respondents.

Conclusion and recommendation: Findings demonstrated the factors influencing the WWC utilization rate by women of Kopay. Targeted health education about WWC and establishment of community based strategies are needed to improve the utilization of WWC.

Key words: *well woman clinic, utilization, screening*

PP G.4

Prevalence of refractive errors among school children aged 5-15 years in Colombo District, Sri Lanka

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Background: Refractive errors are one of the three major causes of visual impairment in the world. School health programme of the Ministry of Health is designated to detect refractive errors of children. However, prevalence estimates of refractive errors among Sri Lankan children are scarce.

Objective: To determine the prevalence of refractive errors among children aged 5-15 years attending state schools in the district of Colombo

Methods: A cross-sectional study was conducted among 1344, 5-15-year old, selected by multi-stage cluster sampling from 32 state schools in Colombo District. All selected, irrespective of whether they had been previously diagnosed with a refractive error, were screened for refractive errors using age appropriate charts. Those with an uncorrected reduced visual acuity of one or both eyes were subjected to cycloplegic auto-refraction, manual and subjective refraction, post cycloplegic refraction and clinical diagnosis.

Results: Prevalence of refractive errors among children aged 5-15 years attending state schools in the Colombo district was 18.3% (n=244; 95% CI=16.22, 20.38%). The prevalence of refractive errors detected from the study was 11.6% (n=155; 95% CI=9.88, 13.22%) was significantly higher than the prevalence of refractive errors detected prior to the study (6.7%, n=89; 95% CI=5.36, 8.04%). Of the 89 who had been detected prior to the study, a majority had not been corrected (53.9%, n=48). The most prevalent type of refractive error was Astigmatism (13.3%; 95% CI= 11.47, 15.13%).

Conclusions and recommendations: Prevalence of refractive errors among children aged 5-15 years in the Colombo district was high, with most not being detected through the existing school health programme. The problem of uncorrected refractive errors among those already detected was also high. The study recommends immediate measures be taken to screen, detect, and adequately correct refractive errors among children aged 5-15 years in the Colombo district.

Financial support: University Grants Commission

Key words: childhood eye disorders, childhood myopia, childhood astigmatism

PP G.5

Factors associated with refractive errors among school children aged 5-15 years in Colombo District, Sri Lanka

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Background: The global magnitude of uncorrected refractive errors among 5-15-year-olds confirms that refractive errors pose a significant public health problem. No Sri Lankan study conducted thus far has identified factors associated with childhood refractive errors.

Objective: To determine factors associated with refractive errors among children aged 5-15 years attending state schools in the district of Colombo

Methods: A cross-sectional analytical study was conducted among 244 diagnosed 5-15-year-old with refractive errors and 1084 without refractive errors. Children were selected by multi-stage cluster sampling from 32 state schools in Colombo District. Information on factors associated with refractive errors was obtained from parents using a structured pre-

tested interviewer- administered questionnaire and pre-tested self-administered diary. Multivariate analysis was used to determine the factors.

Results: Being a 5-10-year-old (odds ratio (OR)=0.68; 95% CI=0.486, 0.940), being exclusively breast fed for at least four months (OR=0.59; 95% CI=0.366, 0.956), reading less than two books per week (OR=0.06; 95% CI=0.006, 0.602) and sleeping for nine hours or more per day (OR=0.23; 95% CI=0.165, 0.315) lowered the risk of refractive error. Having at least one sibling with refractive error (OR=2.74; 95% CI=1.699, 4.426), having at least one parent with refractive error (OR=1.62; 95% CI=1.058, 2.483) and having both parents with refractive errors (OR=5.25; 95% CI=1.379, 19.975) were family level factors that were significantly associated with refractive error. Watching television at a distance of less than 10 feet (OR=27.55; 95% CI=2.699, 281.254), working, playing or viewing computer at a distance less than 30 cm (OR=1.79; 95% CI=1.304, 2.461), sleeping with the light on at night (OR=2.37; 95% CI=1.715, 3.286) and using a handheld computer or video game for more than two hours per day (OR=3.65; 95% CI=1.042, 12.794) were academic and leisure factors that were significantly associated with the presence of refractive errors.

Conclusions and recommendations: The study identified modifiable factors which can be used in preventive interventions. Non-modifiable factors help identify children needing intensive screening for refractive errors.

Financial support: University Grants Commission

Key words: *childhood eye disorders, factors causing refractive errors, preventive ophthalmology*

PP G.6

Coverage of management of severe acute malnutrition among 6 to 59 months children in Sri Lanka

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Background: Prevalence of severe acute malnutrition (SAM) among children was stagnant over the years despite the availability of effective therapeutic measures. BP 100 therapeutic biscuits (a ready to use therapeutic food) are prescribed at hospital clinic for children less than 5 years of age with SAM.

Objective: To describe the coverage and adherence to practices in the management of SAM among 6 to 59 months old children in Sri Lanka

Methods: A community-based cross-sectional descriptive study was conducted in all districts in the country. Children aged 6-59 months who were classified as SAM in nutrition month 2016, consisted the study population. The sample size was 812. Multi-stage cluster sampling method was used to identify children. Interviewer-administered questionnaire was responded by mothers of the children.

Results: Response rate was 98.6% (n=801). Among the participants, 722 children required new referrals to the hospital clinic for SAM (90.1%). However, only 13.4% (n=96) ended up at the hospital clinic within six months of detection of SAM. Of all children with SAM (N=801), 88 were prescribed of BP 100 therapy (10.9%) according to the national recommendation (intervention coverage). Of them, 76 (90.4%) have received BP 100 daily and but only 46 (54.7%) children were given the prescribed amount of BP100 biscuits for the day. Public health midwife (PHM) had visited 70.0% (n=56) of houses of children who had received BP 100 during past six months.

Conclusions and recommendations: Intervention coverage for the management of SAM was low in Sri Lanka. The referral pathway of identified children to the hospital clinic should be strengthened and individual follow up plans should be implemented at PHM level for all children with SAM.

Key words: *severe acute malnutrition, intervention coverage, nutrition rehabilitation programme*

PP G.7

Retrospective study on foeto-maternal status of teenage pregnancies in Dimbulagala Medical Officer of Health area, Sri Lanka

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Background: A pregnancy occurring in a young woman who has not reached her 20th birthday is considered as a teenage pregnancy. The impact of consequences on the teenage pregnancies in Sri Lanka is not well described.

Objective: To assess the foetal and maternal status of teenage pregnancies in Dimbulagala MOH area

Methods: A community-based retrospective cohort

study was carried out in Dimbulagala MOH area. A sample of 160 postnatal teenage mothers was selected from the field. An interviewer-administered pre-tested questionnaire was used to collect data during the study period. Data were analysed using SPSS version 17.

Results: From the sample of teenage mothers, 75% (n=120) were between the ages of 17 and 19, while their mean age was 17.85. Ninety percent of the sample (n=144) had been educated only up to Grade 6-11. Out of the sample, 75% have attained puberty before 13 years of age. From this sample, 30% had antenatal complications in early pregnancy such as anaemia, antepartum complications and pregnancy induced hypertension. Low birth weight was 17.6 % (n=30). Only 4.4% (n=7) was admitted to premature baby unit with fatal complications.

Conclusions and recommendations: Normally teenagers encounter several problems with pregnancy. Although this study shows foeto-maternal status of the teenage pregnant mother was normal with the district level averages, further studies should conduct to evaluate the foeto maternal status in future.

Key words: teenage pregnancies

Section H: Miscellaneous

PP H.1

Burnout among postgraduate doctors in Colombo, Sri Lanka: prevalence, associated factors and association with self-reported patient care

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Background: Burnout is a psychological condition of emotional exhaustion, depersonalization and reduced personal accomplishment in people persistently exposed to emotional and inter-personal stressors at work. Postgraduate doctors are prone to burnout, resulting from chronic stress at work. Situation of burnout in Sri Lankan postgraduate doctors is unknown.

Objectives: To determine the prevalence of burnout, associated factors, and its association with self-reported patient care among postgraduate doctors in Colombo District

Methods: A descriptive cross-sectional study was conducted among postgraduate doctors from eight specialties attached to the Postgraduate Institute of Medicine and working in the district of Colombo. Sample size was 245. Copenhagen Burnout Inventory and self-administered questionnaire were used to measure burnout, associated factors and self-reported patient care. Associations were analysed using univariate cross-tabulations and multiple logistic regression.

Results: Response rate was 88.1%. Prevalence of personal, work-related and client-related burnout were 41.6% (95% CI=35.5, 47.8%), 30.6% (95% CI=24.8, 36.4%), 8.9% (95% CI=5.4, 12.5%) respectively. Females (odds ratio (OR)=3.6; 95% CI=1.8, 7.3), chronic disease (OR=4.0; 95% CI=1.5, 11.0), frequent unhealthy habits (OR=3.3; 95% CI=1.6, 6.7),

parents being doctors (OR=2.8; 95% CI=1.1, 6.8), home-work demands (OR=2.9; 95% CI=1.3, 6.2) and emotional demands (OR=3.4; 95% CI=1.7, 7.1) were associated positively while frequent healthy habits (OR=0.2; 95% CI=0.1, 0.5), satisfaction with skill development opportunities (OR=0.4; 95% CI=0.2, 0.9) and frequent deep studying (OR=0.2; 95% CI=0.1, 0.5) were associated negatively with personal burnout. Females (OR=3.6; 95% CI=1.8, 7.3), frequent unhealthy habits (OR=2.8; 95% CI=1.4, 5.8), home-work demands (OR=5.5; 95% CI=2.6, 11.8) and emotional demands (OR=4.0; 95% CI=2.0, 8.0) were associated positively while frequent deep studying (OR=0.4; 95% CI=0.2, 0.9) was associated negatively with work-related burnout.

Emotional demands (OR=4.0; 95% CI=1.5, 10.6) were associated positively while overall specialty training satisfaction (OR=0.2; 95% CI=0.1, 0.5) was associated negatively with client-related burnout. Frequent self-reported suboptimal patient care practices: poor patient communication (OR=2.7; 95% CI=1.1, 6.4), poor clinical practice (OR=3.3; 95% CI=1.2, 8.7), poor response to patient's needs (OR=5.2; 95% CI=2.0, 13.0) and poor colleague communication during handing over (OR=3.6; 95% CI=1.4, 9.0) were associated positively with client-related burnout. No significant association was found between any of the frequent self-reported suboptimal patient care practices and personal and work-related burnout.

Conclusions and recommendations: Prevalence of personal and work-related burnout among postgraduate doctors in Colombo District is high while client-related burnout is low. Several personal, family, work and training factors and self-reported sub-optimal patient care are associated with burnout. Improving awareness and preventive actions from beginning and throughout training is recommended by incorporating a training module on personal development with emphasis on burnout prevention.

Key words: *burnout, postgraduate doctors, self-reported patient care*

PP H.2

Level of health literacy among school teachers in Colombo Education Zone of Sri Lanka

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Background: Health literacy (HL) refers to people's competencies to access, understand, judge and apply health information in healthcare, disease prevention and health promotion. The "Health Literacy Survey-European Union" (HLS-EU) is a tool that assesses above competencies based on self-report.

Objective: To assess the level of HL of school teachers in Colombo Education Zone

Methods: A cross-sectional study among a sample of 520 teachers, selected using a two-stage cluster sampling method along with probability proportionate to size of the teacher population in the schools in Colombo Education Zone used the culturally adapted and translated self-administered HLS-EU to assess HL. Consensual validity of translated HLS-EU was confirmed by a group of stakeholders at a consultative meeting. Based on a score, respondents were divided into four levels of HL as 'inadequate', 'problematic', 'sufficient' and 'excellent' as well as two levels as 'limited' and 'adequate'.

Results: The response rate was 96.5%. Mean age was 43 years (SD=9.75), 81.7% (n=410) were females and 66.1% (n=332) were graduates. Only 3.6% (n=18) were teaching health while 18.3% (n=92) were teaching science and 28.7% (n=144) were teaching Languages. 'Limited' HL was found in 32.5% (95% CI=28.4, 36.6%) while 67.5% (95% CI=63.4, 71.6%), 61.2% (95% CI=56.9, 65.5%) and 6.4% (95% CI=4.3, 8.5%) showed 'adequate', 'sufficient' and 'excellent' levels, respectively. 'Problematic' and 'inadequate' HL were 31.5% (95% CI=27.4, 35.6%) and 1% (95% CI=0.1, 1.9%), respectively.

Conclusions and recommendations: The high proportion of 'limited' HL among school teachers in the Colombo Education Zone needs to be addressed.

The authorities of the Ministries of Education and Health should be advocated regarding this issue and the need of corrective interventions highlighting the fact that worst health literacy was on disease prevention.

Key words: health literacy, teachers, health literacy survey-European Union

PP H.3

Relationship between the habit of watching television and aggressive behaviour among pre-school children in Sri Lanka

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Background: Watching television has become an important part of human life. Television stations target every age group and attract a large number of viewers. Pre-school children are one of the targeted groups and they are vulnerable to violence and age inappropriate contents on television.

Objectives: To describe relationship between the habit of watching television and aggressive behaviour observed by mothers in pre-school children in three selected pre-schools in Horana Medical Officer of Health area.

Method: A descriptive cross-sectional study was conducted. Mothers of pre-school children were selected consecutively until the required sample size (n=105) was achieved. Data were collected by an interviewer-administered questionnaire on socio-demographic characteristics and patterns of watching television. Modified overt aggression scale was used to assess the aggressive behaviour among pre-school children. Associations were assessed using χ^2 test and p value of < 0.05 was taken as significant.

Results: Among 105 children, the total aggression score ranged from 0 to 17 with a mean value of 7.62 (SD=3.714). Out of 105 participants, 55.2% had an

aggression score above the mean. The majority were watching television for two to three hours a day representing 65.7%. Statistically significant positive associations were seen between the aggressive behaviour observed by mothers and violent contents on television ($p=0.001$), inappropriate content on television ($p=0.028$), increased screen time ($p=0.001$) and mother being employed ($p=0.001$). Aggressive behaviour and parents assistance in selecting a programme showed no significant association ($p=0.06$). Parents accompanying the child while watching TV was a protective factor ($p=0.001$).

Conclusion and recommendations: Watching violent and inappropriate contents on television and increased screen time were associated with a higher degree of aggressive behaviour among pre-school children. It is important to educate parents on ill effects of violence and inappropriate content on television and how it affects the behaviour of the children.

Key words: *television, aggressive behaviour, preschool*

PP H.4

Knowledge, practices and factors associated with the psycho-social environment in schools among secondary school teachers in Gampaha Educational Division, Sri Lanka

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Background: Poor knowledge and practice regarding the school psycho-social environment among teachers have led to major problems.

Objectives: To describe knowledge and practices regarding the psycho-social school environment and to determine factors associated with practices among secondary school teachers in the Gampaha educational division

Methods: A descriptive cross-sectional study was conducted in three selected schools in Gampaha Educational Division. A sample of 120 secondary school teachers was selected using simple random sampling method. A structured, pre-tested self-administered questionnaire was used, which consisted of sections on the socio-demographic factors, knowledge, and practices of school psycho-social environment. Knowledge and practices were assessed by a scoring system, relationship between the selected factors and the practices was tested using χ^2 test.

Results: Majority of teachers (52.5%, $n=63$) had a good knowledge while 50% ($n=60$) were found to have good practices regarding school psychosocial environment. However, the majority (55%, $n=66$) had not heard of the concept of school psycho-social environment. Being a female was found to be significantly associated with good practices ($p=0.05$; $\chi^2=8.64$). Age, having children, education, duration of teaching, administrative experience and being in-charge of a student society were not found to be significantly associated with the practices regarding school psycho-social environment.

Conclusions and recommendations: Majority of the teachers had good knowledge and exactly half the sample had good practices regarding school psycho-social environment. Being a female was the only factor that was found to be significantly associated with good practices and could be used as a tool to increase the knowledge and practices among school teachers.

Key words: *school psycho-social environment, knowledge, practices*

PP H.5

Attendance to non-communicable disease screening services and its associated factors among adults aged 35-65 years in Dimbulagala Medical Officer of Health area, Sri Lanka

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Background: Non-communicable diseases (NCD) accounts for almost 75% of all deaths worldwide. Majority of these deaths occur in low- and middle-income countries. Even though the Sri Lankan health system offers selective NCD screening services free of charge, a substantial proportion of the targeted population do not attend NCD screening.

Objective: To determine the selected NCD screening knowledge and practices of adults and factors associated with attendance to free government screening clinics in Dimbulagala Medical Officer of Health (MOH) area

Methods: A descriptive cross-sectional study was conducted among adults aged 35-65 years who were permanent residents in MOH area, Dimbulagala. Estimated sample size of 537 was selected from 30 clusters by probability proportionate to the number of households in each Grama Niladhari division. In the case of more than one eligible participant present in a selected household, the Kish method was used to identify a participant in a random manner. An interviewer-administered questionnaire was used to ascertain the data and a knowledge score was developed based on the questions.

Results: A total of 537 questionnaires were administered with a response rate of 93%. The mean age of the study population was 46.5 (SD=8.75) years. The majority (83.2%) had scored more than the middle value (20) of the knowledge score. Only 37.8% individuals have ever attended an NCD screening clinic. A majority of the respondents provided poor responses to assessing food habits, the level of physical activity, regular blood pressure measurement and for self-breast examination of females. The multivariate analysis showed that “gender” and “heard about healthy lifestyle-centre” were the most important factors determining the attendance to a screening clinic.

Conclusions and recommendations: There is a gap between the respondents’ NCD screening knowledge and attendance. Out of several factors associated with attendance to NCD screening clinics, ‘gender’ and ‘heard about the healthy-lifestyle-centre’ are the most important.

Key words: *non-communicable disease, attendance to NCD screening*

PP H.6

Identification of symptoms and causative factors for depression among engineering undergraduates of the University of Peradeniya

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Background: Depression is identified as having the second highest global burden of disease. The knowledge on recognition of depression leads to early identification of the disease and decides timely utilization of treatment facilities.

Objective: To assess knowledge on symptoms and causative factors of depression among the engineering undergraduates at the University of Peradeniya

Method: A descriptive cross-sectional study was conducted in the Faculty of Engineering, University of Peradeniya in 2016 among 1631 undergraduates using a self-administered vignette-based questionnaire consisting of their knowledge on recognition of depression and its selected associated factors. SPSS-20 software was used in data analysis. Descriptive statistics were presented using numbers and percentages.

Results: The sample case presented in the vignette was recognized as “having a problem” by 70% (n=1153). However, the problem was recognized as depression by only 44% (n=714). Only 16% (n=259) claimed it was a mental illness, whereas 60% (n=976) claimed it was stress and 44% (n=721) claimed it was an emotional problem.

The identification of symptoms of depression were as follows: sadness 54% (n=883) suicidal thoughts 40% (n=654), self-harming thoughts 40% (n=650), worrying 53% (n=864), guilt 47% (n=760), lack of sleep 45% (n=728), oversleeping 28% (n=449), loss of appetite 39% (n=637), over eating 22% (n=355), lack of interest in routine activities 46% (n=746) and lack of sexual desire 20% (n=333).

The participants identified the following factors as causes of depression: chemical imbalance in brain 31% (n=510), genetic 20% (n=325), mental stress 60% (n=982), study related problem 55% (n=892), failure in life achievements 47% (n=764), poor interpersonal relationships 42% (n=690), weak personality 43% (n=694), relationship issues 52% (n=849), home or family disharmony 50% (n=817) and loneliness 42% (n=684).

Conclusions and recommendations: Study reflects deficit in knowledge on symptoms and causative factors of depression among engineering undergraduates of the University of Peradeniya. Study suggests incorporating strategies to raise knowledge of this group using evidence based methods.

Key words: *depression symptoms, causative factors, Sri Lanka*

PP H.7

Pattern of digital device use and its association with their academic performance and sleep among 13-14 year old schooling adolescents in Municipal Council Area Kurunegala, Sri Lanka

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Background: Digital devices (DD) are devices that have been produced containing a computer or a micro-controller (e.g. desktop computers, smart phones, etc.). Sleep and academic performance of adolescents are affected by using DDs, as they use them more.

Objective: To identify the patterns and factors for using DD and to assess the association of DD use with academic performance and sleep among 13-14 year old adolescents

Methods: A cross-sectional descriptive study was done among 671, 13-14 years old students, using a

self-administered questionnaire. Sample was selected using cluster sampling with probability proportionate to student size, from Type 1AB schools in Kurunegala Municipal Council area. Chi-squared test was used.

Results: Majority of the sample consisted of males (58.7%), using DD (73.3%) and using computers (49.7%). Most were using DD for >2 hours per day (56.8%) between 2 pm - 6 pm on weekdays (62.9%) and weekends (33.5%). Among users, who used DD for ≤ 2 hours/day, 31.5% used them for education. Among those, using DDs for >2 hours/day, majority (33.5%) were involved in video games. Study participants were using DD “as a hobby” and “due to less-opportunities to play outside”. Among the total, there was no association between the DD use and academic performance. Sex (OR=2.1; 95% CI=1.5, 3.0) and extracurricular activities (OR=1.6; 95% CI=1.1, 2.2) were significantly associated with DD use. Among those who used DD for less than two hours/day, DD use was significantly associated with high academic performance (OR=2.6; 95% CI=1.69, 4.03). Use of DD was neither associated with duration of sleep nor daytime tiredness.

Conclusions and recommendations: There were no significant associations between the DD use and sleep but there were positive associations with academic performance and with extracurricular activities among the users for two hours or less/day. Use of DD can be recommended for two hours or less per day to minimize harmful effects.

Key words: *adolescents, digital devices, academic performance, sleep*

PP H.8

Knowledge and attitudes on sexually transmitted infections among male youth students following full time courses in a technical training institute in Sri Lanka

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Background: Sexually transmitted infections (STIs) including human immunodeficiency virus (HIV) continue to be a major health problem. An increasing trend of new HIV infections among the 15-24 year age group was seen during the past few years in Sri Lanka.

Objective: To describe the knowledge and attitudes on STIs and HIV among male youths following full time courses in a technical training institute in Sri Lanka

Methods: A cross-sectional study was conducted in Ceylon German Technical Training Institution, Moratuwa. Number of students for each course was selected using probability proportionate to the sample size and simple random sampling to select that number from each course. Pre-tested, self-administered questionnaire was used. Marking scale of 0-48 and a three point Likert scale were used to categorize the knowledge and attitude levels, respectively.

Results: Almost all the study participants (99.3%, n=413) had heard about STIs, and 96.6% (n=399) were aware about HIV. However, only 30% (n=124) of the respondents knew that infected people can be

asymptomatic. The majority (84%, n=347) knew that STIs could be transmitted through unprotected sex while 45.5% (n=188) knew that STIs can be transmitted through oral sex. Only 40.4% (n=167) knew about having one faithful partner as a preventive method of STIs. The Global Aids Response Progress Reporting indicator was 38.7% (n=160) on universal knowledge on HIV transmission. Overall knowledge score on STIs including HIV in the study participants was found to be 'satisfactory' in 64.2% (n=265). The majority (78.8%, n=328) had positive attitudes towards STIs including HIV.

Conclusions and recommendations: The awareness on STIs including HIV among the study participants was satisfactory, and the majority had positive attitudes towards STIs including HIV. Sexual education containing prevention of STIs including HIV should be incorporated into the recruitment curriculum of the students in this institution for further improvement of knowledge and attitudes towards STIs including HIV.

Key words: *sexually transmitted infections, male youth*

Section I: Quality of Care

PPI.1

Service availability and parental experience at outpatient clinics for child and adolescent mental health problems at government hospitals in the district of Kandy, Sri Lanka

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Background: Child and adolescent mental health illnesses is an emerging problem in Sri Lanka, with a demand for improving service availability and quality of care provided.

Objective: To describe the service availability and parents' experience at out-patient clinics for child and adolescent mental health illnesses at government hospitals in the district of Kandy

Methods: A descriptive cross-sectional study was carried out in five hospitals having outpatient clinics for child and adolescent mental health illnesses in Kandy District. Component I assessed service availability using a checklist in five clinics. Component II assessed only mother or fathers experience (n=423) using an interviewer-administrated questionnaire.

Results: Of the five hospitals assessed, adequate spaces were available in waiting areas, consultation rooms and therapy rooms in three clinics (60%); none provided clean drinking water for clients or had the basic equipment, guidelines and protocols. All clinics (100%) had good collaborations with social services but only 40% (n=2) collaborated with the education department and the juvenile legal system; only 40% (n=2) of clinics had trained staff for child and adolescent mental health. Of the 414 parents interviewed, 70% (n=290) were mothers. Parent's experience in timelines showed 66.9% (n=277) of parents did not have a choice for the appointment time and couldn't contact doctor out of appointment time (n=272, 65.7%). 66% (n=270) of the parents reported better experience in confidentiality and communication with the doctor and therapist.

Relationship with the doctor was good for 51% (n=262) but 98.6% (n=408) reported that their cultural and religious views were not considered. Of the parents, 91% (n=392) ranked the overall experience at the clinic as good to 'large' / 'very large' extent.

Conclusions and recommendations: Although the parental experience of services was ranked good, service availability in the mental health clinics was inadequate. Child and adolescent mental health services need improvement. Timeliness and religious views need to be considered to improve the parental experience.

Key words: service availability, child and adolescent mental health, parental experience

PPI.2

Preparedness, knowledge and perceptions of public health midwives to identify and manage intimate partner violence in a rural district of Sri Lanka

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Background: Intimate partner violence (IPV) is an overlooked public health problem with negative health implications to victims and families. Public health midwives (PHM) are one of the first line respondents for IPV victims in Sri Lanka. Identification of knowledge, perception, and preparedness among them to provide services in IPV is imperative to improve the well-being of the victims and their families.

Objective: To determine perceived preparedness, knowledge and perception among PHMs on identification and managing events of IPV and to determine the associated factors in preparedness and knowledge on IPV in Puttalam District

Methods: A descriptive cross-sectional study was conducted in Puttalam district. All the eligible field PHMs (n=178) were included in the study. Preparedness, knowledge, and perception among PHMs to identify and support IPV victims were assessed using a pre-tested questionnaire developed using several validated questionnaires. Associated factors were assessed using independent sample t-test and ANOVA.

Results: Mean scores for perceived preparedness was 68.0 (SD=12.0) and perceived knowledge 75.9 (SD=11.3) out of 100. Training on IPV ($p<0.001$) and field experience ($p=0.01$) showed a significant association with the preparedness and perceived knowledge.

Only 8.1% of PHMs believed asking about IPV is an invasion of privacy, 21% of PHMs believed that sometimes violence is acceptable and 21.8% believed some women benefit with violence. More than 50% saw disobedience as a major cause for violence.

Conclusions and recommendations: Some gaps were identified in knowledge and perception towards IPV. Necessary steps should be taken to address the gaps in knowledge and negative perceptions on IPV.

Key words: *intimate partner violence, public health midwife, Sri Lanka*

PPI.3

Patient satisfaction with services of the out-patient department at Panadura Base Hospital, Sri Lanka

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Background: Patient satisfaction is one of the well-known yardsticks to measure the strength of services being provided in the hospitals. It is an indicator that is crucial to the assessment of the quality of care in hospitals.

Objective: To assess the level of patient satisfaction with the out-patient department (OPD) services at Base Hospital (BH), Panadura

Methods: A cross-sectional descriptive study was conducted. The sample of 422 patients was selected using a systematic sampling method, who sought medical care in January 2017 at the OPD in BH, Panadura. Data were collected using self-administered questionnaire on the personal characteristics of patients and their satisfaction with OPD services under five domains: physical facilities, registration, consultation, pharmacy and accessibility of services. Satisfaction was assessed based on a pre-determined scoring system. Patients were dichotomized into two groups: 'satisfied' and 'less-satisfied' with the OPD services, and were compared by selected socio-demographic factors using chi-squared test.

Results: Response rate was 85% (n=359). The majority consisted of females (n=261, 72.7%). Patient satisfaction varied according to the service domain: physical facilities (n=214, 59.6%), registration (n=138, 38.4%), consultation (n=175, 48.7%), pharmacy services (n=198, 55.1%) and accessibility of service (n=118, 32.9%). Further, only smaller proportions of patients were satisfied with the adequacy (n=119, 33.1%) and comfort (n=160, 44.6%) of seating facilities; adequacy (n=130, 36.2%) and cleanliness (n=109, 30.4%) of toilets; waiting time at the dispensary (n=65, 18.1%) and for consultation (n=120, 33.4%), and examination done by doctor (n=131, 36.5%). Females were significantly less-satisfied with the overall OPD services compared to males (25% versus 18.4%; $p=0.04$). No such relationship was seen in relation to age ($p=0.28$) and level of education ($p=0.31$).

Conclusions and recommendation: Patient satisfaction was more on the staff but less with the service they received. Improving toilet facilities, seating facilities and waiting time in the consultation and pharmacy area are the main recommendations.

Key words: *patient satisfaction, hospital service, quality of care*

PP I.4

Association between perceived service quality and patient satisfaction among the women attending government antenatal clinics in Gampaha District, Sri Lanka

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Background: Service sector is very important because of the growing competition between private and government sectors. When a health sector personal serve its customers well enough and make them happy which will help to create long-term customer relationships and possibly get free marketing at the same time when satisfied customers tell about the good service they received.

Objective: To assess the association between perceived service quality and patient satisfaction among women attending government field antenatal clinics in the district of Gampaha

Methodology: A descriptive cross-sectional study was carried out in Gampaha District. A sample of 483 pregnant women was selected using cluster sampling technique. An interviewer-administered pre-tested questionnaire was used to collect data during the study period. Perceived service quality was based on the modified version of SERVQUAL as proposed by Parasuraman et al. which involved five dimensions of service quality. Customer satisfaction was measured by a seven-item Likert scale. Data were analysed using SPSS version 17 package.

Results: The response rate was 93.40%. Participants' age ranged from 17 to 42 years, while the mean age was 28 years (SD=5.38). Over 90% of the participants believed that they perceived best quality antenatal clinic service from the government health sector. Ninety-eight percent of them were satisfied with field antenatal clinic service. There was a significant association between the service quality and patient satisfaction. There was no significant association between patient satisfaction and ethnicity, age, religion or educational level. When considering the five factors in quality service, tangible, reliability, assurance, empathy and responsiveness had good quality, but

empathy and responsiveness needed to be further improved.

Conclusion and recommendations: This research identified a significant association between service quality and patient satisfaction among antenatal mothers. Further studies on government service quality need to be carried out and the knowledge gained can be utilized for the improvement of the community. Special attention should be given to empathy and responsiveness in government health sector.

Key words: *perceived service quality, satisfaction, health sector, antenatal mothers*

PP I.5

Effectiveness of participatory based training on promotion of sexual health for training instructors in island wide youth corps

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Background: Youth consist of one sixth of the total population in Sri Lanka. An increasing trend in the detection of new HIV infection in the age group 15 - 24 years has been noted during the past few years. National HIV/AIDS council has formed a sub-committee to initiate preventive strategies to avoid HIV among youth. One strategy is to empower youth attached to island wide youth corps. Majority of the youth entering youth corps are school drop-outs and they get career guidance and vocational training for six months.

Objective: To assess the effectiveness of participatory based sexual health promotion training for youth trainers in island wide youth corps

Methods: Main approach was to empower training instructors to promote sexual health among youth with special emphasis on HIV prevention. On three days, comprehensive participatory based life skill development on sexual health promotion programmes were

conducted among trainers in five separate programmes during 2015/2016 period. Training consisted of sexuality, sexual challenges, prevention of HIV and sexually transmitted infections (STI), family planning and life skill development modules. Small group discussions, group activities and role plays were used for training. Opportunities were given to share experiences and positive ideas from key affected populations. Knowledge and attitudes on HIV and STI were assessed at baseline and following intervention using self-administered questionnaires.

Results: A total of 180 youth corps participated in the training. Knowledge on HIV was improved from 39.1% to 86.7% ($p < 0.01$) while knowledge on STI was improved from 36.6% to 72.8% ($p < 0.01$). Favourable attitudes towards HIV infection was increased from 48.4% to 75% ($p < 0.01$), while favourable attitudes towards key population groups increased from 26.6% to 64% ($p < 0.01$).

Conclusions and recommendations: Participatory based sexual health training for youth corps officers was effective to improve knowledge and attitudes towards HIV and STI. Conducting similar trainings for the rest of training instructors in future is recommended.

Key words: *effectiveness, participatory based training, sexual health, youth corps*

PPI.6

Management of electronic and electrical waste: knowledge, attitudes and its correlates among Grade 10 students in Nivithigala Medical Officer of Health area, Sri Lanka

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Introduction: Waste generation has increased in par with the development creating complex issues. It has become more complicated with the emergence of electronic and electrical waste (e-waste) due to the rapid rate of generation and hazardous health impacts

due to its unsound management. Community participation is essential for sound management of e-waste and it should start at the household level.

Objective: To describe the knowledge and attitudes on e-waste, its management and correlates among Grade 10 students in the Medical Officer of Health (MOH) area, Nivithigala

Methods: A cross-sectional study was conducted among all 570 Grade 10 students from 19 schools in Nivithigala MOH area without sampling, using a pre-tested, self-administered questionnaire. The analysis was done descriptively and associations were assessed using the chi-squared test.

Results: Response rate was 95.9% ($n=547$). Among 73.1% who claimed they knew, only 56.5% were able to select the correct definition of e-waste. However, 91.6% ($n=501$) knew that e-waste is hazardous and 79.7% ($n=435$) knew about the safe disposal methods. Among them, 65.5% had positive attitudes to promote safe practices among the family. In contrast, 69.5% ($n=380$) stated the need of changing equipment to be on par with the latest technologies. Knowledge was satisfactory among 55.6% ($n=304$) and 45.5% ($n=249$) had satisfactory attitudes on e-waste and its management. Satisfactory attitudes on e-waste and its management were associated with the satisfactory knowledge ($\chi^2=27.9$; $p < 0.001$).

Conclusions and recommendations: A supportive environment should be created to improve the knowledge and attitudes in students while encouraging active participation in e-waste management in the households.

Key words: *e-waste, knowledge, attitudes*

PPI.7

Preparedness of nursing officers in Colombo South Teaching Hospital and National Hospital of Sri Lanka for a potential influenza pandemic

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Background: Influenza pandemics are unpredictable and adverse impact would result if not properly prepared. Nursing officers as frontline health care workers are expected to play a key role in the prevention and control of the disease while they themselves carry a risk of contracting.

Objective: To determine preparedness and associated factors with pandemic influenza (PI) among nursing officers at National Hospital Sri Lanka (NHSL) and Colombo South Teaching Hospital (CSTH)

Methods: A hospital-based descriptive cross-sectional study using multi-stage stratified systematic sampling was done in CSTH and NHSL among 422 nursing officers. Pre-tested self-administered questionnaire was used to assess the preparedness for pandemic, readiness to use preventive measures in a pandemic and knowledge of pandemic influenza.

Results: Of the total (392), 98% were females and 65.1% were aged less than 40 years. Knowledge on PI was good in 48% (n=186). Majority (86%) were ready to comply with recommended preventive measures. This was significantly associated with knowledge on pandemic influenza ($p=0.03$). Nearly 62% (n=242) expressed inadequate preventive measure trainings received. Over 87% (n=342) were willing to care for patients during PI but only 74% (n=291) expressed that they were personally prepared to respond to PI while nine percent (n=37) expressed high perceived risk of the disease contraction. Perceived preparedness was associated with knowledge on PI (OR=1.62; 95% CI=1.02, 2.57), training on pandemic preparedness (OR=4.56; 95% CI=2.12, 9.81) and risk perception (OR=0.13; 95% CI=0.06, 0.27). Willingness to report to duty was satisfactory (79%) in PI situations.

Conclusion and recommendations: Nursing officers in CSTH and NHSL are ready to comply with the recommended preventive measures and prepared to respond to an influenza pandemic. However, periodic in-service trainings on infection control and more specific training on influenza preparedness is a need. Knowledge and skills gained in training would change attitudes on risk perception to face a PI situation.

Key words: *knowledge, preparedness, nursing officers*

PP I.8

Achieving triple zeros: behavioural outcome of volunteer HIV testing among island wide prisoners in Sri Lanka

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Background: Ending AIDS epidemic in 2030 is part of the Sustainable Development Goals (SDG). United Nations Programme on HIV/AIDS (UNAIDS) has formalized 90 - 90 - 90 fast track targets to achieve this milestone. HIV prevalence among the general population is less than 0.01% and less than 1% among key populations in Sri Lanka. HIV prevention within prison sector includes advocacy, skill building of welfare officers on sexual health promotion. Trained welfare officers train prison inmates as peer educators (PE) and carry out formal and informal sessions with inmates to promote HIV testing. Prison inmates volunteer for HIV testing after peer educator discussions. This is the only intervention conducted in prison sector to promote HIV testing.

Objective: To assess the behaviour outcome of volunteer HIV testing using peer educator model among prisoners island wide

Methods: Secondary data were analysed from the quarterly STD Health Returns sent through medical officers of sexually transmitted disease clinics, island wide. A number of HIV tests conducted among prison inmates was collected for five years from 2012 to 2016. Prison inmates who had undergone HIV testing for court orders were excluded as they are not coming through peer educators' motivation.

Results: Number of tests performed each year increased from 5,000 tests in 2012 to 12,770 tests in 2016, due to the popularity of HIV tests among prison inmates after initiation of peer educator intervention. The HIV testing coverage was increased from 26% in 2012 to 67% in 2017. A confirmed number of HIV

test positives per year ranged from 2 to 4 cases for the 5 year period. HIV test positive rate among prison inmates from 2012 to 2016 shows a gradual decline of 0.04%, 0.036%, 0.03%, 0.026% and 0.016%, respectively.

Conclusions and recommendations: Peer inmate

leadership was effective in volunteer HIV testing among island wide prisoners in Sri Lanka. It is recommended to expand the coverage of this intervention to achieve SDG targets.

Key words: *behavioural outcome, HIV testing, prisoners, triple zero*

Section J: Miscellaneous

PP J.1

Ground level coordinators' knowledge and practices on camp management during disaster situations in Sri Lanka

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Background: Camp management during disaster situations needs multi-disciplinary team approach. In Sri Lanka, Grama Niladhari (GN) officer is the grass root level government official who bears the responsibility of coordination of the stakeholders at ground level.

Objective: To assess the knowledge and practices regarding camp management in disaster situations among GN officers in the district of Kalutara

Methods: A descriptive cross-sectional study was conducted in Kalutara District among 418 GN officers in six divisional secretariat areas who had working experience of more than six months. Data were collected using a self-administered questionnaire. The total score was categorized into "Good" and "Poor" taking 25th percentile value as the cut off. Chi-squared test was performed to compare variables.

Results: Response rate was 97.12%, and the sample consisted of more females (58.6%) than males (1.6%). Among the participants, 84% had not received any training on camp management. Only 30.5% had been engaged in camp management during their working years and 57.6% were not familiar with computer based reporting formats. More than 35% of GN officers had poor overall knowledge on camp management and more than 25% of the GN officers had poor practices in camp management. Knowledge on camp management had statistically significant positive association with years of working ($p=0.001$), whereas sex ($p=0.002$), level of education ($p<0.001$), grade ($p=0.001$) and involvement in camp management ($p=0.013$) had a significant positive relationship with good practices.

Conclusions and recommendations: The level of knowledge and practices on camp management in disaster situations was poor among the GN officers. Inclusion of experienced GN officers to share their knowledge with the younger generation will be beneficial to reduce pitfalls in camp management during disaster situations.

Key words: camp management, grama niladhari, disaster

PP J.2

Level of adherence of labels of carbonated beverages to Sri Lankan Food Regulations 2016

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Background: Food Act is the main legal enactment regulating food safety in Sri Lanka. It is a mandatory legal requirement under Food (colour coding for sugar levels) Regulations 2016, that all carbonated drinks display the sugar level through specified colour coding.

Objective: To assess the level of adherence of labels of carbonated drinks to Food (colour coding for sugar levels) Regulations 2016

Methods: A descriptive cross-sectional study was conducted in the district of Kalutara. Study unit was the label of a carbonated beverage. Energy drinks were excluded. Of the total 78 public health inspector (PHI) areas in the district, 30 areas were selected randomly by single stage cluster sampling technique. Pre-tested and validated checklist based on 'Food (colour coding for sugar level) Regulations 2016' was used to assess the level of adherence. Carbonated drinks displayed for sale in food establishments in the selected areas were assessed.

Results: There were 17 brand names and 98 types of labels. Only 28.6% ($n=28$) of labels totally complied

with the legal provisions. Of the labels, 11.2% (n=11) did not have colour coding. Colour code, sugar content and relative sugar levels were presented in 88.8% (n=87). Of these 87 labels with a colour code, the inner circle was less than 1cm (11.5%, n=10), font size of sugar content was less than 1.5mm (5.7%, n=5) and the font size indicating relative sugar level was not correctly adhered in all three languages in 67.8% (n=59). All these were a violation of the provisions. The colour was correct in all colour codes (87, 100%). Relative sugar levels, when present were indicated in all three languages (87, 100%).

Conclusions and recommendations: The adherence to this important regulation providing the consumer information on sugar levels is unsatisfactory. It is recommended that close monitoring and prosecutions be done by authorized officers for violations.

Key words: *Food Act, labelling regulations, colour code*

PP J.3

Pre hospital trauma care: knowledge, attitudes and practices among army soldiers in the district of Matara, Sri Lanka

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Background: Injury is one of the leading causes of hospitalization in Sri Lanka. Pre-hospital trauma care is critical in reducing morbidity and mortality following injury. Army soldiers are one of the first responder categories after a major disaster.

Objective: To describe knowledge, attitudes and practices on pre-hospital trauma care among army soldiers in the district of Matara

Methods: A descriptive cross-sectional study was carried using a self-administered questionnaire among (n=266) all army soldiers attached to the army camp

at Matara. Cross tabulations were done to identify the possible associations using chi-squared statistics.

Results: The overall level of knowledge on pre hospital trauma care was poor (78.6%, n=209) while knowledge on golden hour of trauma (22.9%, n=61) triage system (25.6%, n=68), cardio pulmonary resuscitation (7.5%, n=20) and transportation of patients with spinal cord injury (30.8%, n=82) was markedly poor. Good knowledge was significantly associated with advanced age (p=0.001), higher income (p=0.001) and higher level of education (p=0.001). More than 80% of them had positive attitudes on most aspects of pre hospital trauma. Poor level of practice was observed among 62.8% (n=167). They lack practice on first-aid (36.1%, n=96), cardiopulmonary resuscitation (22.6%, n=60) and safe transportation of the patients. Good practice was significantly associated with advance age (p=0.001) and higher level of education (p=0.001).

Conclusions and recommendations: A higher proportion of army soldiers had poor knowledge and practice on pre hospital trauma care while majority had positive attitudes. A training session on pre hospital trauma care in the basic military curriculum could be included to enhance the ability to act as first responders effectively. The level of knowledge, attitudes and practices of first responders should be considered while preparing the guidelines on pre hospital trauma care.

Key words: *disasters, pre hospital trauma care, first responders, army soldiers*

PP J.4

Development of a standard operating procedure to formalize prison inmate peer led sexual health promotion programme in the prison setup in Sri Lanka

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Background: Prison inmates belong to one of the key populations with a higher risk of HIV due to their unprotected homo-sexual activities. Inmate peer leader driven sexual health promotion is one of the preventive strategies in prison sector since 2010. Rehabilitation officers provide participatory based training for inmates as peer leaders on a quarterly basis. There were variations in training, quality, and miscommunication during the implementation of this procedure within prisons. Shortcomings were detected in data management, reporting, and recordkeeping. A standard operating procedure (SOP) is a set of written instructions that document a routine or repetitive activity followed by an organization.

Objective: To develop an SOP to formalize peer leader educator model to strengthen sexual health promotion programme among prison inmates

Methods: Five consultative workshops were carried out to identify strengths and challenges of the existing programme from all relevant stakeholders including programme managers from prison and health sector, rehabilitation officers, and prison inmates. Approximately 10-12 participants were selected for each workshop. Purposive sampling was used based on the personnel involved in the training during last one year period. A semi-structured guide was used to facilitate the discussions.

Results: An SOP was developed by a multidisciplinary team with multi-tasked processes. It consisted of four main components: management and organization, training procedures, training system quality procedures and supplements. A detailed account was given of the training concept, training aids, procedure and record keeping. An audit of training, course evaluation sheet, and annual reviews were added to streamline the process. The SOP was reviewed and approved by the steering committee of the prison sector HIV prevention programme which consisted of members from both health and prison departments.

Conclusions and recommendations: SOP is developed to maintain the quality of the peer led sexual health promotion interventions at prison setup for future training. It is recommended to conduct a post-implementation evaluation and update the document accordingly.

Key words: *standard operating procedure, sexual health promotion, prison inmate*

PP J.5

Recognition of depression and associated factors among engineering undergraduates of the University of Peradeniya

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Background: Depression accounts for second highest global burden of the disease. The knowledge and beliefs on recognition of depression decide timely utilization treatment facilities.

Objective: To assess knowledge and beliefs on recognition of the depression and associated factors among the engineering undergraduates at the University of Peradeniya

Method: A descriptive cross-sectional study was conducted among 1631 undergraduates of the Faculty of Engineering, University of Peradeniya in 2016 using a self-administered vignette-based questionnaire consisting of their knowledge and beliefs on recognition of the depression and associated factors. Entering and analysis of data was conducted using SPSS-20. Percentage scores for knowledge and beliefs were presented with median and inter quartile range (IQR). Associated factors were assessed using odd ratios (OR) with 95% confidence intervals (CI).

Results: The median percentage score for knowledge and beliefs of recognition of the depression were 29.4 (IQR: 5.9-51.0) and 29.4 (IQR: 7.8-54.9). Associated factors for knowledge were: females to males (OR=1.64; 95% CI: 1.31, 2.06), Sinhalese to non-Sinhalese (OR=4.21; 95% CI: 2.87, 6.16) and Buddhists to non-Buddhists (OR=4.49; 95% CI: 3.01, 6.68). Associated factors for beliefs were: females to males (OR=1.75; 95% CI: 1.39, 2.2), Sinhalese to non-Sinhalese (OR=3.88; 95% CI: 2.63, 5.71), Buddhists compared non-Buddhists (OR=4.16; 95% CI: 2.78, 6.23).

Conclusions: Study shows the inadequacy of knowledge and beliefs on recognition of the depression among engineering undergraduates of the University of Peradeniya. Study recommends inclusion of a module on detection of depression for their curriculum.

Key words: *depression, recognition, depression literacy*

PP J.6

Prevalence of emotional and behavioural problems among school going late adolescents in Mawanella Medical Officer of Health area, Sri Lanka

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Background: Emotional and behavioural problems (EBP) have been a global concern among late adolescents leading to adverse physical and psychological consequences in later life.

Objective: To assess the prevalence of EBP among school-going late adolescents in Mawanella Medical Officer of Health area.

Methods: This cross-sectional study was conducted among 311 school going late adolescents in eight government schools, selected using a two-stage cluster sampling method proportionate to the size of the student population. A self-reported Sinhala validated version of Strengths and Difficulties Questionnaire (SDQ) was used to detect the problematic students with EBP. SDQ contains five subscales namely; emotional symptoms, conduct problems, hyperactivity, intention and peer relationship problems. Students were categorized into normal, borderline and abnormal based on the cut-off values suggested for Sri Lanka, according to the subscale scores of SDQ.

Results: The study revealed that 5.5% (n=17) of the adolescents have EBP and 18.6% (n=57) have borderline symptoms. There were 10.7% (n=33) and

15% (n=46) in problematic and borderline categories of hyperactive subscale respectively, while 8.5% (n=26) and 25.1% (n=77) were in same categories respectively in the peer problems scale. There were 12.1% (n=37) and 7.8% (n=24) adolescents in problematic and borderline categories of the conduct subscale. The mean total difficult score of SDQ was 13.22 (SD=3.51). Statistically significant differences were found between mean total scores among males and females ($p<0.001$) while all subscale values were higher among males compared to females. Perception of the income for the family was a statistically significant factor which is associated with the EBP ($p<0.001$).

Conclusions and recommendations: Emotional and behavioural problems among adolescence of this age group should be considered as a major health concern.

Key words: *adolescents, emotional and behavioural problems*

PP J.7

Sports competition related anxiety, its associated factors and coping strategies used among school athletes in Colombo education zone, Sri Lanka

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Background: Sports competition related anxiety is a major psychological issue seen among athletes purely due to the competitive nature of sports. School athletes are more at risk as they have to manage not only sports but also their academic aspects.

Objective: To estimate the prevalence of sports competition related anxiety, its associated factors and coping strategies used among school athletes in the Colombo education zone

Methods: A school-based cross-sectional study was conducted among 330 athletes in Type I AB government schools of Colombo education zone.

Sampling of athletes was done in two stages using simple random sampling method. Data were obtained using a self-administered questionnaire including Sport Competition Anxiety Test for adults (SCAT-A) with the cut-off value of 24 to assess high level of sports competition related anxiety.

Results: Majority of the sample were males (54.8%, n=181) with the response rate of 96.5% (n=330). Mean age was 16.2 (SD=1.6) years. Prevalence of high sports competition related anxiety among athletes was 19.4% (n=64). Sports done at individual level, fear of failure, poor support received from others (coach, friends and parents), experience of past defeat and fear of negative social evaluation were significantly associated ($p<0.05$) with high level of sports competition related anxiety. A wide variety of positive and negative coping strategies were used by athletes and the majority failed to get good sleep (54.3%, n=179). Only a few (9.7%, n=32) received some kind of psychological assistance related to their sport while the majority (79.4%, n=260) had the idea that psychological help is for weak people.

Conclusions and recommendations: About one fifth of school athletes showed high level of sport competition related anxiety due to several reasons. Early screening of such vulnerable school athletes, incorporation of psychological element into every physical training session and establishment of accessible facilities for psychological help are recommended.

Key words: *school athletes, competition anxiety, coping*

PP J.8

Knowledge and attitudes of pregnant women on selected reproductive health issues in Horana Medical Officer of Health area, Sri Lanka

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Background: Better knowledge and attitudes of mothers in relation to related reproductive health issues are the main contributing factors for the well-being of mothers as well as children.

Objective: To assess the knowledge and attitudes of pregnant women on normal and complicated pregnancies, breast feeding, childcare, family planning, abortions and sexually transmitted infections in Medical Officer of Health area, Horana.

Methods: A descriptive cross-sectional study was conducted among 384 pregnant women selected at the booking visit at field antenatal clinics. Data were collected by trained public health nursing sisters using an interviewer-administered questionnaire.

Results: The level of knowledge was low in majority (71.3%) of pregnant mothers on normal pregnancy, in complications during pregnancy (79.9%), on abortions (84.4%) and HIV/AIDS (71.6%), while excellent knowledge could be observed for breast feeding (42.9%), infant and childcare (75.5%) and family planning (67.9%). The level of overall knowledge was low in 68.2%, average in 23.2% and excellent in 8.59% of participants. Significant positive association was seen between the level of knowledge and educational level above GCE (O/Level) [$\chi^2=60.3$; $p<0.001$] and between the age being above 26 years ($\chi^2=10.23$; $p<0.001$). Considered attitudes, 24.7% had unfavourable attitudes on the tested statements while only 25.3% had favourable attitudes. Significant positive association seen between the level of attitudes and educational level above GCE (O/Level) [$\chi^2=36.86$; $p<0.001$] and between the age being above 26 years ($\chi^2 = 6.28$; $p<0.05$). Simultaneously, a significant association between level of knowledge and level of attitudes was also observed ($\chi^2=40.92$; $p<0.001$).

Conclusions and recommendations: Observed poor knowledge and attitudes needed to be addressed to improve the outcome of pregnancies as well as the quality of life of mothers and children.

Key words: *knowledge, attitudes, reproductive health, pregnant mothers*

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- Cover story
- Leading articles
- Original Research articles
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Manuscripts should be prepared using the specifications given below: File format: MS Word; Paper size: A4 (11" x 8.5"); Paper margins: Left hand – 1.5"; right hand, top and bottom – 1"; Font style: Calibri; Font size: 11 point; Spacing: double; All pages should be numbered in sequence; Line numbering should be included.

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The manuscript should be organised with sections in the following sequence.

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The title page should show the main title, running title and the list of authors in the order in which it should appear in the published article. Full name, the institutional affiliation and email address of each author should be given. The corresponding author should be indicated. Number of words in the abstract and in the article (excluding author declarations, references, figures and legends, tables), and the number of tables and figures should be indicated.

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The abstract should not exceed 300 words.

The abstract should be structured under the following sub-sections: Background and Objectives: statement of the problem and the purpose of the study; Methods: how the study was performed and statistical tests used; Results: the main findings; Conclusions: brief summary and potential implications; and 3-6 Key words.

Introduction

This section should explain the background of the study, based on existing literature on the current status of the problem, gaps in current knowledge, and why this study was necessary or its contribution to the field. Objectives should be clearly stated at the end of the introduction.

Methods

This section should include: Design and setting of the study; Characteristics of the study participants (inclusion and exclusion criteria) or description of the material used; Sample size calculation giving the relevant assumptions, including a power calculation if appropriate; Details of the sampling method used; A clear description of the study instruments and wherever relevant, validity of the instruments used and definitions of the variables; Data collection procedure used (In trials, all processes and interventions, and outcomes assessed); and Brief summary of the statistical analysis including the statistical tests used.

Results

This section should summarise the salient findings of the study, including the statistical interpretation of the findings. All values (variable values, percentages, p value and other statistical figures) should be limited to two decimal points.

Discussion

This section should compare the findings with previous research studies, discuss the implications of the findings in the context of existing knowledge and highlight the strengths and limitations of the study.

Conclusions and Recommendations

This section should state clearly the main conclusions and provide an explanation of the importance and relevance of the study reported.

Public health implications of the study (placed within a text box)

This section should provide a short description in point-form regarding the public health implications of the research findings or the subject/s discussed. The word limit is 75 words.

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