POSTER Presentations

Session I: **Mental Health, Maternal and Child Health and Non-Communicable Diseases**

PP I.1

Validation of an instrument to assess burnout among correctional and rehabilitation officers working in Sri Lankan Prisons

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Background: Sri Lankan prison officers undergo heavy stress during their work leading to burnout, and this needs to be identified, but has so far been unattended. A validated tool is found necessary to assess their burnout.

Objective: To validate an instrument to assess burnout among correctional and rehabilitation officers working in Sri Lankan Prisons

Methods: The Sinhala-translated Maslach Burnout Inventory – Human Services Survey (MBI-HSS) was validated in early 2017, in a descriptive cross-sectional validation study, using a sample of 267 prison correctional and rehabilitation officers working in the Colombo New Magazine and Colombo Remand prisons, selected through probability-proportionate-to sample size and random sampling methods. Judgmental validity was assessed by a multi-disciplinary panel of five experts. Construct validity was assessed through confirmatory factor analysis using LISREL 9.3 software. The diagnosis of job-related neurasthenia by a psychiatric expert was used as the gold standard in assessing the criterion validity. Reliability was assessed using internal consistency and test-retest methods.

Results: The expert panel found all items in the tool to be having adequate consensual validity. In the factor analysis, three-factor model with items 6, 13, 16 and 22 deleted was found to be the model best fitting the data, achieving the best goodness of fit parameters (RMSEA=0.075; χ^2=185.2; p=0.002; χ^2/df=1.4; CFI=0.97; NNFI=0.97; GFI=0.98; SRMR=0.06). All factor loadings were equal or greater than 0.4 for the particular factor concerned. Clinical burnout was seen in 32.58% of the sample. Cut-off values obtained through receiver operating characteristics (ROC) curves for burnout and its three sub-scales of emotional exhaustion, depersonalization and diminished personal accomplishment were 36.5, 14.5, 5.5 and 16.5, respectively. At these cut-off values, the sensitivities and specificities for the above components were 94.3% & 87.8%; 82.8% & 80.6%; 72.4% & 73.9%; and 77% & 77.2%, respectively. Cronbach alpha values and correlation coefficients for test-retest reliability for all components were above 0.7.

Conclusions & Recommendations: The translated MBI-HSS was found to be a valid and a reliable tool to assess burnout among prison officers in Sri Lanka. Using this tool during annual medical examinations of prison officers is recommended.

Key words: *burnout, prison officers, Sri Lanka, Maslach Burnout Inventory – Human Services Survey*

PP I.2

The knowledge and attitude of public health midwives in NIHS area on infant nutrition in disasters, Sri Lanka

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Background: In a disaster, food and nutrition is a major concern especially in the most vulnerable groups like new-born and children below five years. They are at a higher risk than other populations and the presence of an experienced health worker with good knowledge and attitude on how to handle their special needs at times of crisis is essential to be prepared for disasters.

Objectives: To assess the knowledge, attitude and associated factors of public health midwives (PHM) on infant feeding during disasters

Methods: A descriptive cross-sectional study was done among all PHMs at the National Institute of Health Sciences (NIHS) area, Kalutara (N=78) to collect data by a self-administered questionnaire. They were surveyed on their demographic data, experience, knowledge and attitudes on infant nutrition during disasters. Data were statistically analysed.

Results: The study results revealed that 66.7% (n=52) of the PHMs in NIHS area were having good knowledge on infant feeding during disasters. The attitude was good in 60.3% (n=47) of the population. There was no significant association (p>0.05) between the age, field experience and MOH area with the knowledge and attitude, which reflects the need for knowledge and attitudinal changes on disasters.

The knowledge on complementary feeding was satisfactory (n=72, 91.7%) while their knowledge in breast feeding was lacking (n=55, 70.2%). 91% (n=71) had identified disaster prone areas in their relevant fields. The attitude on artificial feeding was satisfactory (n=68, 87.2%) and believed that they need extra support for breast feeding during disasters (n=65, 83.3%).

Conclusions & Recommendations: There is a clear need for improvement of the knowledge and attitudinal change of the PHMs by conducting regular training and awareness on disaster management. They should be adequately exposed to camp management and disaster preparedness drills regularly. Further, disaster management should be incorporated into the basic PHM training to build preliminary knowledge and attitudinal change.

Key words: *disaster, infant feeding, breast feeding, nutrition*

PP I.3

Future fertility intentions and associated factors among women in the reproductive age group in Negombo Medical Officer of Health area, Sri Lanka

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Background: There is limited research on future fertility intention in Sri Lanka. Exploring the factors related to fertility desire is important in order to take action to promote health of families.

Objective: To describe future fertility intentions and associated factors among women in the reproductive age group in Negombo Medical Officer of Health area

Methods: A community-based cross-sectional study was conducted among currently co-habiting females aged 15-49 years, excluding pregnant, menopaused and sterilized women and partners of sterilized males. Cluster sampling was performed with a sample size of 520. Data were collected by interviewer-administered questionnaires. Descriptive statistics were used for describing the data and Chi-squared test was used to make comparisons.

Results: Response rate was 94.6% and mean age was 30.9 (SD=6.4) years. About 55% (n=271) had positive intentions and among them, 62.4% (n=169) wanted one child while 64.6% (n=175) wanted a child after two years. Age less than 30 years (p<0.001), Muslim ethnicity (p=0.001), Islamic religion (p=0.002), duration of co-habitation of five or more years (p<0.001), good marital relationship (p=0.001), number of living children ≤ two (p<0.001), satis-

factory family support (p<0.001), positive social influence (p<0.001), parity ≤ 1 (p<0.001) and meeting the public health midwife during last three months (p<0.001) were significantly associated with positive intention. Catholic/Christian religion (p=0.01), monthly family income Rs. ≤50,000 (p=0.03), being in a nuclear family (p=0.001), currently having children in both sexes (p<0.001), live birth being the last pregnancy outcome (p<0.001), ever undergoing a normal vaginal delivery (p<0.001) and discussing with public health midwife (p<0.001) were associated with negative intention.

Conclusions & Recommendations: Factors associated with fertility intention can be modified with various public health policy level decisions. Well-designed interventions are needed for families to attain their fertility goals.

Key words: *future fertility intentions, reproductive age group, women*

PP I.4

Knowledge and practices on weight reduction and association with body mass index of a cohort of obese and overweight clinic patients in Sri Lanka

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Background: Obesity epidemic is a public health crisis affecting developed and developing countries. Morbidity and mortality from non-communicable diseases with obesity as a risk factor is high in Sri Lanka. Knowledge about risk factors for obesity and practices on weight reduction is important in addressing this problem.

Objective: To describe the knowledge and practices on weight reduction and association with body mass index (BMI) of obese and overweight patients attending a clinic at Colombo South Teaching Hospital (CSTH), Kalubowila

Methods: All patients 18 years and above attending the visiting physician or out-patient department clinic of CSTH were invited for a cohort study by pre-intern medical officers. Height and weight were measured and if the BMI was $25kgm^{-2}$ or above, proper voluntary informed written consent was taken. Calculated sample size was 335 and with an additional 40% for attrition yielded 469. Questionnaires were completed and followed-up monthly for 6 months. T test was used to assess significance of relationships.

Results: Of the 469 recruited, 301 (64.2%) were followed-up for 6 months (power 0.69). Majority were females (91.4%) and 19 (6.3%) were younger than 40 years of age. Mean age was 52.1 years (SD=8.6). Majority had satisfactory to good knowledge. Two-thirds (67.8%) knew that they should reduce main meals to reduce weight but only 153 (50.8%) practised it. A total of 183 (60.8%) had reduced their weight by six months. Mean weight change was a reduction of 0.93kg (SD=3.0). Majority (n=251, 83.4%) had tried weight reduction. Methods were diet control by 119 (39.5% out of 301), exercise only by 31 (10.3%) and both diet control and exercise by 101 (33.6%). Of those who tried weight reduction, only 183 (72.9%) were still following weight reduction at six months. Those currently practising weight reduction (n=169) had a mean BMI reduction of 0.48 (SD=1.4) while those not (n=14) had a mean increase of 0.5 (SD=0.9) (p=0.02).

Conclusions & Recommendations: Significant weight reduction of obese patients can be achieved by continuous motivation during clinic visits.

Key words: *obesity, non-communicable diseases, weight reduction, BMI*

Session J: **Health Systems**

PP J.1

Improving the quality of coding of final diagnosis in medical records by medical record officers: an educational intervention in Sri Lanka

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Background: Incorrect coding of final diagnoses in medical records (MR) is a significant factor influencing the quality of hospital statistics. Impact of the quality of coding of final diagnoses on hospital statistics has not been assessed in Jaffna District.

Objective: To design, implement and assess the effectiveness of an educational intervention to improve the quality of coding of final diagnosis in medical records

Methods: A quasi-experimental study with pre-post design assessed the effectiveness of the intervention. An educational intervention to improve the knowledge, skills and thereby the quality of coding of final diagnosis was delivered to medical record officers (MRO) attached to selected hospitals in Jaffna District who served as the study group while MRO attached to selected hospitals in Vavuniya District were the control group. Effectiveness was the proportion of MR without coding errors, determined by a tool modified and validated for the Sri Lankan setting. Pre- and post-assessments were on samples of 400 medical records selected using systematic random sampling method from study and control group hospitals.

Results: At the pre-intervention stage, the overall quality of coding was good in only 20.9% (n=74) medical records in Jaffna while the corresponding proportion in Vavuniya was similar (n=75, 21.6%) (p=0.8). Quality of coding of different aspects according to Modified Australian Coding Benchmark Audit tool (Mod-ACBA), namely 'major' and 'minor' error categories of the study and control groups also were similar (p>0.05) at the pre-intervention stage. The study group showed a significant improvement of the quality of coding of final diagnosis in the post-assessment (pre-assessment 20.9%; post-assessment 91.4%; p<0.001), whereas the control group did not (pre-assessment 21.6%; post assessment 25.1%; p>0.05). Quality of coding of different aspects also showed significant improvements (p<0.05) in the study group, whereas the control group did not (p>0.05).

Conclusions & Recommendations: The educational intervention to improve the quality of coding diagnoses by MRO of Jaffna district was found to be effective, and the study recommends that the intervention be implemented in remaining hospitals to improve coding quality.

Key words: *final diagnosis, quality of coding, medical records*

PP J.2

Utilization of microscopic centres, and knowledge, attitudes and practices among medical officers on screening for tuberculosis in selected hospitals in Kalutara District, Sri Lanka

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Background: In Sri Lanka 6000 new cases of tuberculosis (TB) are reported annually. Under-utilization of microscopic centres, poor contact tracing

and inadequate detection of new cases have been identified as major weaknesses in the TB control program in Sri Lanka.

Objective: To assess the extent of utilization of microscopic centres, and knowledge, attitudes and practices among medical officers (MO) on screening for TB in selected hospitals in Kalutara District

Methods: A descriptive cross-sectional study, carried out in microscopic centres in six hospitals in Kalutara District. Referral data on patients (n=1522) were extracted from TB laboratory registers using a checklist. Satisfactorily utilization defined as more than 3 referrals per 1000 out-patient department (OPD)/inward attendees. Knowledge, attitudes, practices among MOs (n=202) on screening for TB was collected using a pretested, self-administered questionnaire. Practices were assessed using clinical vignettes.

Results: Majority of the microscopic centres were satisfactorily utilized by in-ward; 80% (n=4) under-utilized by OPD; and none were utilized by the neighbouring public/private healthcare institutions. Three consecutive sample submissions of MCs remained below 50%. None of the wards maintained TB suspect register (TBSR) recommended by the National TB Control Programme. Majority of the MOs (n=147, 86.9%) had satisfactory knowledge and favourable attitudes (n=147, 87%) on screening for TB. However, 50.9% (n=90) of MOs had unfavourable attitudes towards referring patients with more than 2 weeks of cough and 39.2% (n=68) on performing chest x-ray on suspected pulmonary TB. Of the MOs, 63.3% (n=107) showed unsatisfactory practices towards screening TB, 60-79% treated pulmonary TB suspects with bronchodilators and antibiotics.

Conclusions & Recommendations: The microscopic centres were under-utilized by OPD and private sector hospitals. TBSR implemented by the national programme was not being practised. Knowledge, attitudes and practices of MOs were satisfactory. Periodic review meetings on TBSR, agreement of establishing TBSR in the private sector before granting license, establishment of microscopic centre cluster laboratory system and in-service training programs for MOs are recommended.

Key words: *microscopic centres, screening of tuberculosis, utilization*

PP J.3

Strengthening notification of communicable diseases at the out-patient department of base hospitals in Jaffna District, Sri Lanka

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Background: Under-reporting of communicable diseases is highlighted as one of the drawbacks in disease surveillance especially in the out-patient department (OPD).

Objective: To strengthen the OPD level notification at two Grade 'A' base hospitals in Jaffna District

Method: An interventional study was conducted in two Grade 'A' base hospitals in Jaffna District. It recruited all medical officers and nursing officers working in the OPD (n=37). Level of notification was assessed using secondary data extraction from OPD patient notification registers and OPD returns. Factors affecting notification were assessed through key informant interviews and focus group discussion with regional/hospital administrators, regional epidemiologist and medical officers of health. Knowledge and attitudes on notification among medical and nursing officers were assessed using a pre-tested, self-administered questionnaire. The intervention comprised training sessions on notification, developing a table-top reminder, procedural arrangements (e.g. help desk to ease initiation) and the progression of notification.

Results: Response rate for both pre- and post-interventional stages was 100%. Pre-intervention found no OPD level notifications. All (n=37, 100%) participants were aware of the legal necessity of notification, but only 43% (n=16) were aware of existing feedback publications from Epidemiology Unit, only 22.5% (n=8) identified a given case

scenario as a notifiable disease. The medical officers had higher knowledge than nursing officers (mean knowledge score of 7.4 versus 7.25) while nursing officers had better attitudes than the medical officers (mean score of 4.1 versus 3.77) on OPD notification. As post-intervention, notifications increased to 15-20%, with a significant increase in the knowledge (mean score from 7.32 to 8.73; p=0.001) and attitude (mean score from 39.2 versus 42.86; p=0.003) among medical and nursing officers. However, identifying a given case scenario as notifiable remained low.

Conclusion: The intervention improved the knowledge and attitudes of both medical and nursing officers on notification and level of notification at OPD. Regular in-service training to staff and developing a regional feedback mechanism for OPD notifications received is recommended.

Key words: *notification, OPD, knowledge and attitudes, doctors, nurses*

PP J.4

Factors associated with delay in hospital admission of pregnant mothers following symptoms which require immediate admission in an obstetric ward of a tertiary care hospital in Sri Lanka

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Background: Pregnant mothers are expected to be admitted without delay when experiencing symptoms which require immediate hospital admission.

Objective: To assess the delay of hospital admission of pregnant mothers following symptoms which require immediate admission and its associated factors in an obstetric ward of Colombo North Teaching Hospital, Sri Lanka

Methods: A descriptive cross-sectional study was done using secondary data of 85 pregnant mothers admitted with symptoms needing immediate admission with convenient sampling. Inclusion criteria included hospital admissions between January and April 2018 at the study setting. Data collection was done by the investigators using a pre-tested data extraction form. Mann Whiney U test and spearman correlation co-efficient were used in analysing the factors associated with the delay of admission.

Results: The median (IQR) of age and period of amenorrhea (POA) of the participants was 28 (24-33) and 38 (37-39), respectively. The reasons for admission included; abdominal pain (n=50, 58.8%), excessive vaginal discharge (n=25, 29.4%), symptoms of pregnancy induced hypertension (n=4, 4.7%) and reduced fetal movements (n=2, 2.4%). The median (IQR) delay of admission was 6 (3.5-24.0) hours. The delay of admission was significantly associated with higher duration of hospital stay (p=0.007). It was not significantly associated with age (r=-0.03; p=0.7), POA (r=0.442; p=0.44), parity (r=-0.07; p=0.55) or distance from the hospital (r=0.11; p=0.31). Out of the participants, 25 (29.4%) were diagnosed to be with fetal distress and 44 (51.8%) had to undergo emergency caesarean section.

Conclusions & Recommendations: Delay in hospital admission when pregnant mothers are experiencing symptoms needing immediate admission occurs irrespective of age, parity, POA or distance from hospital and associated with a higher hospital stay.

Key words: *delay of hospital admission, mothers, obstetrics ward*