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Abstracts of Oral and Poster Presentations

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**29th Annual Academic Sessions of the
College of Community Physicians of Sri Lanka**

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Editorial Office:

Journal of the College of Community Physicians of Sri Lanka
No. 6
'Wijerama House'
Wijerama Mawatha
Colombo 7
Sri Lanka.

Phone: 0094(0)114487139

Fax: 0094(0)114487139

E-mail: editorjccpsl@gmail.com

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ORAL PRESENTATIONS

Health system cost for initial management of newly diagnosed anal and penile squamous cell cancers

Amarasena W.D.J.K.¹, Goonewardena C.S.E.², de Silve A.³, Gamage D.¹

¹Epidemiology Unit, Ministry of Health, Sri Lanka; ²Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka; ³Department of Economics, University of Colombo, Sri Lanka

Background: The Human Papilloma Virus (HPV) infection is known to cause anogenital cancers. Knowing the cost of anogenital cancer management is important to plan future cost-effective HPV preventive strategies for anogenital cancers.

Aims: To determine the health system cost for initial management of newly diagnosed anal and penile squamous cell cancers (SCC)

Methods: A hospital-based cross-sectional study was conducted at Apeksha Hospital, Maharagama. Total direct health system cost was estimated for the initial management of 4 main stages of penile SCC and 2 main stages of anal SCC. The study included costing for the pre-operative clinic care, pre- and post-operative in-patient care, cost for surgical management, post-operative follow-up clinic care and radiotherapy/chemoradiotherapy. Total cost of inpatient wards and the cost of a clinic visit were calculated using the scenario-based approach. Treatment cost for each stage of anal and penile cancer was estimated using protocol costing by interviewing relevant specialists. All costing data was entered into an excel spreadsheet and unit cost calculated for each cost item.

Results: The unit cost of initial management of newly diagnosed penile SCC ranged from USD 121 (Rs. 39,247.27- stage I) to USD 364 (Rs. 117,860.98- stage IV), while cost of newly diagnosed anal SCC ranged from USD 519 (Rs. 168,145.54- stage I) to USD 2167 (Rs. 700,873.80- stage III).

Conclusions: The significant cost differences between early-stage (stage I) and late-stage (stages III/IV) anal and penile SCC underscores the importance of introducing early strategies for diagnosis. It would be valuable to consider economic evaluation of various preventive strategies against anal and penile cancers for policymaking purposes.

Key words: Anogenital cancers, HPV vaccination, Costing

Corresponding author email: jinadarikaushalya@gmail.com

Fatigue and associated factors among female breast cancer survivors attending the National Cancer Institute, Sri Lanka

Goonewardena C.S.E.^{1,2,3}, Manawadu M.C.K.¹, Seneviwickrama K.L.M.D.^{1,2,3}, Senaratna B.C.V.^{1,5}, Wijewickrama G.K.⁴, Manjika M.S.³, Kumarasinghe R.D.K.K.¹

¹Non Communicable Diseases Research Centre, University of Sri Jayewardenepura, Sri Lanka; ²Centre for Cancer Research, University of Sri Jayewardenepura, Sri Lanka; ³Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka; ⁴Ministry of Health, Sri Lanka; ⁵Allergy and Lung Health Unit, Melbourne School of Population and Global Health, The University of Melbourne

Background: Fatigue is one of the most reported symptoms in breast cancer survivors. Insufficient evidence for its associated factors makes its management challenging, thereby affecting the quality of life of an increasing number of breast cancer survivors globally.

Aims: To describe the associated factors for fatigue in female breast cancer survivors in Sri Lanka

Methods: A cross-sectional study was conducted among 420 adult female breast cancer survivors treated at the National Cancer Institute, Sri Lanka, 3-12 months after surgical intervention using validated interviewer-administered questionnaires, including Chalder Fatigue Scale, Pittsburgh Sleep Quality Index, and Depression Anxiety and Stress Scale (DASS)-21. Clinico-pathological information of the female breast cancer survivors was extracted from the clinical records. Data were analysed using SPSS version 25. A score of ≥ 4 suggests severe fatigue. Logistic regression models with adjusted odds ratio (AOR) were used to determine the factors associated with fatigue. Level of significance was taken as $p < 0.05$.

Results: The response rate was 100%. The mean age of the sample was 57.7 years (SD=10.2). The majority (n=332, 79.0%) were severely fatigued. Fatigue was associated with anxiety (AOR=3.5, 95% CI=1.2-10.6, $p < 0.001$), depression (AOR=3.3, 95% CI=1.5-7.3, $p = 0.003$), presence of chronic disease/s (AOR=3.2, 95% CI=1.2-8.5, $p = 0.048$) and pain (AOR=4.3, 95% CI=2.3-8.3, $p < 0.001$), but not with treatment modality, stress or sleep quality.

Conclusions: Fatigue in breast cancer survivors is determined by pain and psychological factors rather than the treatment modality. Strengthening the mental health services to address psychological factors throughout the cancer trajectory, is vital to ensure a better quality of life for breast cancer survivors.

Key words: Breast cancer survivor, Fatigue, Quality of life, Sri Lanka

Corresponding author email: kaweeshak@gmail.com

How do disease-related factors affect the quality-of-life of bronchiectasis patients?

Perera S.¹, Prathapan S.², Pallewatte N.³

¹National Programme for Tuberculosis and Chest Disease, Ministry of Health, Sri Lanka; ²Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka; ³Anti Leprosy Campaign, Ministry of Health, Sri Lanka

Background: Bronchiectasis, a long-term non-fatal respiratory disease affects the quality-of-life (QoL) of patients. Its clinical characteristics and subsequent sequelae lead to poor QoL. Therefore, understanding the disease-related factors that affect the QoL, is important for disease management.

Aims: To identify the factors associated with QoL among bronchiectasis patients attending respiratory clinics in government healthcare institutions in the Colombo District, Sri Lanka

Methods: A cross-sectional study was conducted to assess the factors associated with QoL among 427 bronchiectasis patients attending respiratory clinics in government healthcare institutions in Colombo District. The sample was identified using a systematic sampling method. The QoL was evaluated using the Sinhala version of Bronchiectasis Health Questionnaire (BHQ) and the disease-related factors were assessed by an interviewer-administered questionnaire. The associations were assessed using an independent t-test and ANOVA using SPSS software.

Results: The response rate was 100%. The sample consisted of 55% (n=234) of females and 91% (n=390) with age above 50 years. The mean BHQ score was 62.1 (SD=8.1) and the median was 62 (IQR=10). Forty-seven percent had BHQ scores above the mean and 53.4% had BHQ scores below the mean. Following analysis, a lesser number of exacerbations, a lesser number of hospital admissions, using inhalers and doing chest physiotherapy demonstrated a statistically significant association with better QoL (p<0.05).

Conclusions: The disease-related factors affecting QoL in bronchiectasis patients are the number of exacerbations, hospital admissions, using inhalers, and chest physiotherapy.

Key words: Bronchiectasis, Quality of life, Bronchiectasis Health Questionnaire

Corresponding author email: suwi86perera@gmail.com

Development and validation of palliative care need assessment tool - Sri Lanka (P-NAT-SL)

Jayasumana H.M.K.S.D¹, Samaranayake D.B.D.L², Perera S.N.³, Hapuarachchi T.D.⁴

¹Hertfordshire Partnership University, NHS Trust, UK; ²Department of Community Medicine, University of Colombo, Sri Lanka; ³National Cancer Control Programme, Ministry of Health, Sri Lanka; ⁴National Institute of Cancer, Sri Lanka

Background: Palliative care improves quality of life of patients and the family. Therefore, assessing palliative care needs comprehensively is important in providing targeted services to needy patients.

Aims: To develop and validate an instrument (Palliative-care-Need Assessment-Tool-Sri Lanka (P-NAT-SL)) to identify palliative care needs of patients with malignancy

Methods: P-NAT-SL development and validation was done in three phases: item generation & reduction, scale development and scale evaluation. Items were generated based on literature and key informant interviews followed by item reduction by expert opinion. Translated Sinhala version was assessed for face and content validity. Exploratory Factor Analysis (EFA) was done in a sample of 302 subjects participating in a cross-sectional validation study. Construct validity was assessed through Confirmatory Factor Analysis (CFA) using different combinations of factors explored in EFA among another 309 subjects followed by convergent validity in a sub-sample of 201. Test-retest reliability and internal consistency were assessed using Spearman-r and Cronbach's-alpha, respectively.

Results: Fifty-three items were selected after reduction to develop the scale. EFA retained 12 factors with 45 items. CFA confirmed an eight-factor model as the best fit (RMSEA=0.068, CFI=0.96, PNFI=0.85). Cronbach's-alpha coefficient was 0.919 and Spearman-r coefficient was 0.986 ($p<0.01$) for the overall scale. Spearman-r coefficient between European Organization for Research and Treatment of Cancer Quality of Life Core Questionnaire and the P-NAT-SL was 0.668.

Conclusions: P-NAT-SL is a valid and reliable tool to assess palliative care needs among cancer patients which is recommended for comprehensive assessment of palliative care needs of patients with malignancy.

Key words: Palliative care need assessment, Tool development, Tool validation

Corresponding author email: shermi.dilshara@gmail.com

Quality of life and associated factors of physically disabled adults residing in care-homes in Colombo District, Sri Lanka

Ananda R.¹, Gunarathne N.K.², Costa G.R.N.³, De Silva D.L.A.⁴, Mahesh P.K.B.⁵

¹Post Graduate Institute of Medicine, University of Colombo, Sri Lanka; ²Asiri Medical Hospital, Colombo, Sri Lanka; ³National Institute of Infectious Diseases, Ministry of Health, Sri Lanka; ⁴Sri Lanka Army; ⁵Office of the Provincial Directorate of Health Services, Western Province, Sri Lanka

Background: Physically disabled adults in nursing-home based care can be a vulnerable population subjected to health and social injustices. Reliable data on quality of life (QoL) would enable policy decisions to improve their health.

Aims: To determine the QoL and its associated factors among physical disabilities adults (age 18-65 years) residing in care-homes in Colombo District

Methods: This was a cross-sectional study with an analytical component. A total of 292 physically disabled adults aged 18-65 years, residing in registered care-homes were included. All eligible participants in all the institutions with residential facilities in 13 Divisional Secretariats of Colombo District were recruited. An interviewer-administered questionnaire including Short Form-36 (SF-36) was used to assess QoL. This scale includes eight domains with QoL scores ranging from 0 to 100. Descriptive statistics, Mann-Whitney U test, Spearman Correlation Coefficient were used in analysis at 5% significant level.

Results: The majority of participants (n=113, 38.7%) with a response rate of 96.74% were aged 46-55 years. The male: female ratio was 1:1. The median (IQR) values of the eight SF-36 domain scores were; 10.0 (IQR 5.0-30.0) for physical functioning, 67.5 (IQR 45.5-87.5), 100 (0-100) for role limitation due to physical health, 67.5 (IQR 45.0-87.5) for bodily pain, 60.0 (IQR 50.0-70.0) for general health, 100 (IQR 0-100) for role limitation due to emotional health, 65.0 (50.0-75.0) for energy-domain, 60.3 (52.0-72.0) for emotional well-being and 75.0 (IQR 52.0-72.0) for social functioning. The significantly associated factors for QoL were; female sex (three domains), being unemployed (six domains), being unmarried (two domains), higher disability level (six domains), lower disability (one domain), and advanced and lower age (one domain each).

Conclusions: The QoL score were relatively higher for role-limitation-due-to-physical-health, role-limitation-due-to-emotional-health and social functioning domains while relatively lower scores were noted for energy, emotional well-being, and general health domains. Interventions can be planned for the identified associated factors for improving QoL of each domain.

Key words: Physically disabled; Quality of life; SF 36; Institutionalized care

Corresponding author email: ruwanthi.ananda@gmail.com

Prevalence, associated factors and quality of life related to symptom-based gastro-oesophageal reflux disease among grade 12 students at government schools in Mawanella Education Zone, Sri Lanka

Bandara M.R.A.¹, Talagala I.A.²

¹Regional Health Training Centre, Kadugannawa, Sri Lanka; ²Department of Community Medicine, University of Moratuwa, Sri Lanka

Background: Gastro-oesophageal reflux disease (GORD) poses a global public health challenge owing to its troublesome symptoms and impact on affected individuals' Quality of Life (QoL). Despite prevalent risk factors among Sri Lankan adolescents, limited local studies emphasize its significance.

Aims: To determine the prevalence, associated factors and QoL related to symptom-based GORD among Grade 12 students in Mawanella Education Zone

Methods: A cross-sectional study was conducted among 638 Grade 12 students in Mawanella Education Zone in 2023, using a two-stage, probability proportionate, cluster sampling. A self-administered questionnaire was used to obtain demographic and socio-economic characteristics, symptom-based GORD status using a locally validated GORD assessment tool, factors potentially associated with GORD, and QoL related to GORD using the EQ-5D-5L tool. Factors associated with GORD were assessed by chi square test at $p < 0.05$. The distinction in median QoL scores between groups with and without GORD was assessed using Mann-Whitney U test at $p < 0.05$.

Results: The prevalence of GORD among Grade 12 students was 49.7% (95% CI=45.8%-53.6%). Being a non-Sinhalese ($p < 0.001$), non-Buddhist ($p < 0.001$), monthly income $> Rs. 50000$ ($p = 0.039$), skipping breakfast ($p < 0.001$), midnight snacks ($p < 0.001$), spicy food ($p = 0.028$), bakery items ($p < 0.001$), deep-fried food ($p < 0.001$), chocolate ($p < 0.001$), citrus fruits ($p < 0.001$), carbonated drinks ($p = 0.021$), fatty meat ($p = 0.009$), alcohol ($p = 0.023$), smoking ($p = 0.038$) and stress ($p < 0.001$) were significantly associated with GORD. Students with GORD had significantly low QoL across mobility ($p < 0.001$), usual activities ($p < 0.001$), pain/discomfort ($p < 0.001$), and anxiety/depression ($p < 0.001$) dimensions in EQ-5D-5L descriptive assessment. Both EQ-5D-5L VAS ($p < 0.001$) and EQ-5D-5L index score ($p < 0.001$), confirmed significantly diminished QoL among students with symptom-based GORD.

Conclusions: Nearly half of grade 12 students in the Mawanella Education Zone have GORD, with significant associations in demographic, socio-economic and lifestyle factors. Those with GORD also having significantly lower QoL.

Key words: Gastro-Oesophageal Reflux Disease, Prevalence, Grade 12 students, Sri Lanka

Corresponding author email: sankabandara.kandy@gmail.com

An Initiative to address challenges in Sri Lankan aging population: Implementing integrated care for older people (ICOPE) in primary medical care institutions

Wijeratne P.D., Karunaratna B.J., Walpita N.B., Muhandiram U., Maduwage S.

Directorate of Youth Elderly Disabled & Displaced, Ministry of Health, Sri Lanka

Background: High prevalence of ageing population poses challenges in provision of care for older persons. Actions to increase intrinsic capacity of older persons makes many challenges minimal. Promote professional competencies on healthy ageing needs to be in place. The United Nations' Decade of Healthy Ageing advocates adopting Integrated Care for Older People (ICOPE), comprehensive intervention to address the needs of older persons.

Aims: To adopt and implement ICOPE within primary medical care institutions (PMCI) to provide person-centred holistic care for older persons ensuring optimum functional ability

Methods: This new initiative by the Ministry of Health consisted of three phases, namely adopting ICOPE training manual to Sri Lankan context through multi-stakeholder collaboration. In the second phase, training programs were conducted for PHC physicians and nursing officers to implement integrated care within the PMCI. The resource persons were identified from specialties of Public Health, Geriatric Medicine, Psychiatry, General Medicine and Family Medicine. Third phase evaluates the progress regarding initiation and implementation of ICOPE intervention plan within respective PMCIs.

Results: Training programs were conducted in 240 PMCIs in eight districts. Out of the trained institutions, 95% (n=228) developed action plans for ICOPE implementation at their respective institutions, of whom 40% (n=91) executed the initiative. Pre and post assessments for ICOPE training showed a significant knowledge improvement among healthcare professionals ($p < 0.05$).

Conclusions: Training manual adaptation and ICOPE training effectively enhanced healthcare workers' knowledge. This initiative empowered PHC professionals to develop action plans and initiate ICOPE interventions within their PMCIs. Recommended to conduct regular follow-ups to monitor the progress of ICOPE implementation within PMCIs and to scale-up this initiative nationwide.

Key words: Older Persons, Integrated Care for Older People, Primary Health Care

Corresponding author email: dilshanain3@gmail.com

Mobilizing rural communities in prevention and control of cutaneous leishmaniasis: Can bottom-up approaches cherish better public health?

Gunasekara S.D.¹, Agampodi T.C.¹, Shanthapriya S.H.¹, Hettiarachchi D.¹, Lalani J.M.G.¹, Mallawaarachchi A.P.¹, Liyanage M.P.¹, Warnasekara Y.P.J.N.¹, Fernando M.S.², Liyanage C.³, Wickramasinghe N.D.¹, Agampodi S.B.⁴

¹Department of Community Medicine, Rajarata University of Sri Lanka; ²Department of Health Promotion, Rajarata University of Sri Lanka; ³ Department of Sociology, University of Colombo, Sri Lanka; ⁴ International Vaccine Institute, Seoul, South Korea

Background: While the Sri Lankan public health system is exemplary in the control of many communicable diseases, community collaboration in acquiring the intended vigilance and action is challenging. Local evidence on community-driven approaches for the prevention of communicable diseases like cutaneous leishmaniasis (CL) is scarce.

Aims: To facilitate a community-driven intervention in CL disease prevention and control in rural communities in Anuradhapura

Methods: We used evidence-based strategies on community engagement and involvement (CEI) and public health to co-design the intervention with three rural CL endemic communities. Collaborative measures with the community were carried out to understand the context and recognize communities in the early phase. Prioritizing community concerns, we facilitated local capacity building, establishing links with local organizations and directing collective action for awareness and an epidemiological investigation of CL.

Results: Twenty-eight volunteered community members and 80 school children representing school health clubs participated in capacity building trainings. School and community collaboratively conducted a 'leishmaniasis day' using street drama and awareness sessions. Around 500 community members were actively involved in the intervention. The intervention outputs included developing bespoke literary and artwork and an effort to safeguard the environment and CL awareness. Trained community members conducted epidemiological mapping of CL covering the communities, while directing people with suspicious skin lesions to appropriate healthcare.

Conclusions: Local communities possess the potential to act on communicable disease prevention and control on the grounds of evidence-based facilitation. Efforts to incorporate the 'bottom-up' CEI approach to health systems may enhance the yield in public health practice.

Key words: Community-driven intervention, Infectious diseases, Community Empowerment, Cutaneous Leishmaniasis, Sri Lanka

Corresponding author email: psdgunasekara93@gmail.com

Quality of life and associated factors among lymphoedema patients attending lymphoedema clinics in selected endemic districts for lymphatic filariasis in Sri Lanka

Perera S.S.¹, Shilpeshwarage S.P.N.K.², Gunaratna I.E.²

¹Family Health Bureau, Ministry of Health, Sri Lanka; ²Ministry of Health, Sri Lanka

Background: Lymphatic filariasis is one of the main causes of lymphoedema in tropical endemic countries. Sri Lanka reports around 500-900 lymphoedema patients annually. Disfiguring complications and stigma associated with lymphoedema impact on quality of life (QoL) of patients. Good management practices can prevent disease progression to disabling complications.

Aims: To determine the QoL of patients with lymphoedema due to filariasis and its associated factors among the attendees of the lymphoedema clinics in Sri Lanka

Methods: This was a clinic-based cross-sectional study conducted in randomly selected three filariasis endemic districts among 405 lymphoedema patients selected through consecutive sampling. A validated modified dermatological life quality index was used to collect data. Chi-squared test was used to determine the association of all factors with the QoL.

Results: In most patients (n=292, 72.1%), lymphoedema had a mild-moderate impact and in 24.7% (n=100) had a very large-extreme impact on QoL. Of disease related factors, early stage of lymphoedema, good attitudes towards the disease, better knowledge of washing legs, elevation, bandages, use of appropriate footwear and management of acute attacks showed a statistically significant association with better QoL (p<0.001). Among other factors, type of residence, level of education, income, comorbidities such as diabetes, hypertension, chronic kidney disease, ischaemic heart disease, and regular use of prophylactic antibiotics also showed a statistically significant association with QoL (p<0.001).

Conclusions: One-fifth of the patients have a large-extreme impact of lymphoedema on QOL. Proper awareness would improve knowledge, attitudes and practices towards the management of lymphoedema, preventing the progression of the disease.

Key words: Lymphoedema, Filariasis, Quality-of-life, Associated factors

Corresponding author email: aasithija@ymail.com

Harnessing community engagement in dengue control through 'Maw Sansadaya' establishment at medical officer of health (MOH) level in Western Province, Sri Lanka

Gunawardana D.S.K.D.¹, Mahanama L.P.K.S.M.², Gunawardana M.D.U.B.³, Jayalath K.D.¹, Shanaz M.T.Q.F.¹, Dharmawardane M.P.¹, Aathirayan S.²

¹Office of the Provincial Director of Health Services, Western Province, Sri Lanka; ²Postgraduate Institute of Medicine, University of Colombo, Sri Lanka; ³Office of the Regional Director of Health Services, Kalutara, Sri Lanka

Background: Approximately half of Sri Lanka's dengue cases are reported from Western Province. Community engagement and accountability are crucial in dengue control. 'Maw Sansadaya', a collection of Mother Support Groups (MSGs) under MOH, was established to enhance collaboration and health service coverage in similar situations.

Aims: To evaluate the feasibility of utilizing *Maw Sansadaya* in dengue control activities

Methods: Two members from each MSG were selected purposively and combined to establish 'Maw sansadaya' each, in all MOH areas in Western Province, guided by the Health Promotion Bureau. Meetings, orientations and workshops on dengue control and health promotion were conducted over a period of three months. All 'Maw sansadaya' committees developed action plans, empowered as change agents, and disseminated health messages aiming dengue control. The success of the intervention was analysed through dengue surveillance data.

Results: As an output indicator, 100% establishment of 'Maw sansadaya' in all 47 MOH areas demonstrates the intervention's strong recruitment capability. Active MSGs in Western Province expanded from 342 to 1034, with over 4000 members updated on dengue control activities via workshops in 47 MOH offices, illustrating the intervention's feasibility and acceptability for community empowerment. Action plans targeting dengue incidence reduction were developed for all MOH areas, and social media groups were established for uniform health message dissemination. Dengue cases in Western Province decreased to 36% of national cases by the 18th week of 2024, from 49% in 2023.

Conclusions: *Maw sansadaya* is a highly effective platform for enhancing community empowerment in dengue control activities in Western Province, demonstrating strong feasibility, acceptability, and extensive coverage.

Key words: 'Maw sansadaya', Mother Support groups, Community empowerment, Dengue control

Corresponding author email: dsupidsk@gmail.com

Perceptions and beliefs on MMR immunization among parents of 6-9 month old infants in Colombo Regional Director of Health Service Area, Sri Lanka

Kalubowila K.¹, Moonasinghe M.², Lakmal K.², Gajanayake C.²

¹Office of the Provincial Director of Health Services, Western Province, Sri Lanka; ²Office of the Regional Director of Health Services, Colombo, Sri Lanka

Background: Despite the Measles, Mumps, and Rubella (MMR) vaccine being both effective and safe, some families still reject it for various reasons. In the Colombo District, where 40% of measles cases have been reported in 2023, there are notable vaccine hesitancy clusters, particularly in Gothatuwa, Kolonnawa and Dehiwala Medical Officer of Health (MOH) Areas. Therefore, this study was conducted among parents of 6-9 month old infants who did not attend the MMR supplementary immunization to understand their perceptions and beliefs regarding the MMR vaccine.

Aims: To describe the perceptions and beliefs on MMR immunization among parents of 6-9 month old infants who did not attend the supplementary immunization in the Colombo Regional Director of Health Services Area, Sri Lanka

Methods: In-depth interviews were conducted among parents of 6-9 month old infants who did not attend the supplementary immunization selected using records maintained at the MOH office. Trained data collectors conducted all discussions with the assistance of a note-taker, using a semi-structured guide. The thematic analysis was carried out to identify the perceptions and beliefs regarding the MMR vaccine.

Results: Of the 38 participants, 16 fathers and 20 mothers were included to the interviews. A majority were aged 18-30 years (n=21, 55.3%). Most were Muslims (n=36, 94.7%). The responses were categorized into three main domains: Fear of vaccine safety (n=22/38), where participants expressed concerns about potential side effects and long-term health impacts; Locally established misbeliefs, particularly among grandmothers (n=17/38), which involved cultural and familial misconceptions about the vaccine; and Deterioration of trust in health services (n=15/38), reflecting scepticism regarding service delivery and healthcare providers.

Conclusions: Lack of trust in its safety is the major reason to rejection. Additionally, the grandmothers wield significant influence in family decisions, including vaccination, in these families. Therefore, targeted educational campaigns involving healthcare professionals and influential family members, are essential to build trust in the safety of the MMR vaccine.

Key words: Measles, Immunization, Perception, Vaccine hesitancy

Corresponding author email: kalubowilak@gmail.com

Long COVID Syndrome: proportion affected and associated factors among COVID-19 patients treated at Base Hospital Homagama, Sri Lanka during 2021-2022

Udara H.M.M.¹, Walpita W.D.Y.N.², Maheepala S.A.D.N.P.³

¹Postgraduate Institute of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, University of Colombo, Sri Lanka; ³ Faculty of Medicine, University of Sri Jayewardenepura, Sri Lanka

Background: 'Long COVID' is a condition occurring in individuals with prior SARS CoV-2 infection, marked by persistent symptoms lasting for at least two months duration, not explained by other diagnosis. It affects an estimated 10-20% of COVID-19 survivors worldwide, posing substantial burdens on healthcare systems and productivity.

Aims: To determine the proportion affected by long COVID and associated factors among individuals aged 18-65 years treated for acute COVID-19 infection at Homagama Base Hospital from December 2021 - February 2022

Methods: A descriptive cross-sectional study was conducted among 294 participants recruited through consecutive sampling using the admission registers at the Base Hospital, Homagama, which was a designated hospital to treat COVID-19. All patients admitted with confirmed COVID-19 infection between 1st December 2021 and 28th February 2022, were included. Data were collected via clinical records and through telephone interviews based on a questionnaire. Data were summarized with proportions and Chi-squared test was used to assess associations at 95% confidence level.

Results: Among participants, 29.4% (n=64) developed long COVID with males affected more (33.9% vs. 25%, $p>0.05$). Both symptomatic and asymptomatic COVID patients developed long COVID. Common symptoms included fatiguability (n=48, 75%), body aches (n=38, 59.4%), and shortness of breath (n=24, 37.5%). Advanced age and high BMI were significantly associated with long COVID Syndrome ($p<0.05$), while comorbidities, hospital stay duration, infection severity and vaccination status did not. Long COVID's functional limitations were generally mild.

Conclusions: A substantial proportion of COVID-19 patients develop long COVID, particularly among older age groups and with higher BMI. The common symptoms and associated factors found will be important for early detection, management and risk factor modification of long COVID patients. Further research with larger representative samples in Sri Lanka is warranted to deepen understanding of long COVID.

Key words: Long COVID, COVID-19, Body Mass Index

Corresponding author email: mahika.ud@gmail.com

Knowledge, attitudes and practices on sexually transmitted diseases among non-medical undergraduates in a selected state university in Sri Lanka

Piyarathna S.S., Samarasekara G.C.D., Rajakaruna R.M.N.D., Withanawasam T.I., Gamage A.U.

Faculty of Medicine, General Sir John Kotelawala Defence University, Sri Lanka

Background: Sexually transmitted diseases (STDs) are on the rise globally. More than one million STDs are acquired everyday among people aged 15-49. In Sri Lanka, there is a 48% increase of HIV cases in 2022 compared to 2021.

Aims: To assess the knowledge, attitude and practices on STDs among non-medical undergraduates in Sri Lanka

Methods: A descriptive cross-sectional study was conducted among 425 non-medical undergraduates selected using convenient sampling. A self-administered questionnaire gathered data on socio-demographics, knowledge, attitudes and practices related to STDs. Both knowledge and attitudes were categorized as “adequate” and “inadequate” using a scoring system (cut-off $\geq 65\%$). SPSS version 15 was used to analyse data and descriptive statistics were presented as mean (SD) and proportions. Chi-squared test and odds ratio (OR) were used to test association ($p < 0.05$).

Results: Mean age of respondents was 22 years ($SD=1.48$) and majority ($n=282$, 66.4%) were males. Knowledge on STD was adequate among 44.5% ($n=189$). Majority ($n=368$, 86.58%) knew that use of condoms is a preventive measure. Most ($n=260$, 61.17%) did not know that the treatment should continue even after symptoms disappear. Overall attitudes were good in the majority ($n=368$, 86.6%). However, 80.47% ($n=342$) believed that male partner is responsible for using a condom. Majority ($n=329$, 77.4%) were sexually inactive. Significant associations ($p < 0.05$) were observed among adequate preventive practices with gender ($OR=8.95$, 95% $CI=4.025-19.407$), good knowledge ($OR=4.689$, 95% $CI=2.688-8.18$) and good attitudes ($OR=7.295$, 95% $CI=4.02-13.23$) on STDs.

Conclusions: Though overall knowledge is poor, attitudes were satisfactory. However, awareness on preventive practices needs to be addressed urgently.

Key words: Sexually Transmitting Infections, Knowledge, Attitude, Preventive Practices.

Corresponding author email: savindusanthusa99@gmail.com

Knowledge on leptospirosis and practices of prevention of the disease among the farming community in Bope-Poddala Medical Officer of Health Area, Galle, Sri Lanka

Maleesha T.D.¹, Malshan J.A.K.¹, Maneeshan W.G.N.¹, Manurangi K.P.L.¹, Mathangaweera S.N.¹, Wijesinghe C.J.², Rajakaruna V.P.C.²

¹Faculty of Medicine, University of Ruhuna, Sri Lanka; ²Department of Community Medicine, University of Ruhuna, Sri Lanka

Background: Leptospirosis is a widespread bacterial zoonosis, which is an endemic disease prevalent in Sri Lanka. According to recent surveillance data from the Epidemiology Unit, the farming community has the highest risk of acquiring leptospirosis.

Aims: To assess the knowledge on leptospirosis and practices of prevention of the disease among the farming community in Bope-Poddala Medical Officer of Health (MOH) Area

Methods: A cross-sectional study was conducted among a convenient sample of 266 residents of the farming community in three *Grama Niladhari* (GN) divisions of Bope-Poddala MOH area. Data were collected using an interviewer-administered questionnaire. A scoring system was used to assess the levels of knowledge and practices, analysed using SPSS statistical software and Chi-Squared test was used to assess the associations between variables.

Results: Of the sample, 87.6% (n=233) had known about leptospirosis and 75.2% (n=200) had satisfactory knowledge. Majority (n=202, 75.9%) were following effective practices of prevention such as using personal protective equipment and 52.2% (n=139) had used doxycycline. The knowledge on leptospirosis was positively associated with the higher level of education (O/L and above) (p<0.001) and the younger age category (below 40 years) (p<0.05). The preventive practices were positively associated with the higher level of education (O/L and above) (p<0.001), and the younger age category (below 40 years) (p<0.05) and negatively associated with difficulties faced during practices (p<0.001).

Conclusions: Majority of the sample had a satisfactory knowledge level and were following effective practices of prevention. Qualitative research will be beneficial to explore more on non-adherence to preventive measures and health education programs recommended to improve the knowledge and usage of doxycycline.

Key words: Leptospirosis, Knowledge, Preventive practices

Corresponding author email: snmathangaweera97@gmail.com

Depression, anxiety, stress and associated factors among navy personnel in Naval Base, Welisara, Sri Lanka

Nanayakkara D.M.R.D.¹, Narangoda S.T.P.¹, Pathirage K.T.¹, Munasinghe S.M.¹, Gallage A.O.P.²

¹*Faculty of Medicine, University of Colombo, Sri Lanka;* ²*Department of Community Medicine, University of Colombo, Sri Lanka*

Background: Depression, anxiety, and stress among military personnel are globally recognized issues, yet Sri Lankan evidence, particularly on Navy personnel, is scarce. Given the crucial role of mental health in marine and coastal security operations, understanding the mental wellbeing of Sri Lankan Navy is vital.

Aims: To describe the socio-demographic characteristics, prevalence, and associated factors of depression, anxiety, and stress among navy personnel at Welisara Naval Base

Methods: A descriptive cross-sectional study with an analytical component was conducted among 140 navy personnel selected via systematic sampling method. Self-administered questionnaire with validated Depression Anxiety Stress Scale (DASS)-21 was used to assess depression, anxiety, stress and other factors. SPSS software was used for data analysis. Associated factors were determined using independent sample t test.

Results: The response rate was 91.4% (n=128), with the majority being male (n=108, 84.4%) and Sinhalese (100%). It was found that 35.9% (n=32) are moderately and severely depressed, while 34.4% (n=36) moderately and severely anxious and 29.7% (n=23) are moderately and severely stressed at Welisara Naval Base. Poor partner support (p<0.01), poor partner communication (p<0.01), high economic burden (p<0.01), low level of education (p<0.01), poor colleague support (p<0.01), stringent deadlines (p<0.01), undue senior pressure (p<0.01), high work impact on daily life (p<0.01), workplace harassment (p<0.01) and meditation (p<0.01) were significantly associated with depression, anxiety and stress.

Conclusions: Nearly 1/3rd of Navy personnel at Welisara were identified as showing features of depression, anxiety and stress. Those with unfavourable home conditions and threatening working conditions had significantly higher levels with depression, anxiety and stress.

Key words: Navy, Depression, Anxiety, Stress

Corresponding author email: medmbbs191819@stu.cmb.ac.lk

Occupational Injuries and associated factors among tunnel gem-miners in Nivitigala, Sri Lanka

Mirissage D.O.¹, Minthaka A.P.S.¹, Mohotti B.D.¹, Moragoda M.A.M.A.¹, Gallage A.O.P.²

¹Faculty of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, University of Colombo, Sri Lanka

Background: Sri Lanka's gem industry plays a pivotal role in the country's economy, yet battles with occupational injuries despite the county's reputation as the "Gem island". The evidence on occupational safety in the gem industry is scarce.

Aims: To assess the socio-demographic characteristics, occupational injuries and their associated factors among the tunnel gem miners in Nivithigala, Sri Lanka

Methods: A descriptive cross-sectional study was carried out in Nivithigala, Sri Lanka from March to November 2023. Cluster sampling method was used to select 110 tunnel gem miners aged 18-70 years, without severe co-morbidities with work experience exceeding six months at tunnel gem mines. An interviewer-administered questionnaire was used to collect socio-demographic, behavioural, work-related and occupational safety-related factors and occupational injury-related data which were analysed using SPSS version 26. Associations were assessed using the Chi-squared test.

Results: The response rate was 100% (n=110). More than half of tunnel gem miners (n=57, 52.7%) experienced occupational injuries preceding six months, mainly due to machines/tools (n=79, 73.8%). Most injuries were abrasions (n=65, 60.8%) commonly affecting lower limbs (n=68, 63.7%). Occupational injuries were significantly associated with working more than 8 hours per day (p=0.036), experiencing excessive heat/ cold during underground work (p=0.003) and paucity of identification and addressing of safety issues in the workplace (p=0.038), but not associated with mining experience (p=0.198) and working under the influence of alcohol (p=0.309) or tobacco (p=0.134).

Conclusions: The incidence of occupational injuries among employees is relatively high and often due to machine/tool mishandling. Measures should be taken to reduce long working hours and extreme temperatures during underground work. Increasing the use of personal protective equipment remains a potential target for improving mineworkers' safety.

Key words: Occupational injuries, Tunnel, Gem mining, Safety, Personal protective equipment

Corresponding author email: medmbbs191813@stu.cmb.ac.lk

Prevalence of risk of obstructive sleep apnoea and related practices among bus drivers in Kalutara District, Sri Lanka

Sugandhi K.N.¹, Sugandhi K.P.W.¹, Surenraj M.J.¹, Susantha A.G.V.A.K.¹, Jayawardene D.M.S.²

¹Faculty of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, University of Colombo, Sri Lanka

Background: Obstructive sleep apnoea (OSA) is a sleep disorder, which causes day-time sleepiness. In Sri Lanka, day-time sleepiness is one of the main reasons for road traffic accidents. There is a scarcity of local research which describes the prevalence of OSA risk among bus drivers.

Aims: To assess the prevalence of risk of OSA and related practices among bus drivers in Kalutara District

Methods: A descriptive cross-sectional study was conducted among 150 bus drivers in 5 main bus stands in Kalutara district namely, Kalutara south, Aluthgama, Mathugama, Horana and Panadura. Systemic sampling was carried out to collect data using an interviewer administered questionnaire. The OSA risk was assessed using the STOP-BANG questionnaire. Data analysis was done using descriptive statistics and Chi-squared tests using SPSS version 27.

Results: Among the bus drivers, 15.3% (n=23) were at high risk for OSA. The OSA risk was more among those more than 50 years, those with diabetes mellitus, hypertension and asthma. Majority (n=82, 54.7%) had good practices towards OSA with 83.3% (n=125) were having a good health seeking behaviour and 66.7% (n=100) were always avoiding driving in case of lack of sleep. However, 8% (n=12) were never avoiding driving despite lack of sleep, 32% (n=48) were smoking and 52.7% (n=79) were never exercising regularly. Number of working days per week was statistically significantly associated with practices on OSA.

Conclusions: A significant proportion of bus drivers in Kalutara District is at high risk for OSA. Routine screening procedure for early diagnosis of OSA should be implemented while improving related practices to reduce the risk of OSA.

Key words: Obstructive sleep apnoea, Drivers, Practice

Corresponding author email: medmbbs191890@stu.cmb.ac.lk

Prevalence, patterns and associated factors of alcohol use among male military personnel in Sri Lanka

Jayasinghe L.V.¹, Prathapan S.², Semage S.N.³

¹Sri Lanka Army Health Services; ²Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka; ³National Medicines Regulatory Authority, Sri Lanka

Background: Military personnel consistently demonstrate higher prevalence of alcohol use compared to the general population which can unfavourably affect their health.

Aims: To describe the prevalence, patterns and associated factors of alcohol use among male military personnel in the Sri Lanka Army

Methods: A cross-sectional study was conducted among 1337 male army personnel in active service selected using multistage sampling. A battalion was considered as a cluster. Systematic sampling was used to select the participants in a battalion. A self-administered questionnaire and the interviewer-administered Alcohol Use Disorders Identification Test (AUDIT) was used. Chi-squared test and Chi-squared test for trend were done to test for associations at 5% significance level.

Results: The response rate was 97.3% and the final sample taken for analysis was 1271 (95.1%). The mean age of participants was 31.1 years (SD=7.3). The prevalence of current drinkers (past 12 months) was 85.6% (n=1088, 95% CI=83.6-87.5). Among them, 53.4% (n=581) had an AUDIT score of ≥ 7 (95% CI=50.4-56.4%). AUDIT score ≥ 7 participants consumed 5.6 median units of alcohol on a typical day, 84.2% (n=489) consumed arrack and 70.7% (n=411) have ever thought/attempted to quit. There were statistically significant associations between an AUDIT score of ≥ 7 and education (p=0.031), marital status (p=0.044), chronic diseases (p=0.041), among the other ranks (p=0.004), serious consequences (p=0.001), risk behaviours (p=0.001), productivity losses (p=0.001), usual driving habit (p=0.005), seat belt use (p=0.009), sex with a commercial sex worker (p=0.001), multiple sexual partners (p=0.001), sleep disturbances (p=0.001), ever tried to kill yourself (p=0.005), substance use (p=0.001), childhood physical/sexual abuse (p=0.001), living with a problem drinker (p=0.038), minimum number of drinks the father consumed per week (p=0.002), induced to drinking during childhood (p=0.002), five items of short form-36 and mental distress (p=0.001).

Conclusions: High prevalence rates of alcohol use warrant immediate advocacy to the highest level of command of the Sri Lanka Army to implement sustainable evidence-based alcohol prevention programmes.

Key words: Alcohol use, AUDIT, Army

Corresponding author email: laknajayasinghe@yahoo.com

Prevalence and associated factors of depression, anxiety and stress among primary school teachers in government schools in Kalmunai Educational Zone, Sri Lanka

Faiz M.M.¹, Wickramasinghe N.D.²

¹Office of the Medical Officer of Health, Kalmunai South, Sri Lanka; ²Department of Community Medicine, Rajarata University of Sri Lanka

Background: Global studies recognize the mental health challenges faced by teachers, yet local evidence is lacking, particularly during the challenging periods such as post-COVID economic crises.

Aims: To determine the prevalence and associated factors of depression, anxiety and stress among primary school teachers in government schools in Kalmunai Educational Zone

Methods: A school-based cross-sectional study was conducted among the total population of 548 primary teachers in Kalmunai Educational Zone, using a pre-tested, self-administered questionnaire that included the DASS-21 scale. The prevalence of depression, anxiety and stress were computed with 95% CI. Bivariate analysis with odds ratios (95% CI) were computed to determine the significant associated factors of depression, anxiety and stress.

Results: The response rate was 96.0% (n=506) and the majority were females (n=447, 88.3%). The prevalence of depression, stress and anxiety in teachers were 31.0% (95% CI=27.0-35.0%), 41.9% (95% CI=38.0-46.0%) and 15.8% (95% CI=13.0-19.0%), respectively. Muslim ethnicity demonstrated higher likelihoods of depression (OR=2.0, 95% CI=1.3-3.2), anxiety (OR=2.5, 95% CI=1.6-3.9), and stress (OR=4.0, 95% CI=1.9-8.5). Loan repayments had higher likelihood of depression (OR=1.9, 95% CI=1.2-2.8) and anxiety (OR=1.7, 95% CI=1.2-2.5). Low family income had higher likelihood of anxiety (OR=1.5, 95% CI=1.1-2.3). Chronic physical health problems had higher likelihoods of depression (OR=2.0, 95% CI=1.3-3.0), anxiety (OR=2.8, 95% CI=1.9-4.3) and stress (OR=2.0, 95% CI=1.2-3.3). Poor overall health status, and obligation to attend work while sick, consistently emerged as risk factors for depression, anxiety, and stress (p<0.05). Teachers without hobbies had higher likelihoods of depression (OR=1.6, 95% CI=1.1-2.6), and anxiety (OR=1.7, 95% CI=1.1-2.6).

Conclusions: The prevalence of depression, stress and anxiety are high among primary teachers in Kalmunai, having various personal, economic, and occupational significant associations. Comprehensive mental health services are recommended to support teachers' well-being.

Key words: Primary school teachers, Depression, Anxiety, Stress

Corresponding author email: mmfaizdr@gmail.com

Knowledge, attitudes and practices of food handlers on food safety in a selected medical officer of health (MOH) area in Colombo District, Sri Lanka

Wickramasuriya P.C.S.¹, Wijayasekara W.W.M.M.D.¹, Wijekoon D.S.R.¹, Wijenayaka G.D.¹, Walpita W.D.Y.N.²

¹Faculty of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, University of Colombo, Sri Lanka

Background: Millions of people suffer from foodborne diseases due to poor food handling practices. Urbanization and changing consumer behaviour have increased outside food consumption, making food handlers' knowledge, attitudes and practices crucial for ensuring food safety and hygiene.

Aims: To assess the knowledge, attitudes, and practices on food safety and hygiene and factors associated with practices among food handlers in Pitakotte MOH Area

Methods: A descriptive cross-sectional study was conducted among 131 food handlers from 46 food-handling establishments in Pitakotte MOH Area. An interviewer-administered questionnaire developed based on the Public Health Inspector (PHI) manual, Food Act, World Health Organization (WHO) recommendations and expert comments was used to collect data. Knowledge, attitudes, and practices were classified as 'good' or 'poor' through a scoring system and associations were assessed with Chi-squared tests.

Results: Majority of the establishments belonged to 'Hotel' category (n=20, 43.5%) and below A-grade (n=32, 69.6%). Most food handlers were between 20–39 years (n=87, 66.4%) and males (n=83, 63.4%). A 'good' knowledge level was seen in 62.6% (n=82) and 74.8% had good attitudes (n=98). However, only 58.0% had good practices (n=76). Occupation-related training, lesser work-years, higher grading, higher monthly income, not smoking, good knowledge and favourable attitudes were significantly associated with better practices (p<0.05). Age, sex, higher education level, low alcohol consumption was not significantly associated with better practices (p>0.05).

Conclusions: Food handlers should be given proper training focused on areas where their knowledge is poor before employment. Fostering positive attitudes towards food safety and promoting good food safety practices should be continued through supportive supervision at the field level.

Key words: Food safety, Food handlers, Knowledge, Attitudes, Practices, Personal hygiene

Corresponding author email: medmbbs191917@stu.cmb.ac.lk

Perceived barriers of the preschool meal programme among preschool teachers of Colombo Municipal Council (CMC) Area, Sri Lanka

Abeyasinghe W.S.P.¹, Ahmed F.², Lee J.², Magodaratna L.¹, Weerasekara Y.¹, Dissanayaka G.S.¹, Liyanage A.¹

¹Nutrition Division, Ministry of Health, Sri Lanka; ²Griffith University, Australia

Background: The preschool meal program (PMP), commenced in 2017, plays a crucial role in improving nutritional status as well as overcoming micronutrient deficiencies in preschool aged children by providing a free nutritious meal for every child. Identifying the perceived barriers of preschool teachers is vital to the success of the programme in view of its effective implementation, quality improvement and sustainability.

Aims: To assess the perceived barriers of the PMP in preschool teachers of Colombo Municipal Council (CMC) Area

Methods: A descriptive cross-sectional study was conducted in 2023 among 403 preschool teachers in the CMC area using systematic sampling. Data collection was done using a pretested self-administered questionnaire which was developed after identifying the perceived barriers through a qualitative study, following five focus group discussions. SPSS version 26 was used for data analysis. Descriptive data was given as percentages and frequency distributions.

Results: The response rate was 100%. Years completed as a preschool teacher ranged from 1 ½ years to 42.5 years with a median of 12 years (SD=7.88). The majority (n=350, 86.8%) stated that the PMP was not implemented in their preschool. Only 76 (18.9%) have received training on PMP while only 134 (33.3%) have read the circular issued on PMP. Perceived lack of knowledge about PMP was identified as a perceived barrier by 207 teachers (51.4%). Other identified perceived barriers of the PMP includes, difficulty in finding suppliers (n=147, 36.5%), difficulty in keeping the sustainability of the programme once implemented (n=128, 31.8%), lack of enthusiasm and participation of parents (n=117, 29%), encountering difficulties when conducting the programme (n=100, 24.8%), difficult to get the allocated funds for the suppliers (n=94, 23.3%), conducting the programme is time consuming (n=93, 23.1%) and hassle to the educational work (n=76, 18.9%).

Conclusions: Perceived lack of knowledge about the PMP, difficulty in finding suppliers and difficulty in maintaining the sustainability of the programme were the commonest perceived barriers identified.

Key words: Preschool meal programme, Preschool teachers, Perceived barriers

Corresponding author email: hiwathsala@yahoo.com

Prevalence and patterns of household double burden of malnutrition in rural Southern Sri Lanka

Liyanarachchi O.V.¹, Walpita W.D.Y.N.²

¹Postgraduate Institute of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, Faculty of Medicine, University of Colombo, Sri Lanka

Background: Household 'double burden of malnutrition (DBM)' refers to simultaneous occurrence of different extremes of malnutrition among multiple members of the same household. High prevalence of DBM has challenged the conventional interventions of malnutrition worldwide. Hence, it is important to know its prevalence and patterns in planning novel interventions.

Aims: To determine the prevalence and patterns of household DBM in rural Southern Sri Lanka

Methods: A community-based cross-sectional study was conducted in Thawalama MOH Area, Galle among 404 households having at least one child aged 6-59 months living with both parents. Systematic sampling method was used with lists of under-5 children of all PHM areas. Anthropometric measurements were taken from the index child and both parents. Household DBM was defined as, 'a child under 5 years and at least one parent is malnourished with co-existing undernutrition and overnutrition'. Data collection was conducted from September 2023 to October 2023. Data were analysed using the WHO-Anthro software and presented using descriptive statistics.

Results: The response rate was 100% and the prevalence of household DBM among the households of children aged 6-59 months in Thawalama MOH Area was 14.9% (95% CI=11.4,18.3). Ten different patterns of parent-child DBM were observed with 'stunted child and overweight/obese mother' (SCOM) being the commonest pattern (4.4%). The burden of mother-child DBM was three times greater than father-child DBM (9.7% vs 3.2%).

Conclusions: The high prevalence of household DBM in Thawalama MOH Area suggests that this is an emerging public health problem. Hence, this indicates the need of a family-based approach in addressing malnutrition and inform future nutrition related research and agendas.

Key words: Double burden of malnutrition, Household, Parent-child malnutrition

Corresponding author email: oshiniliyanarachchi@gmail.com

Maternal factors associated with low birth weight among new-borns delivered in selected government hospitals in Kalutara District, Sri Lanka

Herath H.M.S.N.¹, Hasanga P.K.D.T.¹, Haneeka M.H.F.¹, Hettiarachchi B.R.N.R.¹, Hewage T.K.¹, Talagala I.A.²

¹ Faculty of Medicine, University of Moratuwa, Sri Lanka; ²Department of Community Medicine, University of Moratuwa, Sri Lanka

Background: Low birth weight (LBW) is a major global public health concern, with profound implications on neonatal morbidity and mortality. Understanding the factors associated with LBW is crucial for effective interventions.

Aims: To assess the maternal factors associated with low birth weight among new-borns delivered in selected government hospitals in Kalutara District

Methods: A descriptive cross-sectional study was conducted among 200 postnatal mothers who were selected using a stratified probability proportionate sampling technique, irrespective of the mode of delivery, at Teaching Hospital Kalutara and P C H Dias Memorial Hospital for Women Panadura. Data were collected using an interviewer-administered questionnaire. Factors associated with LBW were assessed using Chi-squared test at $p < 0.05$ significance level.

Results: Response rate was 100%. The prevalence of LBW was 21.5% (43) in the study settings. Maternal marital status ($X^2=7.38$, $df=1$, $p=0.007$), maternal weight gain during pregnancy ($X^2=5.18$, $df=1$, $p=0.023$), maternal diet ($X^2=11.988$, $df=1$, $p=0.001$) and pre-pregnancy haemoglobin ($X^2=4.78$, $df=1$, $p=0.029$) showed a statistically significant association with LBW of the new-borns.

Conclusions: LBW among the new-borns was prevalent in the study settings, with maternal marital status, weight gain during pregnancy, maternal diet, and pre-pregnancy haemoglobin level as significant factors associated with it. Conducting targeted focused community-based health education, health promotion, screening and follow-up programmes for pre-pregnant females and antenatal mothers is recommended.

Key words: Low birth weight, New-borns, Maternal factors, Associated factors, Kalutara

Corresponding author email: tharihas1999@gmail.com

Sri Lanka Health Sector response to gender-based violence (GBV) in the community: Referral by public health midwives (PHM) of GBV survivors to *Mithuru Piyasa*, GBV care centres

Munas M.^{1,2}, Feder G.¹, Lewis N.¹, Perera D.², Rajapaksa T.^{3,4}, Bacchus L.⁵

¹Center for Academic and Primary Care, University of Bristol, UK; ²Ministry of Health, Sri Lanka; ³Department of Psychiatry, University of Peradeniya, Sri Lanka; ⁴South Asian Toxicology Research Collaboration, University of Peradeniya, Sri Lanka; ⁵London School of Hygiene and Tropical Medicine, UK

Background: The health sector of Sri Lanka mainly responds to GBV through *Mithuru Piyasa* (MP), hospital-based GBV care centres. PHMs are expected to identify and refer GBV victims to MP centres from the community.

Aims: To investigate and improve the referral services offered by PHMs to GBV victims

Methods: An explanatory sequential mixed-method study was carried out across seven provinces from 2021 to 2022. The survey consisted of 803 PHMs recruited using multistage cluster sampling, followed by semi-structured qualitative interviews with 12 PHMs recruited using maximum variability sampling. The survey and interview data were integrated and analysed.

Results: A total of 733 invitees from 17 districts completed the questionnaire, giving a response rate of 91.3%. Most PHMs believed GBV was a common problem in the community. About one-third (n=266, 36.3%) knew about MP centres, and only one-sixth (n=123, 16.8%) had ever referred a GBV victim to MP. GBV training provided by the Family health Bureau (OR=1.85, 95% CI=1.07-3.17), clinical training at midwifery school (OR=2.69, 95% CI=1.28-5.64), and longer community health service (21 years and above (OR=5.71, 95% CI=2.4-13.57) and 11-20 years (OR=5.86, 95% CI=2.89-11.92) were positively associated with referring a woman to MP centre. Interviews indicated that the lack of a referral card and a feedback mechanism from MP centres as shortcomings. PHMs wanted more MP centres and coordinated services.

Conclusions: PHMs training on GBV should include an introduction to MP services. These services should function in coordination with PHMs and medical officer of health offices in the region and should provide feedback to PHMs when a client is referred.

Key words: GBV, Sri Lanka, Health Sector Response, PHM

Corresponding author email: muzrif@gmail.com

Factors associated with school drop-out between 14-16 years of age in selected educational divisions of the Kurunegala District, Sri Lanka

Tennakoon K.M.¹, Thalagahapitiya C.M.¹, Subodhika D.¹, Silva B.M.¹, Shamry A.¹, Seneviratne P.I.¹, Kasturiratne A.²

¹Faculty of Medicine, University of Kelaniya, Sri Lanka; ²Department of Public Health, University of Kelaniya, Sri Lanka

Background: Education is a fundamental human right. Despite free access to education, dropping out of school before the G.C.E. Ordinary Level examination is observed, mostly between grades 9 to 11.

Aims: To determine the factors associated with school drop-out between the ages of 14-16 years in selected educational divisions in the Kurunegala District

Methods: We recruited 69 dropouts (cases), who were aged 14-16 years at the time of dropping out in 2021-2022. They were identified from the records of the selected divisional educational offices. Two age-sex matched controls were selected for each case, through simple random sampling. In 2023, we interviewed cases at their homes and the controls at school, utilizing a pre-tested questionnaire, with parental consent. Descriptive statistics were used to describe the participant characteristics. Associations were determined using the McNemar's Chi-squared test for matched pairs analysis, and multi-variable analysis using R studio.

Results: Of the cases, 40 (58%) were males. 31 (44.9%) had dropped-out at 15 years of age. There were 30 (43.5%) who did not live with both parents. Factors associated with drop-out in the multi-variable analysis included perceived need of employment (OR=4.6, 95% CI=1.1-22.5), lower educational performance (OR=16.3, 95% CI=5.1-64.5), non-engagement in extracurricular activities (OR=19.2, 95% CI=5.4-89.4) and association with older peers (OR=22.9, 95% CI=3.6-218.5).

Conclusions: Need of employment due to socio-economic conditions, poor academic performance, limited exposure to extracurricular activities and having older peers determine school drop-out. To address this problem, personalized academic support, access to extracurricular activities and financial support targeting at-risk students are recommended.

Key words: School Dropout, Case-control Study, Education, Sri Lanka

Corresponding author email: kavithrit@gmail.com

Prevalence of anaemia and its association with compliance for micronutrient supplements among pregnant mothers in Wattala MOH Area, Sri Lanka

Weerasinghe W.M.A.K.A.¹, Welikala G.A.¹, Wickramasinghe N.J.K.A.¹, Yasasmini K.E.M.N.¹, Walpita W.D.Y.N.²

¹Faculty of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, University of Colombo, Sri Lanka

Background: Micronutrient supplementation is a well-known intervention aiming to prevent anaemia among pregnant women worldwide, including Sri Lanka. However, anaemia remains a public health concern in Sri Lanka, with regional disparities. Hence, it is important to explore the effectiveness of this intervention at different localities.

Aims: To describe the prevalence of anaemia at booking visit and end of 2nd trimester and its association with compliance for micronutrient supplements among pregnant women in an urban medical officer of health (MOH) area

Methods: A descriptive cross-sectional study was conducted among systematically sampled 106 pregnant women in 2nd and 3rd trimesters, attending five selected antenatal clinics in Wattala MOH area. A pre-tested interviewer-administered questionnaire was used to gather information on compliance with micronutrients and haemoglobin levels were extracted from pregnancy records and a cutoff of 11 g/dl was used to detect anaemia. Associations were analysed by Chi-squared test.

Results: The response rate was 100% and the prevalence of anaemia at the booking visit and at the end of 2nd trimester were 33.3% (n=37/99) and 29% (n=11/37), respectively. Of the subjects, 59.4% (n=63/106) had good overall compliance and 51.9% (n=55/106) had not taken pre-conceptional folic acid. There was no statistically significant association between good compliance for micronutrients and having anaemia at 1st trimester or end of second trimester (p>0.05).

Conclusions: The Wattala MOH Area reports a high prevalence of anaemia among pregnant mothers compared to the latest western provincial values. Compliance with micronutrient supplement is not satisfactory irrespective of the fact that they are diagnosed as been anaemic at 1st trimester, hence need more emphasis on effective communication methods to convey the risk.

Key words: Micronutrients, Pregnant women, Compliance

Corresponding author email: medmbbs191915@stu.cmb.ac.lk

Awareness of adolescent and youth friendly health services among grade ten students in government schools in Sri Lanka

Jayarathna K.A.D.N.S., Vithana P.V.S.C., Gunatilake A.W.P.I., Gunasoma L.P.A.I., Siriwardana S.A.I.D., Lokubalasooriya A., de Silva C.

Family Health Bureau, Ministry of Health, Sri Lanka

Background: Adolescent and Youth Friendly Health Services (AYFHS) plays a major role in catering for the specific health needs of young persons, who often face unique challenges related to their physical, mental, emotional and social well-being.

Aims: To describe the awareness of AYFHS, among grade ten students in selected government schools, in Sri Lanka

Methods: A descriptive cross-sectional study was carried out from June 2023 to December 2023, among grade ten students, selected from government schools situated adjacent to functioning AYFHS centres, representing all districts in Sri Lanka. Cluster sampling method was applied to achieve the sample size of 820, considering cluster size as ten. An interviewer-administered questionnaire developed and adapted to Sri Lanka, based on the eight Sri Lankan standards for AYFHS, was applied for data collection. Data analysis was conducted using SPSS 23.

Results: Response rate was 99.5% (n=816). Among the participants, 56.7% (n=463) were aware of health services being specifically provided to adolescents & youth in their locality. Of that, a majority (n=397, 85.7%) mentioned government hospitals and only 5.4% (n=25) mentioned MOH offices as service points. Out of all, 28.9% (n=236) were aware of the services provided at *Yowun Piyasa* centres. There were 44.6% (n=364) who had noticed information/ advertisements about AYFHS. Only 1.9% (n=16) had visited an AYFHS centre within the past year, and the majority (n=13, 81.2%) were satisfied with the services they received. Regarding barriers for accessing AYFHS, unawareness (n=144, 66.9%), privacy and confidentiality issues (n=26, 12.1%), and feeling embarrassed to go to AYFHS centres (n=22, 10.2%) were mentioned.

Conclusions: Adolescents were less aware of AYFHS, and the existing services were utilized less efficiently. The study recommends further interventions to increase awareness on AYFHS.

Key words: Adolescents, Adolescent Youth Friendly Health Services, *Yowun Piyasa*

Corresponding author email: kadnsj@gmail.com

The adverse pregnancy outcomes of advanced maternal age pregnant women delivered at a tertiary care hospital in Sri Lanka

Illangasinghe P.¹, Jayaratne K.², Karunapema P.³

¹Postgraduate Institute of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, University of Colombo, Sri Lanka; ³Ministry of Health, Sri Lanka

Background: Advanced maternal age (AMA) and very advanced maternal age (VAMA) are defined as 35 years or more and above 40 years, respectively. AMA pregnancies have become common in both developed and developing countries. Sri Lanka is also experiencing a rising trend in the prevalence of pregnancies in AMA with the potential for adverse pregnancy outcomes.

Aims: To describe the adverse pregnancy outcomes and associated factors of AMA pregnant women delivered at a tertiary care hospital in Sri Lanka

Methods: A hospital-based descriptive cross-sectional study was conducted among 216 postpartum women aged 35 years and above at their booking visit and delivered at Colombo North Teaching Hospital, selected by a non-probability consecutive sampling method from September 2020 to March 2021. A pretested interviewer-administered questionnaire was used. Maternal ages 35-40 years and above 40 years were categorized as “advanced” and “very advanced” maternal age. Pregnancy outcomes assessed included the mode of delivery, maternal and new-born outcomes. Adverse pregnancy outcomes with VAMA and associated factors were assessed using multivariate analysis.

Results: Response rate was 100%. Mean age was 37.8 (SD=2.4) and one-fourth (n=53, 24.5%) were >40 years. 41.2% of participants (n=89) had pre-existing chronic non-communicable diseases and of that, 23.6% (n=51) had diabetes mellitus. Majority were planned pregnancies (n=168, 77.8%) and 52.8.1% (n=114) had antenatal complications. More than half (n=124, 57.4%) had undergone caesarean section. Adverse new-born (n=80, 37%) and maternal (n=18, 8.3%) outcomes were reported. By multivariate analysis, age >40 (aOR=6.2, 95% CI=2.9-21.6, p=0.003), non-Sinhalese (aOR=4.0, 95% CI=2.0-16.2, p=0.036), LSCS in Previous pregnancy (aOR=12.5, 95% CI=5.3-29.6, p=0.000), antenatal complications (aOR=7.6, 95% CI=1.8-32.3, p=0.006), period of amenorrhea (POA) at delivery (aOR=5.0, 95% CI=1.9-13.3, p=0.001) and educated below O/Level (aOR=6.3, 95% CI: 2.3-36.5, p=0.03) significantly associated with adverse pregnancy outcomes in VAMA.

Conclusions: The experience of adverse pregnancy outcomes is substantial in being pregnant after 40 years and associated with ethnicity, education level, past mode of delivery, antenatal complications and POA at delivery. Effective strategies should be implemented to promote well-planned pregnancies in early reproductive ages of women and among AMA women.

Key words: Advanced maternal age, Adverse pregnancy outcomes of AMA

Corresponding author email: Poojani.illangasinghe@gmail.com

Prevalence of unplanned pregnancies and its associated factors among women attending antenatal clinics in Panadura Medical Officer of Health Area, Sri Lanka

Kahapola S.S.¹, Jazeer F.I.¹, Jayasooriya M.S.M.¹, Jayasuriya D.K.U.¹, Jayasuriya S.A.¹, Rajapakse H.¹, Talagala I.A.²

¹Faculty of Medicine, University of Moratuwa, Sri Lanka; ²Department of Community Medicine, University of Moratuwa, Sri Lanka

Background: An unplanned pregnancy occurs when conception happens without the explicit desire of one or both individuals involved, causing emotional stress, relationship strain, and potential difficulties in parenting. Unplanned pregnancies may result in postponed antenatal care and adverse outcomes for both the mother and the newborn.

Aims: To determine the prevalence of unplanned pregnancies and associated factors among women attending antenatal clinics in Panadura MOH Area

Methods: A descriptive cross-sectional study was conducted among 301 pregnant women attending antenatal clinics in the Panadura MOH Area. Eight clinics were selected randomly from 17 available, namely Keselwaththa, Adamforest, Thotawaththa, Ambalamduwa, Riwdewgama, Walana, Hirana, and the Central Clinic Panadura. Data were gathered through an interviewer-administered questionnaire. Associations with unplanned pregnancy were assessed with the chi-square test at $p < 0.05$ significance level.

Results: The response rate was 100%. The prevalence of unplanned pregnancy was 25.6%. The mean age of sample was 27 years (SD=4.07). It was significantly associated with household income ($p=0.026$); sexual behaviour ($p=0.012$); use of family planning (FP) ($p=0.015$); recent FP method used ($p=0.022$); method of receiving advice on FP ($p=0.006$); periconceptional folic acid usage ($p=0.041$); and personal believes on using FP methods ($p=0.022$), on discontinuing a method ($p < 0.01$) and on never using FP ($p < 0.01$).

Conclusions: Unplanned pregnancy is prevalent in Panadura MOH Area and is associated with household income, sexual behaviour, recent contraceptive method use, advisory sources, folic acid intake, personal beliefs, method discontinuation, and non-adherence. Focused programmes on FP conducted at community setting are recommended.

Key words: Unplanned pregnancy, Panadura MOH, Associated factors, Family planning, Antenatal clinics

Corresponding author email: sandusuwe1428@gmail.com

Out-of-pocket expenditure (OOPE) on diabetic care, diabetic drug adherence and factors associated with them among patients attending the diabetic clinic at Teaching Hospital Peradeniya, Sri Lanka

Weerasooriya R.M.B.S.¹, Weradoowa H.M.¹, Wickremasinghe W.A.M.S.¹, Widanagamage P.W.S.J.P.¹, Gunawardane D.A.²

¹Faculty of Medicine, University of Peradeniya, Sri Lanka; ²Department of Community Medicine, University of Peradeniya, Sri Lanka

Background: Diabetes mellitus is one of the most common noncommunicable diseases affecting the global population, including Sri Lanka. Despite living in a country with free healthcare, patients spend a significant amount of money out of their pocket, which can affect their drug adherence.

Aims: To describe OOPE on diabetic care, diabetic drug adherence and factors associated with them among patients attending the diabetic clinic at Teaching Hospital Peradeniya

Methods: An analytical cross-sectional study was carried out among 422 patients attending diabetic clinic of Teaching Hospital Peradeniya from July to August 2023. An interviewer-administered questionnaire was used to collect information regarding OOPE. Drug adherence was assessed using the Brief Adherence Rating Scale. Data were analysed using Jamovi 2.5.2.0. A p-value less than 0.05 was considered statistically significant.

Results: The median quarterly OOPE of a patient attending the diabetic clinic was LKR 1700 (IQR – LKR 2756). Out of the total OOPE, patients had spent most (26.4%) on medications, followed by transportation (17.5%) and laboratory testing (16.6%). Most (70.6%) of the participants were found to have good adherence (80% or more) to antidiabetic medications. A significantly higher OOPE was observed among patients with good drug adherence (Mann-Whitney U-15260, p=0.005). Distance travelled, type of diabetes, duration of disease and treatment pattern were found to have a statistically significant association with OOPE (p<0.05), while treatment pattern showed a statistically significant association with drug adherence.

Conclusions: OOPE for diabetic care was a significant challenge for many patients. Although drug adherence among diabetic patients was good, a notable proportion struggled with poor adherence. Good drug adherence was associated with higher OOPE.

Key words: Out-of-pocket expenditure, Drug adherence, Diabetes Mellitus

Corresponding author email: bimsaraweerasooriya@gmail.com

The trends in suicide deaths in elderly population in Sri Lanka from 2005 to 2015

Ekanayake E.M.K.B.¹, Gunawardane D.A.²

¹*Department of Forensic Medicine, University of Peradeniya, Sri Lanka;* ²*Department of Community Medicine, University of Peradeniya, Sri Lanka*

Background: Suicide rates increase with age and reach their highest levels in the oldest age groups, which presents a significant public health concern with population aging. As a country with a growing aging population, Sri Lanka needs to explore their suicidal patterns, especially among the elderly population.

Aims: To examine the trend of suicidal deaths among the elderly population (age 65 or above) in Sri Lanka between 2005 and 2015

Methods: Data on suicidal deaths between 2005 and 2015 were obtained from published data from the Department of Census and Statistics. Data analysis was performed using Google Sheets. Mortality rates were calculated per 100,000 population.

Results: The mortality rate (per 100,000) due to suicides after the age of 65 years in Sri Lanka was reduced from 50.1 in 2005 to 30.3 in 2015, while the elderly population increased by 33% during the same period. There is a constant increase in the proportion of elderly suicides among suicides in all age groups during the study period. Nearly 20% of suicidal deaths that occurred in 2015 were among elderly population. Male sex correlates to a higher suicidal risk, with a male:female ratio of 4.44:1 among the elderly population.

Conclusions: In Sri Lanka, elderly males face a higher risk of suicide. The elderly population substantially contributes to the country's overall suicide rate. With a growing aging population, Sri Lanka needs to prioritize suicide prevention efforts targeting this demographic.

Key words: Aged, Public health, Sri Lanka, Suicide, Time factors

Corresponding author email: kasun1992eka@gmail.com

Compassionate cities: drawing lessons for Sri Lanka from the United Kingdom

Nawaratne S.D.¹, Dale J.², Macartney J.², Mitchell S.³

¹Directorate of Healthcare Quality and Safety, Ministry of Health, Sri Lanka; ²Unit of Academic Primary Care, University of Warwick, UK; ³Division of Primary Care, Palliative Care and Public Health, University of Leeds, UK

Background: Compassionate Cities (CC) are a novel approach to public health palliative care. Insights could be gained for Sri Lanka by studying the successful implementation of the CC initiative from the UK.

Aims: To identify the transferable lessons for Sri Lanka on establishing CC by understanding the experiences of leaders from CC in the UK

Methods: An interpretative qualitative case study was conducted in a newly established CC in the UK, during 2023. Data collection included conducting in-depth interviews among members of CC steering committee, documentary analysis and non-participatory observations. Reflective thematic analysis was used to analyse the contents.

Results: Eleven in-depth interviews, five observations and four documents were analysed. Four themes identified were; right model, right people, right place, right time; building a network; building sustainable community capacity; and sustaining the CC initiative. The study illustrated the essential steps taken by the leaders of a CC to enhance the end-of-life experience of its citizens (developing a core team, encouraging civic engagement, conducting targeted awareness campaigns, developing policies, strategies, and activities to encourage, educate and enable improvements in the experiences of people who are seriously ill, caregiving, dying, or grieving; engaging volunteers and neighbourhood integration) and difficulties encountered in implementing a CC. The implementation challenges included commitment of stakeholders, lack of funding, mitigating tensions between professional groups and community organisations and challenges in monitoring and evaluating.

Conclusions: New insights and key transferable lessons from the study will help develop similar initiatives in Sri Lanka and other settings.

Key words: Compassionate Cities, Palliative and end-of-life care, Health promotion, Qualitative research

Corresponding author email: sdnawaratne@gmail.com

Delivery of age-appropriate comprehensive sexuality education for the general public of Sri Lanka: assessment of success in using digital platforms

Tennakoon G.M.J., Batuwanthudawe B.K.R., Fernando W.M.P.A., Wickramasinghe E., Weerasinghe W.M.P.C., Samarawickrama S.W.G.

Health Promotion Bureau, Ministry of Health, Sri Lanka

Background: Comprehensive sexuality education (CSE) plays a vital role in promoting sexual and reproductive health, creating safer and respectful communities. Parliament Caucus for Children mandated Health Promotion Bureau (HPB) of the Ministry of Health to deliver age-appropriate sexuality education to the Sri Lankan general public.

Aims: To describe the success levels in using innovative methods to deliver age-appropriate CSE to the Sri Lankan general public

Methods: An action-based research approach was followed. Background situations and causes contributing to sexual abuse of minors were identified through eight focus group discussions with first respondent professionals to child sex abuse-related cases. Opinion and perspective of general public together with religious communities were sought through HPB Public Engagement Network and Community Religious Leaders' Engagement Network (HPB-CREN). Sixty key messages under six thematic areas, aiming at five target audiences embracing life cycle approach were developed. Creatives developed in the form of animations, social-media tiles and presentations which were validated and pretested. CREN facilitated exploration of religious and cultural sensitivity, acceptability and ways to minimize barriers in delivery of CSE. Social media reach and engagement were planned as intermediate outcome measures.

Results: Material was disseminated in six digital platforms (Facebook, Instagram, TikTok, YouTube, X, LinkedIn) under the theme of "Let's Learn Life". Facebook secured 1.6 million reach and 150 000 engagements with a local and international audience. Instagram secured 125,000 reach and LinkedIn remained to be performing low with 20 page views.

Conclusions: Digital platform for CSE has created a supportive environment to empower communities with CSE.

Key words: Comprehensive Sexuality Education (CSE), Age appropriate, life cycle approach, digital platform

Corresponding author email: gmihirani@yahoo.com

"Empowering trade communities": a novel approach to combat tobacco sales in Muruthalawa, Sri Lanka

Dissanayaka W.D.M.I.H.¹, Wikramanayaka N.D.A.K.¹, Rajapaksha A.W.¹, Kumarihami A.I.M.¹, Sugatharathna A.M.P.S.¹, Dhanapala A.P.¹, Rabukwella R.².

¹Medical Officer of Health office, Yatinuwara, Sri Lanka; ²Office of the Provincial Director of Health Services, Central Province, Sri Lanka

Background: Prior research has established the efficacy of reducing tobacco selling points as a key strategy in reducing tobacco consumption. Extending this approach to community-level interventions holds promise for significant reductions in tobacco use.

Aims: To assess the effectiveness of an innovative approach to combat tobacco sales in Muruthalawa

Methods: A survey was conducted in Muruthalawa area to identify tobacco selling premises, to assess the tobacco sales status and to calculate the cost lost due to tobacco. Survey indicated that 22 shops were engaged in tobacco selling. Union of merchants, socially active groups, youth sectors and health staff were actively involved in reducing sales. Uniform messages were disseminated among tobacco merchants. Stickers indicating "This is not a tobacco-selling premise" were distributed to display at business premises. Follow-up survey was conducted to evaluate the effectiveness of this approach.

Results: The initial survey revealed an average sum of 56 million lost annually due to tobacco consumption in the area. Tobacco sales of 14 shops in the area (63.6%) were completely terminated. Follow-up survey revealed that total cost lost due to tobacco consumption was reduced by 47.6%. Sellers showed changed behaviour such as advising about negative effects when asked for a cigarette; counteracting arguments by marketing agents and spreading the message. Non-tobacco selling merchants were rewarded with a certificate.

Conclusions: Tobacco use can be reduced at the point of purchase using community engagement and empowering tobacco sellers effectively.

Key words: Tobacco sales, Empowerment, Point of purchase

Corresponding author email: dissanayakaimali87@gmail.com

Healthy Puttalam: revitalizing mother support groups via collaborative strategies

Karunanayaka K.A.L.A.¹, Menike D.M.C.D.², Ashoka H.M.L.², Perera K.M.N.³

¹Post Graduate Institute of Medicine, University of Colombo; ²Office of the Regional Director of Health Services, Puttalam District, Sri Lanka; ³Department of Public Health, University of Kelaniya, Sri Lanka

Background: Mother support groups (MSGs) empower communities specially in maternal and child health. In Puttalam District, efforts were made to revive these groups using innovative approaches. MSG activities had become inactive due to the COVID-19 pandemic and economic instability. Only a few public health midwives (PHMs) had taken actions, mainly focused on nutrition.

Aims: To reactivate MSG activities in Puttalam District using innovative methods and fostering community engagement

Methods: Discussions were held advocating supervising officials in the medical officer of health (MOH) offices and district office staff to devise a comprehensive strategy. A social media group, named "Healthy Puttalam," was created to connect all PHMs in the district, facilitating communication, knowledge exchange and sharing of experiences, programme ideas and best practices. A standardized assessment framework was developed to evaluate MSG activities and encourage participation. PHMs presented their activities at district reviews, with assessments made using this framework. This process promoted transparency and mutual learning.

Results: The social media group inspired PHMs to re-engage with their communities, forming new MSGs to address activities on nutrition (new recipes, collective feeding, and cooking), early childhood development, happiness, physical activities, and home gardening, fostering community networking. PHMs' participation in the MSG district review increased from 23% (6 out of 26) in 2022 to 84% (23 out of 26) in 2023. The evaluation provided valuable insights into the impacts of MSGs across the district, highlighting improvements in both the quality and quantity of activities. Successful approaches were identified, such as how PHMs replicated the WhatsApp group process, initiated discussions within their communities, and monitored their processes using developed tools.

Conclusions: This initiative revived MSG activities, enhanced community networking, and empowered participants through a communication platform and a standardized assessment framework. Innovative approaches can successfully empower and improve the knowledge, attitudes, and practices of both public healthcare workers and the community. Exchanging experiences and engaging with each other fosters development in the physical, mental, and social aspects of health among both parties.

Key words: Mother supportive groups, Revitalize community health, Collaborative strategies, Empowering communities

Corresponding author email: asirikaru.ac@gmail.com

POSTER PRESENTATIONS

Pattern, temporal association and associated factors of notifying dengue and COVID-19 in Panadura Medical Officer of Health (MOH) Area during the COVID-19 pandemic from 2020 to 2022

Ginigaddara D.S.¹, Gowthaman J.¹, Kumari T.W.K.U.I.¹, Madusanka R.L.D.P.¹, Wijethunga P.V.J.C.¹, Nandasena S.², Wickremasinghe D.R.³

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka; ²Ministry of Health, Sri Lanka, ³Department of Parasitology, University of Sri Jayewardenepura, Sri Lanka

Background: COVID-19, the recent global pandemic, affected almost all the dynamics in the world, including the day-to-day life of the public, global economy, health policies, resource distribution and many more. This also had a profound impact on the notification of infectious diseases such as dengue.

Aims: To describe the pattern, temporal association and associated factors of notifying dengue and COVID-19 in Panadura MOH Area during the COVID-19 pandemic from 2020 to 2022

Methods: Secondary data analysis was conducted based on the relevant data available in the Infectious Disease (ID) Register and COVID-19 database of the Panadura MOH office. The data analysis was conducted to identify the COVID-19 and dengue epidemiological patterns and lockdown effects. Residential mobility data was extracted from the COVID-19 community mobility reports issued by Google.

Results: Males represented a higher proportion of those diagnosed to have COVID-19 (52%) and dengue (57.1%). Majority of the dengue patients (72.3%) were less than 35 years of age while for COVID-19, the majority (53.1%) were above the age of 36 years. COVID-19 cases showed a peak in 2021 with 9452 (77.1%) cases, while dengue showed a peak in 2022 with 687 (57.8%) cases. Both dengue and COVID-19 cases were significantly higher during the non-lockdown period compared to lockdown period ($p < 0.001$). Residential mobility change had a significant correlation with the daily reported cases of COVID-19 ($p = 0.001$) and dengue ($p = 0.012$).

Conclusions: There was a significant reduction in the number of COVID-19 and dengue cases reported during the lockdown period, which was due to the mobility restriction causing a change in people's lifestyle and behaviour.

Key words: Temporal association, Mobility patterns, COVID-19 pandemic, Lockdown

Corresponding author email: renuwick@sjp.ac.lk

Pattern of clinical presentation of leprosy: Introduction of a user-friendly data analysis system in Ratnapura District for data surveillance

Amaranath C.¹, Mambulage R.U.¹

¹Office of the Regional Director of Health Services, Ratnapura, Sri Lanka

Background: Effective control of leprosy depends on proper data surveillance and analysis at local level. Use of technology is useful in identifying the disease patterns and analyse associations.

Aims: To introduce Google Looker Studio for the control of leprosy in Ratnapura District and describe the pattern of clinical presentation of leprosy

Methods: A Google Looker Studio was created from year 2017 based on the individual patient data extracted from the 587 Individual Patient Forms (IPFs) of leprosy patients which include the sociodemographic, geographical and clinical data. Patient data were fed into the system online and descriptive analytic functions were carried out via the system.

Results: The Google Looker studio dashboard indicated comparisons of MOH areas. The high-risk pockets were in Kurawita, Embilipitiya and Pelmadulla MOH areas. Multibacillary cases (59% in 2017 versus 88% in 2023) have remarkably increased. The highest case number was reported from (289/587) Teaching Hospital Ratnapura. The female case detection shows an increasing trend (40% in 2017 versus 44% in 2023). Self-referral dominates the source of referrals. 154 (26.2%) patients had Grade I or II disability. 127 (21.6%) patients had a contact history of leprosy.

Conclusions: The Google Looker Studio dashboard identified high-risk areas, including institutional and MOH areas and revealed clusters of cases. Our findings allow targeted interventions, particularly in high-risk areas to reduce transmission, Active case finding among small pockets in high endemic areas be of importance and improving leprosy control in Ratnapura District.

Key words: Individual Patient Form, high-risk area MOH area, Online system, Reducing transmission

Corresponding author email: amaranath.phi@gmail.com

Control of Anopheles stephensi in Mannar District, Sri Lanka: A case study

Priyatharshan S. E.¹, Wickrmeasinghe A.R.², Wickramasinghe P.K.³, Chathuranka V.K.D.¹, Thennakoon T.M.R.N.B.¹

¹Regional Malaria Office, Anti-Malaria Campaign, Mannar, Sri Lanka; ²Faculty of Medicine, University of Kelaniya. ³Office of the Regional Director of Health Services, Mannar, Sri Lanka

Background: Anopheles stephensi, which is an urban malaria vector in many neighbouring countries is known to be resistant to chemical adulticides. Despite the primary vector being Anopheles culicifacies, it is classified as an invasive potential malaria vector. Anopheles stephensi larvae were reported in Mannar Island in Sri Lanka for the first time in December 2016.

Aims: To describe the control of Anopheles stephensi from Mannar District

Methods: Control activities were carried out from 2017 to 2023. Mannar Island is 130 km² and divided into eight blocks (A to H) for field level control activities. Entomological surveillance for the breeding sites was carried out monthly throughout the Island. Larvivorous fish Poecilia reticulata were introduced to the wells as an intervention. Other breeding places were inspected including overhead tanks, small containers and water storage ground level tanks. All were inspected monthly and applied fish where needed.

Results: Mainly larvae of Anopheles stephensi were found with occasional adults in the breeding sites. The predominant breeding sites for Anopheles stephensi were shallow built wells. A total of 53080 wells were inspected from 2018-2023, of which 983 wells were positive for Anopheles stephensi larvae from 2018-2021. No larvae were recorded from 2022 onwards. The 3-month fish survival rate in Mannar Island was found to be above 90%.

Conclusions: The larvivorous fish introduction to the wells was the successful intervention to control the Anopheles stephensi in Mannar.

Key words: Anopheles stephensi, Larvivorous fish, Poecilia reticulata, Invasive potential vector.

Corresponding author email: spriyatharshan@gmail.com

Knowledge, attitudes and practices on morbidity management among patients with lymphoedema attending lymphoedema clinics in selected endemic districts in Sri Lanka

Perera S.S.¹, Shilpeshwarage S.P.N.K.², Gunaratna I.E.²

¹Regional Anti Filariasis Unit, Ministry of Health, Puttalam, Sri Lanka; ²Anti Filariasis Campaign, Ministry of Health, Sri Lanka

Background: Lymphatic filariasis is one of the main causes of lymphoedema in tropical countries. Sri Lanka reports around 500-900 lymphoedema patients annually despite eliminating the disease in 2016. Most new patients reported are in the early stages of the disease. Good management practices can prevent disease progression into disabling complications.

Aims: To describe knowledge, attitudes and practices on morbidity management among lymphoedema clinic patients in three filariasis endemic districts in Sri Lanka

Methods: A clinic-based cross-sectional study was conducted in all lymphoedema management clinics (n=10) in Kalutara, Gampaha and Puttalam Districts. A total of 405 lymphoedema patients were included through consecutive sampling. A pre-tested interviewer-administered questionnaire was used to collect data. Chi-squared test was used to determine the association of all factors with lymphoedema management practices.

Results: The sample consisted of 51.4% of males. Most had unilateral lymphoedema (88.1%) in the early stages (58.5%). The knowledge of skincare (n=231, 57.0%), compression (n=210, 51.8%) and management of acute attacks (n=257, 63.4%) was good among most patients. The attitude was good among 93.0% (n=377). More than half the patients had good practice in skin care (n=392, 96.7%), use of topical antibiotics (n=255, 62.9%), elevation (n=303, 74.8%), wearing comfortable footwear (n=243, 60.0%) and compression (n=253, 62.5%). Having a good knowledge of the same practice was significantly associated with practice of hygiene and skin care (p<0.001), footwear (p<0.001) and compression (p<0.001). Good attitudes were significantly associated with elevation (p<0.001).

Conclusions: Patients attending clinics had a good knowledge and attitudes towards lymphoedema management. Awareness programmes should be organized for patients through trained regional health staff to improve practices.

Key words: Lymphoedema, Filariasis, Knowledge, Attitudes, Management practices

Corresponding author email: aasithija@ymail.com

Leptospirosis in Sri Lanka in 2023: A survey for decision-making in preventive strategies

Amarasena W.D.J.K.¹, Nathaniel D.A.¹, Dabrera T.D.¹

¹*Epidemiology Unit, Ministry of Health, Sri Lanka*

Background: Sri Lanka is an identified hotspot for leptospirosis, particularly among communities like paddy farming due to frequent exposure to contaminated waterlogged fields. It is important that challenges such as underreporting and rising death rates are explored by careful analysis of current data.

Aims: To estimate the prevalence of leptospirosis and factors associated with leptospirosis infection and deaths in Sri Lanka in 2023

Methods: Special surveillance data on leptospirosis in 2023 was analysed. Statistical measures used were frequencies, percentages, measures of central tendency and dispersion and Chi-square testing with $p < 0.05$ significance. Multivariate regression analysis was conducted to identify significantly associated factors of leptospirosis-related deaths.

Results: Based on results of special surveillance, leptospirosis caseload was 6241, giving a prevalence of 28.3 per 100,000 population. Majority of cases were Sinhalese (87.4%) and males (84.9%). Cases were reported from all health districts, with highest from Rathnapura District (16.1%). Farmers constituted a significant portion of cases (24.8%) followed by labourers (13.7%). Among deaths, majority were males (79.1%) and in the 51–60-year age category (25%) with 70% dying within the first five days of admission. Significant factors associated with deaths among cases included being female (Adjusted Odds Ratio(AOR)=1.6, 95% CI=1.1-2.2, $p=0.012$), >60 years old (AOR=2.9, 95% CI=2.2-4.0, $p < 0.001$), not seeking medical treatment before admission (AOR=2.1, 95% CI=1.1-3.9, $p=0.028$) and being transferred to another hospital after admission (AOR=8.0, 95% CI=5.8-11.1, $p < 0.001$).

Conclusions: Targeted health education, policy making, and interventions are crucial for improving early medical access and managing high-risk populations in leptospirosis, thereby reducing leptospirosis related morbidity and mortality rates.

Key words: Leptospirosis, Sri Lanka

Corresponding author email: jinadarikaushalya@gmail.com

Effectiveness of periodical screening of contacts in identifying new leprosy patients in a low risk setting area, Cheddikulam in Sri Lanka

Wijesekara D.¹, Sujaani N.²

¹Anti-Leprosy Campaign, Ministry of Health, Sri Lanka; ² Office of the Regional Director of Health Services, Vavuniya, Sri Lanka

Background: Control of leprosy has been a challenge due to the long incubation period. Contact tracing has been identified as a major strategy in identifying new cases and controlling leprosy. However, single time contact screening is practicing currently to detect new cases in the country.

Aims: To assess the effectiveness of periodical screening of the contacts to identify new leprosy cases in Cheddikulam in Vavuniya District

Methods: Cheddikulam is a new settlement area with internally displaced personals. The first leprosy patient was detected in 1992 in Kanthinagar, Cheddikulam. In 2015, a detailed case analysis was carried out on the first index case by the district leprosy controlling team. During the analysis, nearly 100 close family contacts of the index patient were identified. Contact screening was carried out annually among the identified contacts until 2023 by the district leprosy controlling team.

Results: At the initial screening, 14 contacts were identified as leprosy patients while in the second screening, another six contacts were positive for leprosy. A total of 31 new cases were identified at the end of 2023 with the annual screening of the contacts of the index patient. Considering the reported total cases for the period from Cheddikulam MOH, nearly 50% were identified by the periodical screening of the first index patient.

Conclusions: A detailed analysis of the newly diagnosed leprosy patients and identification of all the possible contacts and periodical follow-up and screening is an effective method in identifying the new leprosy patients in low-risk settings in the country.

Key words: Leprosy, Contact tracing, Screening

Corresponding author email: adiliniw@gmail.com

Enhancing tuberculosis case detection: A strategy to increase referral rates from outpatient department to microscopic centres in Kandy District, Sri Lanka

Dissanayake D.M.D.P.¹, Thalagala S.², Kumarihamy B.M.I.³, Rambukwella S.R.⁴

¹*Respiratory Disease Treatment Unit, Kandy, Sri Lanka*; ²*Office of the Regional Director of Health Services, Kandy, Sri Lanka*; ³*Respiratory Disease Treatment Unit, Kandy*; ⁴*Office of Provincial Director of Health Services, Kandy, Sri Lanka*

Background: In 2023, 561 tuberculosis (TB) cases were identified out of the predicted 956 in Kandy District. Increasing the referral of presumptive TB patients from outpatient departments (OPDs) to microscopic centres is essential to improve case identification and further management.

Aims: To increase the number of presumptive TB patients referred to microscopic centres in the Kandy District

Methods: The study was conducted in five institutions where OPDs and TB microscopic centres were functioning at the same premises. An awareness campaign was conducted on TB, emphasizing the importance of referring more presumptive TB patients from OPD level for sputum examination. It was done in collaboration with the medical officers, public health laboratory technicians, and other relevant authorities of the selected institutions. A common social messaging app was used to monitor the number of referrals and address concerns daily. Data were collected over two months from five microscopic centres, before and after intervention, for comparison.

Results: Out of the five microscopic centres involved in the study, a significantly different proportion of patients were referred after the intervention ($p < 0.001$). There was a 63.9% increase in number of patients referred. The case detection rate improved by 13.9%.

Conclusions: This study highlights the effectiveness of targeted awareness and coordination interventions in improving the referral process and subsequent identification of TB cases. Continuous awareness and communication are crucial to achieving the expected targets for TB case detection.

Key words: Tuberculosis case detection, Strategies

Corresponding author email: padmanjalee@gmail.com

Regaining pre-pandemic performance of electronic surveillance of weekly return of notifiable communicable diseases, Sri Lanka: an interventional study to improve the timeliness

Perera T.A.P., Ginige P.S., Haputhantri T.D.

Epidemiology Unit, Ministry of Health, Sri Lanka

Background: The Weekly Return of Communicable Diseases (WRCD) contains a summary of the notified and investigated cases of communicable diseases in a medical officer of health (MOH) area during a week. The e-surveillance is the web-based surveillance system of WRCD. The due period is three days after the weekend. Timeliness is the proportion of reports that were received during the due period. Before the COVID-19 pandemic, all island timeliness was more than 80% (in 2019), but it has decreased to 20.3%, 42.7% and 51.8% in the 30th, 25th and 50th weeks of 2020, 2021, and 2022, respectively.

Aims: To identify causes for the poor timeliness and to regain the pre-pandemic level of timeliness

Methods: All the MOH areas (357) of Sri Lanka were included in the study. The relevant staff of the MOH areas with poor timeliness were contacted via telephone calls, and causes for poor timeliness were identified. All technical and operational problems were solved in the first three months, and several activities were conducted to improve the situation (i.e. provide regular reminders and weekly and monthly performance reports etc.).

Results: Causes for poor timelines were the unavailability of designated staff, problems with infrastructure, unawareness and misconceptions about due dates, lack of supervision and monitoring, delay in preparation and entering data, and administrative problems. The total number of returns received on time was 170, and overall, all island timeliness was 47.6%, and only four regional director of health (RDHS) areas had timeliness over 80% in the 51st week of 2022. Overall, all island timeliness has increased to 94.6%, and 24 RDHS areas have reached timeliness over 80% in the 50th week of 2023.

Conclusions: Timeliness of a surveillance system can be improved by continuous and vigorous monitoring and the provision of frequent feedback.

Key words: Disease surveillance, Communicable disease, Timeliness

Corresponding author email: alinda.perera@gmail.com

Innovative advocacy approach of convincing vaccine hesitancy population in the Gothatuwa MOH Area in Sri Lanka; a case study

Gajadeera G.¹, Muhandiram U.¹, Shanaz M.T.Q.F.², Batuwita N.¹, Nissanka S.¹, Jayalath K.D.², Gajanayake C.³, Hapudeniya C.J.G.³

¹MOH Office, Gothatuwa, Sri Lanka; ²Office of the Provincial Director of Health Services, Western Province, Sri Lanka; ³Office of the Regional Directorate of Health Services, Colombo, Sri Lanka

Background: Measles is caused by the measles virus which is an air-borne virus with high transmissibility. In 2023, relatively high number of cases were reported from Colombo District with 30 from Gothatuwa MOH Area. It was noted that some of these cases had not been vaccinated against measles.

Aims: To describe the reasons for the vaccine refusal and assess the effectiveness of a new approach in convincing the unvaccinated to get vaccinated during a supplemental immunization activity (SIA).

Methods: The area of intervention was Gothatuwa MOH Area. MOH teams within the Colombo district who received the special training were grouped and deployed to find reasons for the hesitancy and to educate community on importance of vaccination. After several rounds of convincing by a targeted education programme, the team managed to conduct a vaccination clinic at a religious institution. The administration of that institution agreed to conduct this clinic every Saturday of the month.

Results: The causes of vaccine hesitancy vary greatly and are inconsistently understood. Main domains for the hesitancy were cultural reasons, myths, and hearsay news on adverse reactions. Among 405 eligible children within the age cohort of 6-9 months, 81.7% (n=366) received the additional dose of measles vaccine through the SIA program. Out of the eligible children, 8.3% (n=27) were absent and 9.2% (n=30) received this additional dose from the private sector. Vaccine was refused by 5.2% (n=17) within the MOH area. Among the catch-up group of 232, only 10.7% (n=25) children got the vaccine.

Conclusions: Targeted and adaptable strategies can effectively combat this hesitancy, and tailor-made interventions can improve the vaccine coverage.

Key words: Vaccine hesitancy, Gothatuwa MOH, Stigma, Unvaccinated

Corresponding author email: rilshanaz@gmail.com

Enhancing dengue control through multi-sectoral collaboration: A community-led approach in Sri Lanka

Galappatti D.I.¹, Tillekeratne M.M.², Pathiraarachchi P.A.O.C.², Wickramasinghe D.N.², Athirayan S.³, Jayaranga J.N.², Gajanayake C.⁴

¹Postgraduate Institute of Medicine, University of Colombo, Sri Lanka; ²Medical Officer of Health Office, Moratuwa, Sri Lanka; ³Office of the Provincial Directorate of Health Services, Western Province, Sri Lanka; ⁴Office of the Regional Directorate of Health Services, Colombo, Sri Lanka

Background: Dengue is an endemic disease in Sri Lanka with seasonal outbreaks. Half of the cases are being reported in Western Province. Medical Officer of Health (MOH) area Moratuwa is identified as a priority high risk area. Successful dengue control activities require proper inter-sectoral collaboration.

Aims: To improve community engagement through inter-sectoral collaboration in dengue control activities

Methods: A dengue control programme was organized in Molpe *Grama Niladhari* (GN) Area with the Methodist church, MOH office and community stakeholders. With church's funding and human resources, a house-to-house survey to inspect breeding sites was planned. Volunteers from the community were recruited and trained using tailored educational material. A checklist was designed for the ease of their use during field activities, and a plan was formulated in collaboration with the local authorities to cover households on a designated date in November 2023.

Results: Around 100 volunteers were divided into 15 groups with a public health inspector, police officer or dengue assistant. The Molpe GN Area was covered with a total of 985 premises. Among them, 203 potential breeding sites were identified, and Premise Index was 3.0% (n=30). Premises positive with larvae were corrected and notices were given to 30 places. Health education sessions were conducted to the community. The removal of potential breeding sites in the notified premises were done with the involvement of the community.

Conclusions: Multi-sectoral collaboration is vital in implementing effective public health programs to gain community support. Some sectors like the police, showed less engagement and enthusiasm.

Key words: Dengue, Inter sectoral collaboration, Community interventions

Corresponding author email: dakiig999@hotmail.com

Improving coverage of screening for HIV and other STIs among commercial sex workers and spa employees in Kandy District

Damayanthi M.R.B.G.S.K.¹, Thalagala S.², Bandara H.M.C.S.³, Ranasinghe A.W.I.P.⁴

¹*Sexual Transmitting Disease and AIDS Control Program, Kandy, Sri Lanka;* ²*Regional Office of the Director of Health Services, Kandy, Sri Lanka;* ³*Sexual Transmitting Disease and AIDS Control Program, Kandy, Sri Lanka;* ⁴*Provincial Department of Health Services, Central Province, Sri Lanka*

Background: In Kandy District of Sri Lanka, the prevalence of HIV and other sexually transmitting infection (STIs) among commercial sex workers (CSWs) and spa employees is not yet known, though it is a significant public health concern.

Aims: To enhance the screening coverage for HIV and STIs among CSWs and spa employees in Kandy District

Methods: This is a retrospective analysis of secondary data from clinic records. Screening data from three months before implementing the new screening process and three months after establishing the screening process were collected using a data extraction sheet. Targeted interventions that were carried out for enhancing the screening process were conducting more awareness programs among the key populations, conducting regular screening every three months to enhance the availability of service, and issuing test reports as early as possible, ensuring the confidentiality of personal information and stigma reduction intervention.

Results: Before establishing the new screening process, clinic attendance was 22 (screening target for the quarter was 154). After establishing the new screening process, clinic attendance was 46. After establishing the new screening process, attendance for screening among the targeted population increased from 14% to 30%, indicating substantial uptake of screening process.

Conclusions: The new screening process appears to address systemic barriers, reduce stigma and empower CSWs and spa employees to access screening services. This advocates for a proactive and inclusive approach to public health that prioritizes equity, dignity and fundamental right to health for all members of the society including marginalized and vulnerable populations.

Key words: Coverage, Screening for HIV and other STIs, Awareness, Stigma

Corresponding author email: Dr.damayanthi76@gmail.com

Knowledge on immunization error related adverse events among public health midwives in Mahara Medical Officer of Health (MOH) Area in Sri Lanka: an audit

Gallage A.O.¹, Settinayake P.²

¹Department of Community Medicine, University of Colombo, Sri Lanka; ²Medical Officer of Health Office, Mahara, Sri Lanka

Background: Public health midwife (PHM) is a primary service provider at the MOH level with regards to the National Immunization Programme of Sri Lanka. An adverse event following immunization (AEFI) is any untoward medical occurrence following immunization which does not necessarily have a causal relationship to the vaccine. One of the reasons for AEFI is immunization error–related reactions.

Aims: To assess the knowledge on immunization error related adverse events among PHMs in Mahara MOH Area and thereby to improve the quality-of-care provision

Methods: A self-administered questionnaire with 20 single best response (SBR) questions as the pretest followed by two in-service training sessions and a post-test with 30 self-administered SBR questions complied using National Guidelines on Immunization Safety Surveillance (2016) and Immunization Handbook for Primary Health Care Staff (2016) were administered to all 56 PHMs at the in-service programme of Mahara MOH Area. Missing data analysis was done using the Expectation-Maximization (EM) algorithm.

Results: The response rate for the pre-test and the post-test was 82.1% (n=46) and 68% (n=38). The corresponding mean percentage scores were 64.2% (SD=10.4) and 75.4% (SD=6.7). There was a significant difference ($p<0.001$) in the mean knowledge score of post-tests following the series of in-service training. Concurrently vaccine associated nodules were reduced from 41 (44%) to 20 (32%) within a year following the audit.

Conclusions: The knowledge on immunization error related adverse events among PHMs in Mahara MOH Area improved significantly following the audit cycle.

Key words: AFEI, Audit PHMM, Immunization error–related reactions

Corresponding author email: aruni@commed.cmb.ac.lk

Functionality of the 'Digital Signage Platform' in health care institutions in Sri Lanka: an audit

Fernando D.E.G., Amarasinghe P.M.T.U., Batuwanthudawe B.K.R., Jaythilake K.A.R.

¹*Health Promotion Bureau, Ministry of Health, Sri Lanka*

Background: The Health Promotion Bureau, in collaboration with the Ministry of Health and Primary Health System Strengthening Project, has deployed Digital Signage Screens (DSS) across healthcare institutions nationwide aiming to disseminate health-related information with the goal of enhancing community knowledge.

Aims: To assess the functionality of DSS and identify the underlying reasons for the non-functional stations

Methods: An internal audit was conducted in all the nine provinces with 600 stations using quantitative and qualitative assessments. The standard was to make all stations online at least once and 300 stations online daily during working hours by April 2024. A data extraction sheet was used. Key informant interviews (KII) were conducted with a purposively selected group of officers in charge of the DSS through telephone interviews using a semi-structured interview guide to identify the issues. The reasons for each station were analysed. The number of stations online was recorded through daily monitoring.

Results: The quantitative analysis indicated that out of 600 stations, 403 (67%) DSS at end-stations were functional according to the central server. On average, 55 (9%) screens appeared online in a cross-section of a given time. The ability to continuously display a program offline once uploaded to the system was an advantage. KII discovered that the non-functionality was due to no proper internet facility, defects in the DSS, renovation of hospitals, inappropriate placement and lack of importance and information among health staff.

Conclusions: All defective and malfunctioning equipment needs to be replaced or repaired and SLT fibre internet connectivity must be provided. The functionality of the DSS needs improvement and it will be monitored daily with review meetings planned for each province in future.

Key words; Digital Signage System, Monitoring, Functionality

Corresponding author email: eroma_f@yahoo.com

Development and validation of a tool to assess occupational health literacy among welders in the District of Colombo, Sri Lanka

Hathamuna A.I.¹, Goonewardena C.S.E.², Suraweera I.K.¹

¹Directorate of Environmental and Occupational Health, Ministry of Health, Sri Lanka; ²Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka

Background: Welding is considered as an occupation that causes work-related accidents and diseases to a greater extent in developing countries. Health literacy assessment is an initial step in promoting occupational health of welders.

Aims: To develop and validate a tool to assess occupational health literacy, among small-scale welders in informal sector in the District of Colombo

Methods: The Occupational Health Literacy Tool for welders – Sinhala (OHLTW-S) tool was developed in a stepwise process. Principal Component Analysis (PCA) and Confirmatory Factor Analysis (CFA) were performed among 353 and 282 welders in selected divisional secretariat areas of Kalutara district. Data analysis was conducted using the SPSS Version 23 and LISREL 8.8 Software. The reliability was assessed using internal consistency and test-retest reliability measures.

Results: The 24-item, OHLTW-S demonstrated a four-factor model with acceptable level of psychometric properties and reliability. PCA extracted factors explaining 65.39 % of the total variance. CFA yielded favourable model fit indices; RMSEA=0.078, CFI=0.94, NNFI=0.93, and SRMR=0.078 supporting the theoretical framework of four factors: "access to information on OHS" (8 items), "understand information on OHS" (9 items), "evaluate information on OHS" (3 items), and "apply information on OHS" (4 items). Internal consistency reliability, measured by Cronbach's alpha, was significant for the overall scale ($\alpha=0.929$) and acceptable for each subscale, all exceeding the threshold of 0.70. All four correlation coefficients for the test-retest reliability were above 0.5.

Conclusions: The OHLTW-Sinhala version is a valid and reliable instrument to assess occupational health literacy among welders.

Key words: *Occupational health literacy, welders*

Corresponding author email: arunigw@gmail.com

Influence of long-term yoga practice on the body composition of sedentary working adults living in Colombo District of Sri Lanka: a comparative study

Yogeswaran S.¹, Weliange S. De S.², Arambepola C.²

¹Faculty of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, University of Colombo, Sri Lanka

Background: Maintaining a healthy body composition is crucial to reduce the morbidity and mortality of non-communicable diseases. Maintaining it through exercise remains highly challenging for sedentary working adults. Yoga is a widely chosen exercise adopted in lifestyle modifications.

Aims: To compare the influence of yoga on body composition between long-term yoga exercisers and non-exercisers

Methods: A comparative cross-sectional study was conducted among 65 adults on regular yoga exercises for more than one year (Exposure group) and 65 adults not involved in any form of exercise (Non exposure group). All were residing in urban areas of Colombo District and recruited systematically from selected yoga training centres and workplaces. Body composition was measured using TANITA SC240 analyzer; height using SECA 213 stadiometer; and waist and hip circumferences using a standard measuring tape. Results were compared between the two groups using independent t-test.

Results: The sample aged 25-55 years comprised yoga exercisers (22 males; 43 females) and non-exercisers (21 males; 44 females). Compared to non-exercisers, the yoga exercisers demonstrated lower body mass index kgm^{-2} (mean=23.15; SD=2.88 versus mean=24.64; SD=4.59); body fat mass kg (mean=17.85; SD=4.73 versus mean=20.06; SD=7.94); body fat percentage (mean=29.26; SD=6.26 versus mean=30.84; SD=7.86); waist (mean=86.18; SD=8.35 versus mean=88.79; SD=11.61) and hip circumferences cm (mean=95.27; SD=5.71 versus mean=98.5; SD=8.86); and waist/hip ratio (mean=0.89; SD=0.12 versus mean=0.9; SD=0.07). All these associations were statistically significant ($p < 0.05$) except body fat percentage ($p=0.13$) and waist/hip ratio ($p=0.637$).

Conclusions: Long-term practice of yoga helps in maintaining a healthy body composition to a great extent, thus is recommended for working Sri Lankan adults.

Key words: Body composition, Yoga, Sedentary, Lifestyle, Non-communicable diseases.

Corresponding author email: ysuganya@yahoo.com

Insights and developments in food establishment inspections for public health protection: An audit conducted in Kalutara District, Sri Lanka

Nanayakkara N.G.P.M.¹, Hettiarachchi C.A.², Dineshan J.M.S.², Madhusanka T.W.H.R.⁴, Weththewa W.K.K.P.⁴, Sathsara T.D.D.⁴

¹Postgraduate Institute of Medicine, University of Colombo; ²Regional Director of Health Service Office, Kalutara; ³Faculty of Medicine, University of Colombo; ⁴MOH Office, Dodangoda;

Background: Food safety is crucial for preventing illness and contamination, relying on meticulous food handling, preparation and storage. The Revised H800 format (2022) introduced by the Ministry of Health, Sri Lanka, is the standard tool used for grading food establishments based on hygiene practices.

Aims: To assess the quality improvement in food establishments through the inspections done using revised tool combined with follow-ups

Methods: A descriptive cross-sectional study was conducted with follow-up inspections from November 2023 to March 2024 by using the H800 form in Dodangoda MOH Area. Randomly selected 20 hotel-category food establishments were included in the study. The inspection was carried out by the authorized officers of the Food Act.

Results: The study inspected 20 hotel-category food outlets. At initial inspection, only 5% (n=1) were graded as 'A' grade, followed by 40.0% (n=8) 'B' grade, 50.0% (n=10) 'C' grade and 5.0% (n=1) 'D' grade. In the third inspection of 18 establishments, 16.7% (n=3) achieved an 'A' grade, 50.0% (n=9) a 'B' grade, 33.3% (n=6) a 'C' grade and none in the 'D' grade category. However, only 41.9% of the food handlers maintained their hygiene. Hygiene maintenance of the "Building" and "Processing and serving areas" were 57.8% and 66.1%, respectively.

Conclusions: The revised tool combined with follow-up visits helped to improve the quality of the food establishments. During follow-up visits, no reduction of marks in any of the sections was noted. However, there is still room for improvement and re-audits are recommended to assess improvements. Food handler training and timely medical inspections are recommended.

Key words: Food Inspection, H800 Format, Food hygiene, Food safety, Food premises grading, Food handler

Corresponding author email: gpmnanayakkara@gmail.com

Knowledge, attitudes and practices related to wearing scrubs in the hospital setting among healthcare workers in Colombo North Teaching Hospital (CNTH), Ragama, Sri Lanka

Nawodi G.V.K.¹, Narampanawa S.¹, Nawarathne M.G.H.P.¹, Nusran M.R.M.¹, Paranavitana Y.K.S.¹, Parusiya R.S.¹, Pannala T.C.²

¹Faculty of Medicine, University of Kelaniya, Sri Lanka; ²Department of Public Health, University of Kelaniya, Sri Lanka

Background: With COVID-19 pandemic, the use of scrubs at ward settings was introduced for Sri Lankan healthcare workers as a measure for infection prevention. It has become a popular practice among health workers to date.

Aims: To determine the knowledge, attitudes and practices related to wearing scrubs in the hospital setting among healthcare workers in CNTH, Ragama

Methods: An analytical cross-sectional study was carried out among all healthcare workers irrespective of their hospital attire (scrubs/casual) in 20 selected wards in CNTH, Ragama, using a self-administered, questionnaire. Knowledge, attitudes and practices were assessed using a Likert scale. Data were analysed to present descriptive statistics and associations using Chi-squared test.

Results: Out of 403 healthcare workers, 49.6% were nurses, while 27% were doctors and 23.3% minor staff. Majority were from medical wards. Majority (89.6%) of the healthcare workers were aware of the reasons for wearing scrubs and 81% believed the reason to be infection control. Majority (82.6%) changed into scrubs within the hospital premises. More than 50% had changing rooms and bathing facilities within premises. Majority (82%) had good knowledge and attitudes of wearing scrubs. Nurses had a significantly higher rate of reporting changing out of the scrubs before leaving the hospital ($\chi^2=55.47$, $p<0.001$). More than 90% of healthcare workers believed that wearing scrubs outside the hospital was inappropriate & unacceptable by the community.

Conclusions: Healthcare workers at CNTH demonstrated positive knowledge and attitudes and favourable practices towards wearing scrubs at hospital setting. It is important to retain the positive knowledge and practices through continuous professional development and improving facilities for the health staff.

Key words: Scrubs, Healthcare workers, Knowledge, Practices, Attitudes

Corresponding author email: gvkaveesha@gmail.com

Comparison of Food Based Dietary Guidelines for Children and Adolescent among South Asian Countries

Chandrasiri M.H.T.K.¹, Athauda L.K.², Kasturiratne A.², Frost G.³, Forouhi N.⁴

¹Global Health Research Unit, University of Kelaniya, Sri Lanka; ²Department of Public Health, University of Kelaniya, Sri Lanka; ³Department of Metabolism, Digestion and Reproduction, Imperial College, UK; ⁴MRC Epidemiology Unit, University of Cambridge, UK

Background: Food Based Dietary Guidelines (FBDGs) are essential for promoting healthy eating habits among children and adolescents. Literature lacks comprehensive comparison of FBDGs for children and adolescents in South Asia. This study is a desk review of FBDGs targeting children and adolescents in South Asia.

Aims: To compare the FBDGs developed for children and adolescents in South Asia

Methods: FBDGs targeting children and adolescents were extracted from the repository of the Food and Agriculture Organization and the relevant official government websites. Guidelines were reviewed and compared between countries.

Results: India, Sri Lanka, Bhutan, Maldives and Pakistan have specific dietary guidelines for children and adolescents while Afghanistan, Bangladesh and Nepal do not. India and Maldives discouraged overeating and discriminated dieting influenced by body image concerns and food fads. The latest FBDGs from Sri Lanka promoted healthy breakfasts, snacks at school and dietary diversity in meals. All countries recommended that children and adolescents consume more dairy, fish/egg/lean meat, pulses, vegetables and fruits. Sri Lanka and Bhutan recommended meeting high iron and calcium needs of vegans. All FBDGs included limitations on alcohol, sweetened beverages and refined cereals. Only Indian and Pakistan FBDGs included guidance for pregnant teenagers. All dietary guidelines emphasized the need to limit junk food, processed, and ultra-processed foods as per the NOVA classification.

Conclusions: Guidelines tackling the triple burden of malnutrition (overnutrition, under nutrition and micronutrient deficiencies) are limited in South Asian FBDGs. Meal combinations, healthy eating practices and sustainability considerations can further improve all FBDGs.

Key words: Adolescents, Children, Food based dietary guidelines, Healthy eating, South Asia

Corresponding author email: lathika@kln.ac.lk

Quality of life and associated factors among government primary school teachers in Gampaha District, Sri Lanka in new normal context

Chulasiri P.U., [Rathnayake K.A.S.D.](#)

Anti Malaria Campaign, Ministry of Health, Sri Lanka

Background: COVID-19 pandemic encountered diverse public health challenges in working population worldwide. Coping, adapting and overcoming the pandemic crisis amidst heightened anxiety defined as “new normal in pandemic.” Quality of Life (QoL) defines an individual’s overall wellbeing concerning values, environment, social and cultural framework.

Aims: To assess the QoL and associated factors among government primary school teachers in Gampaha District

Methods: A descriptive cross-sectional study was conducted in 640 study units selected from sixty-four clusters (a cluster was 10 teachers from schools with grade one to five) using multi-stage stratified cluster sampling method. Validated, pre-tested, self-administered questionnaires (including SF-36) were used to describe socio-demographic, work-home environment, and service-related factors influencing QoL. Statistical analysis was conducted using SPSS. The significance level was set at 5%.

Results: The response rate of 81.25% (n=520) comprised higher responses from married (90.4%), females (87.3%) and mixed schools (72.9%). The high QoL (score of equal or above 50) was noted in physical functioning (n=388, 74.6%), emotional wellbeing (n=398, 76.4%), social functioning (n=334, 64.2%), pain (n=337, 64.7%) and general health (n=264, 50.8%). Low QoL was denoted in limitations due to physical health (n=325, 62.3%) and fatigue (n=332, 63.7%) domains of SF-36. Significant association of QoL was identified with age category 21-30 years (87.7%), absence of a history of non-communicable diseases (72.1%), receiving family support (72.1%), receiving peer support (76.5%), online facilities as teaching aid (81.4%) and adhering to preventive measures (74.2%).

Conclusions: Young age category, getting family support, absence of a history of NCDs, peer support with assisted working environment and adherence to COVID-19 preventive measures were evidenced as positively impacted on elevated QoL among primary school teachers. Establishing appropriate supportive measures to improve QoL and further research is warranted to explore supportive intervention effectiveness.

Key words: QoL, New normal context, SF36, Primary school teachers

Corresponding author email: kasdr29@gmail.com

Waste management practices and knowledge in relation to dengue control in Millaniya Medical Officer of Health (MOH) Area in Kalutara District, Sri Lanka

Kumara P.M.C¹, Goonewardena C.S.E².

¹Postgraduate Institute of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka

Background: Dengue viral infection is a vector born disease and mainly transmitted by mosquito *Aedes aegypti*. Vector management by reducing breeding places is the main method of control and Container Index is one of the key indicators which predicts dengue outbreaks.

Aims: To describe waste management practices in relation to dengue control in Millaniya Medical Officer of Health (MOH) Area in Kalutara District, Sri Lanka

Methods: A descriptive cross-sectional study was conducted among 428 female householders in Millaniya MOH Area. Thirty clusters were selected using World Health Organization Expanded Program of Immunization Coverage Survey (WHO EPI). Pretested, interviewer-administered questionnaire and an observational check list were used to collect data. The statistical analysis was done using Chi-squared test. Practice scores were used to assess practices and significance was taken at $p < 0.05$.

Results: Most of the participants (99%) knew that improper waste management increases mosquito breeding places. Only 16% of households waste was collected by local authority. Among participants, 88.8% practised waste segregation before disposal, 84.7% of participants had a place to store coconut shells, bottles, tin, plastic and polythene under cover without collecting rainwater. Among the participants, 38%, 11.7%, 83.5% and 44.7% properly disposed plastic, polythene, metal items and coconut shells, respectively. However, 80% of households had improper waste dumping sites around the house. Female householders and their spouse who were educated above GCE Ordinary Level ($p=0.002$) and younger age groups ($p=0.017$) had proper waste management practices.

Conclusions: Although participants had good knowledge on waste disposal, practices need to be further strengthened in relation to dengue control.

Key words: Dengue, Waste management, Practices

Corresponding author email: mdkchaminda94@gmail.com

The Needlestick and sharps injuries among healthcare and supportive service workers in a tertiary care hospital in Sri Lanka

Ranasinghe, R.D.S.¹, Nannyakkara, G.²

¹Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka; ²Department of Microbiology, Sabaragamuwa University, Sri Lanka

Background: Needlestick and sharps injuries are a common occupational hazard with a potential risk of blood-borne diseases such as hepatitis B (Hep B), hepatitis C (Hep C) and HIV among healthcare workers (HCW) and other supportive workers.

Aims: To assess the incidence of needle stick and sharps injuries among healthcare and other supportive workers and their hepatitis B vaccination status during the year 2023 at Teaching Hospital Ratnapura (THR)

Methods: Surveillance data of the needle prick /sharps injuries register of THR was analysed for a period of one year from 1st January to 31st December 2023. Injuries reported among healthcare workers and supportive service workers were included in the analysis. Body splashes and needle prick /sharp injury occurred in other hospitals were excluded from the analysis.

Results: During the study period, 85 incidents of needle prick/sharps injuries had been reported. Staff nurses had the highest proportion of incidents (n=29, 34.1%), while 17.6% (n=15) were reported from medical officers, 4.7% (n=4) intern medical officers, 14.1% (n=12) nursing students and 13% (n=11) health care assistants. Out of all reported injuries, 93% (n=79) were due to needle prick/sharp injuries and 7% (n=6) were cut injuries. Two needle prick injuries were due to recapping and two cases had resulted while discarding the needle. About 10% of the injuries had happened while checking blood for capillary blood sugar and 9% of the injuries had happened while handling sharp bins. About 69% (n=59) were fully vaccinated for Hepatitis B while 25.8% were not.

Conclusions: Needle prick/sharp injuries continue to pose a serious occupational problem among healthcare and supportive staff. Adherence to standard procedures should be encouraged through education and other intervention programs like vaccination and follow up antibody screening.

Key words: Needle prick, Sharp injuries, Health Care Workers, Teaching hospital

Corresponding author email: sriyaniranasinghe@gmail.com

The effectiveness of interventions to improve mental health literacy, helping intentions and stigmatizing attitudes in schoolteachers and staff in Asian countries: A systematic review and meta-analysis

Denuwara H.M.B.H.¹, Chandrasiri A.¹, Wright J.², Morgan A.J.², Reavley N.J.²

¹Ministry of Health, Sri Lanka; ²Centre for Mental Health, Melbourne School of Population and Global Health, University of Melbourne, Australia

Background: Mental health literacy has been defined as the knowledge and beliefs about mental disorders which aid their recognition, management or prevention.

Aims: To explore the effectiveness of interventions to improve mental health literacy, helping intentions and stigmatizing attitudes in schoolteachers and staff in Asian countries

Methods: Medline, ERIC, PsycINFO, CINHALL and Web of Science databases were searched. Studies had to meet the following eligibility criteria: randomized controlled trial (RCT), quasi experimental or cluster randomized experimental designs, and published as a peer reviewed journal article and or as a report in English from 2000 till February 2022. Risk of bias assessments were conducted with Cochrane Risk of Bias (ROB) V2 tool and ROBINS-I criteria for randomized and non-randomized interventions, respectively. Meta analyses were performed with Review Manager 5.4 software.

Results: Initially, 11547 articles were identified and eight were subsequently selected for synthesis of findings. There were four RCTs (n=496) and four before and after studies (n=251). Most RCTs were of low ROB while other studies were with ROB of some concern/critical. Meta analysis using the four RCTs indicated that there was a large improvement in knowledge (SMD=1.3, 95% CI=0.95-1.7), a moderate improvement in stigma (SMD=-0.6, 95% CI=0.8-0.3) and a large improvement in helping intention (SMD=0.8, 95% CI=0.5-1.2) following the tested interventions.

Conclusions: Interventions targeting schoolteachers and staff had large effects upon knowledge of mental illnesses and helping intention and moderate effects upon stigma.

Key words: Systematic review, Meta-analysis, Mental health literacy, Teachers

Corresponding author email: buddhinidenuwara@gmail.com

Part time employment and associated factors among medical students at a selected Sri Lankan university

Dissanayake D.C.¹, Weeratunga M.N.¹, Nawarathne S.N.M.U.E.¹, Weerasekara W.M.W.S.¹, Infaz M.I.M.¹, Ariyaratne H.T.D.W.², Rajapakshe O.B.W.³, Goonewardena C.S.E.⁴

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka; ²Department of Forensic Medicine, University of Sri Jayewardenepura, Sri Lanka; ³National Programme for Tuberculosis Control and Chest Diseases, Ministry of Health, Sri Lanka; ⁴Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka

Background: Engaging in part-time employment is prevalent among Sri Lankan undergraduates including medical students, particularly amidst the recent financial instability of the country. The proneness of medical undergraduates to engage in part time employment, causes and its impact on their education and lifestyle remain an unstudied area in Sri Lanka.

Aims: To describe practices of part time employment and associated factors among medical students at a selected Sri Lankan university

Methods: This descriptive cross-sectional study was conducted among 417 medical students at University of Sri Jayewardenepura, using a self-administered questionnaire. The sampling method was probability proportionate stratified sampling among batches followed by a simple random sample from each stratum/batch.

Results: Results indicated that 19.2% (n=80) of respondents were employed part-time; conducting tuition classes (n=60, 75.0%), freelancing (n=2, 2.5%) and delivery driving (n=1, 1.2%). Financial need was the primary motivator for employment (n=66, 82.5%). Males (n=44, 27.8%, p<0.001) and students with lower family income (n=54, 22.7%, p=0.036) were more likely to engage in part-time work. Having less or no financial support from family, has made students pursue employment (n=24, 66.7%, p<0.001), which further indicates their economic instability. The environmental domain of quality of life (n=22, 75.9%, p=0.012) was poor among students working longer hours.

Conclusions: There is a necessity for financial support for economic stability among students. Interventions such as proper part-time employment schemes and strengthening of recreational activities within the university are required to improve quality of life among the students.

Key words: Part time employment, Medical students

Corresponding author email: dcdissanayake14@gmail.com

Streamlining waste management at Base Hospital (BH) Kekirawa, Sri Lanka

Mansoor M.¹, Nilushika Y.C.¹, Dissanayake P.S.², Sandamali R.M.S.², Bandara H.G.J.W.², Rajakaruna G.G.S.P.², Karunasinghe W.N.², Rathnayaka R.M.V.R.K.², Priyadarshani R.G.T.², Manas Y.M.²

¹Postgraduate Institute of Medicine, University of Colombo, Sri Lanka; ²Kekirawa Base Hospital, Sri Lanka

Background: Health care activities generate various types of waste, and mismanagement poses significant environmental and occupational health risks. The BH Kekirawa faced challenges like improper waste segregation, leading to waste accumulation, and feeding leftover food to dogs, which caused dog breeding and dog bite incidents.

Aims: To assess the effectiveness of an intervention to improve waste management and reduce stray dog population

Methods: A waste management initiative was launched, involving a committee with staff from various levels to devise solutions. Ward-specific teams were formed to manage waste disposal, through weekly rounds and monthly conferences to monitor and resolve issues. Monthly supervision by the institution's leadership ensured adherence to guidelines. Proper waste segregation was promoted through daily announcements and patient education at outpatient clinics and wards. Equipment and personal protective equipment were acquired via the Regional Director of Health Services, and color-coded bins were placed. Trained cleaning staff collected waste to prevent mixing. Clinical waste was incinerated at the BH Thambuttegama, food waste sent to pig farms, and plastics and glass recycled by external contractors. Food waste was reduced by assessing overcooking, encouraging patients to inform when they did not require meals. Reusable lunch containers were promoted among staff. Strict rules prohibited feeding dogs. The project spanned approximately five months from March 2023. The pre- and post-project assessments were done.

Results: Food waste declined from approximately 440 kg per month (February 2023) to around 350 kg per month (December 2023). The number of stray dogs also fell from 5 to 3, and the number of reported dog bite incidents decreased from two in the previous six months to zero over the duration of the project. Staff members reflected that these methods led to a noticeable reduction in waste accumulation.

Conclusions: Continuous health education, health promotion, clear assignment of duties and established rules significantly improved waste management.

Key words: Waste, Waste management, Hospital, Waste segregation, Stray dogs

Corresponding author email: muthash@ymail.com

Immunization safety and challenges identified by the public health staff to the National Immunization Programme at the offices of medical officer of health (MOH) in Gampaha District, Sri Lanka

Perera, T.A.P.¹, Haputhantri, T.D.¹, Fernando, M.¹, Samaraweera, K.²

¹Epidemiology Unit, Ministry of Health, Sri Lanka; ²Office of the Regional Director of Health Services, Gampaha, Sri Lanka

Background: Immunization safety is the process of ensuring safety in all aspects of immunizations. This includes the supply of quality vaccines, the practice of safe injection procedures, proper handling of vaccines, surveillance of adverse events following immunization (AEFI) and proper management of waste generated in immunization.

Aims: To describe cold chain management, adverse event surveillance, vaccine stock management, methods of adverse event reporting, immunization waste management and the challenges to the National Immunization Programme (NIP), which were identified by the public health staff

Methods: Six MOH areas were randomly selected from the 15 MOH areas. The Epidemiology Unit's MOH supervision check list was used to collect the data. Eighteen in-depth interviews were conducted with health staff in all selected MOH areas to identify challenges.

Results: Cold chain management, vaccine stock management and maintenance of the emergency trays were done according to guidelines in all MOH areas. Cold chain contingency plans were available and updated in all MOH areas. Written waste management plans and separate cold chain inventories were not available in all MOH areas and AEFI reporting was not adequate in all MOH areas. The identified challenges to NIP were the same in all MOH areas, and they were the growing tendency to go to the private sector, the emergence of a very small number of cases of vaccine hesitancy among certain groups, the lack of dedication of newly joined field health staff, misconceptions and lack of knowledge about vaccines among parents and in society, and the negative influence of social media.

Conclusions: Immunization safety practices were well maintained at the MOH offices according to the recommendations, and the reporting of AEFI was low. The identified challenges to the NIP should be studied further and need to be addressed accordingly.

Key words: Immunization safety, Cold chain, Challenges to immunization

Corresponding author email: alinda.perera@gmail.com.

Implementing weekly epidemiological performance summary of the Regional Director of Health Services Area, Colombo, Sri Lanka and its timeliness and completeness

Shanaz M.T.Q.F.¹, Ananda R.¹, Dharmawardena M.¹, Udayanga U.A.V.¹, Nanayakkara P.¹ Jayalath K.D.¹, Gajanayake C.²

¹Office of the Provincial Director of Health Services, Western Province, Sri Lanka; ²Office of the Regional Director of Health Services, Colombo, Sri Lanka

Background: The Colombo District Directorate of Health Services (RDHS-Colombo) hosts 18 medical officer of health (MOH) areas and the evaluation of epidemiological performance of each MOH office is important in the disease control monitoring process.

Aims: To improve the quality epidemiological data flow with timeliness and completeness

Methods: This activity was conducted as a mixed method action research. Stakeholder discussions confirmed the necessity of regional level evaluation of epidemiological performance. Therefore, a summary report was developed and disseminated from the beginning of 2024 on a weekly basis. The report template contained nine domains including distribution of notified cases, disease surveillance performance (two parts), number of dengue cases, monthly dengue entomological surveillance summary, diseases required special investigations, AEFI reporting, water quality samples obtained and coverage of school medical inspections. The data were extracted by weekly monitoring of the existing databases and reporting through trained MOH staff for sustainability. The epidemiological performance was compared before and after intervention.

Results: The first summary report was generated following the second week of 2024, and by the end of April, 16 issues were composed. An improvement of timeliness such as the cases awaiting investigation reduced from 456 to 152, timely receipt of 411A forms increased from 48.5% to 81.3% and completion of special investigation forms increased from 78% to 95.5%. This mechanism enabled the identification of gaps in field investigations of communicable diseases and to take necessary actions promptly.

Conclusions: Serial evaluation of performance in the form of a comprehensive summary format contributes to improve field level performance.

Key words: Epidemiology, Summary, Data Report, Evaluation

Corresponding author email: rilshanaz@gmail.com

Development of monthly summary formats in monitoring leprosy and rabies in Colombo RDHS area in Sri Lanka: A novel complementary approach

Nanayakkara P.¹, Anujan S.², Musthak H.², Jayalath K.D.¹, Shanaz M.T.Q.F.¹, Ananda R.¹, Dharmawardena M.¹, Udayanga U.A.V.¹, Gajanayake C.²

¹Office of the Director of Health Services, Western Province, Sri Lanka; ² Office of the Regional Director of Health Services, Colombo, Sri Lanka

Background: The necessity of having a comprehensive and a sustainable mechanism to monitor the performance of all service-related domains of leprosy and rabies control activities was identified as a priority need at district level.

Aims: To assess the effectiveness of introduction of new monthly summary formats for rabies and leprosy control activities at district

Methods: Stakeholder meetings were conducted to identify the domains to monitor in district level leprosy and rabies control activities. Technical guidance was obtained from the national programmes. The mode of presentation of different data items needed to monitor were reviewed. Chains of communication were built with the service delivery points. Communication pathways and mechanism in collating services delivery point performances were determined. Follow up activities that need to focus on the monthly format statistics were also decided.

Results: Two formats were successfully developed to monitor the control activities leprosy and rabies. Leprosy format included components which were related to the activities carried out at dermatology clinics as well as in offices of medical officers of health (MOH). It included 12 data items in clinics and eight in MOH offices. The rabies format included seven components, such as details of dog vaccination sterilizations performed, animal-rabies vaccine stocks, institute-wise anti-rabies post exposure therapy, animal-rabies lab surveillance and field inspection activities performed. Four completed formats were successfully submitted up to the end of April. Positive stakeholder feedback indicated that formats have contributed to streamlining the monitoring process and in facilitating the control activities of leprosy and rabies.

Conclusions: Implementation of customized comprehensive summary format has strengthened monitoring of activities by providing a wider picture of strengths and areas-to-be improved.

Key words: Leprosy, Rabies, Summary format, Surveillance, Monitoring

Corresponding author email: prasinanayakkara@gmail.com

Introduction of complementary dengue monitoring formats to enhance the effectiveness of dengue surveillance in Provincial Directorate of Health Services (PDHS), Western Province in Sri Lanka

Gunewardana M.D.U.B.¹, Jayalath K.D.², Ananda R.², Udayanga U.A.V.², Shanaz M.T.Q.F.², Dharmawardena M.²

¹Office of the Regional Director of Health Services, Kalutara, Sri Lanka; ²Office of the Director of Health Services, Western Province, Sri Lanka

Background: Western Province which has the highest population density, accounts for over more than half of Sri Lanka's reported dengue cases. The PDHS, Western Province coordinates the dengue control activities across 47 MOH areas. Developing user-friendly efficient tools would facilitate dengue surveillance and control activities.

Aims: To introduce three dengue monitoring tools to assess the trend and improve timeliness and completeness of the dengue field level investigation, in par with the Provincial Dengue Control Plan 2024.

Methods: A stakeholder discussion was conducted to determine the aims expected to be achieved by introducing three monitoring tools. Data for these tools are to be extracted from the National Dengue Surveillance System, not necessitating any additional workload. The first report describes the weekly dengue trends of the last four weeks and of the last seven days by each medical officer of health (MOH) area. It consists of three district graphs showing weekly dengue cases for: this year, 10-year median, last year cases, 50% of last year and 25% of last year lines in addition to this year's case distribution. The second report shows the 3-day rolling average for each MOH area. The third report tracks the response and control activities done for each notified case.

Results: These three reports were generated daily since 9th March and 67 reports have been submitted up to May 2024 and disseminated among provincial and district teams. The first two reports were used by the MOH teams and district teams at their review meetings to apprehend the trends of the disease burden. The third report was used comprehensively in tracking the response activities. By these reports, early identification of outbreaks, identifying the success and delayed application of control measures were made possible. These had potentially contributed to the combined Breteau Index to reduce from 12.9 from April to 11.8 in June, to keep dengue cases below 25% line from last year's cases, up to the end of 18th Week in 2024 within PDHS area and a significant reduction of Dengue cases in Western Province to 36% of the national cases by 18th week of 2024, from 49% in 2023.

Conclusions: Effective use of already available data by a customized method has improved and strengthened already existing routine surveillance.

Key words: Dengue, Dengue surveillance, Monitoring, Trend analysis, Rolling average

Corresponding author email: ruwanthi.ananda@gmail.com

Practices of responsive feeding and associated factors among primary caregivers of 6-18 months children in Thalawa MOH Area, Anuradhapura District in Sri Lanka

Satherasinghe M.S.¹, Agampodi S.B.², Agampodi T.C.³

¹Teaching Hospital, Anuradhapura, Sri Lanka; ²International Vaccine Institute, Seoul, Republic of Korea;

³Center for Public Health, Anuradhapura, Sri Lanka

Background: Responsive feeding (RF) appears to be the least practiced component of IYCF guidelines in Sri Lanka. The practice and factors associated with RF are less known. Identifying the practices and associated factors is crucial for targeted interventions.

Aims: To describe the practice of RF and associated factors among primary caregivers of 6–18-month-old children in Thalawa MOH Area, Anuradhapura

Methods: A community-based cross-sectional study was conducted among primary caregivers of 6-18-month-old-aged children selected via multistage cluster sampling in Thalawa MOH Area. A self-administered tool validated for Sri Lanka (RFPAT; Responsive Feeding Practice Assessment Tool) was incorporated into the validated ELSCA tool that was used for assessing household food insecurity. Descriptive and inferential statistical analysis of the data was done using SPSS with Chi-squared test considering 0.05 level as significant.

Results: The response rate was 100%. Of the 373 participants, only 55% (n=203) practised proactive preparation, but 82.8% (n=309) identified and responded to the child's hunger and satiety cues while 75.1% (n=280) had quality responsive communication when feeding the child. Other than the caregivers' awareness of RF (OR=0.045, p<0.001), maternal age between 20-29 years (OR=0.3, p=0.062), education beyond post-primary level (OR=0.24, p=0.002), Sinhalese ethnicity (OR=0.45, p=0.001) and monthly income of more than Rs.50,000 (OR=0.45, p=0.001) were positively associated with RF. Household food insecurity (OR=1.6, p=0.049) and having more than one child of under-five age in the family (OR=2.07, p=0.018) were risk factors for non-responsive feeding.

Conclusions: Responsive feeding is not practised with all components effectively. Young Sinhalese mothers educated beyond post primary level and having awareness on RF, were practising RF, while food insecure mothers having multiple children under five were at risk. More studies are needed to identify effective interventions.

Key words: Responsive feeding, Nurturing care, Feeding styles, Complementary feeding

Corresponding author email: madusatharasingha1@gmail.com

Sri Lanka Health Sector response to gender-based violence (GBV) in the community by public health midwives (PHM): GBV training and service readiness in Sri Lanka

Munas M.^{1,2}, Feder G.¹, Lewis N.¹, Perera D.², Rajapaksa T.³, Bacchus L.⁴

¹Center for Academic and Primary Care, University of Bristol, UK; ²Ministry of Health, Sri Lanka; ³Department of Psychiatry & South Asian Toxicology Research Collaboration (SATRC), University of Peradeniya, Sri Lanka; ⁴London School of Hygiene and Tropical Medicine, UK

Background: Sri Lanka's Ministry of Health addresses GBV through a multi-pronged approach that involves both the curative hospital and preventive community health sectors. PHMs identify and refer GBV victims to *Mithuru Piyasa* (MP), the hospital-based GBV care centres.

Aims: To explore the GBV training received by PHMs and their perceived readiness to provide GBV services

Methods: An explanatory sequential mixed-method study was conducted from 2021 to 2022 spanning 20 months. It started with collecting quantitative data from 803 PHMs recruited using a multistage cluster sampling method across seven provinces. This was followed by conducting qualitative semi-structured interviews with 12 survey participants and performing thematic analysis.

Results: In the survey, 733 PHMs responded, yielding a 91.3% response rate. 87% (n=637) had undergone GBV training at some point. Of these, 46.3% (n=295) had trained in midwifery school and 44.3% (n=282) have attended a talk. Only 21.5% (n=137) received training from the Family Health Bureau, with varying durations. Of the 530 responses, 74% (n=392) were trained at least three years ago without any subsequent refresher training and could not recall the contents. Most PHMs (>80%) felt ready to address GBV-related tasks, such as asking about GBV, responding to disclosures, identifying signs and symptoms of GBV, making referrals, documenting the disclosures, providing ongoing support, and discussing concerns about children. Having any training positively correlated with readiness for referrals (OR=2.83, 95% CI=1.47-5.44). Despite widespread training attendance and perceived readiness, qualitative interviews suggested a limited impact on GBV work.

Conclusions: Training PHMs on GBV services helps to improve their readiness to help GBV victims.

Key words: GBV training, Readiness, PHM, Health Sector Response

Corresponding author email: muzrif@gmail.com

Institutionalized adolescents in child development centres in Colombo District, Sri Lanka: How mental well-being affected their life?

Navoda P.K.T.¹, Tharindi D.T.¹, Thusynathan T.¹, Madusanka P.P.¹, Dineth P.G.V.¹, Vidanapathirana H.M.J.P.², Wijesekara D.S.³, Prathapan S.⁴

¹*Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka;* ²*National STD/AIDS program, Ministry of Health, Sri Lanka;* ³*Department of Paediatrics, University of Sri Jayewardenepura, Sri Lanka;* ⁴*Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka*

Background: Good mental well-being during adolescence is crucial for healthy development and social integration. Child development centres in Colombo under the Department of Probation and Childcare, provide mental and physical protection to orphaned disabled, destitute, deserted, and abused children, yet the mental well-being of adolescents in these centres remains understudied.

Aims: To describe mental well-being and its associated factors among 13-19-year-old adolescents in child development centres in Colombo District

Methods: This descriptive cross-sectional study was conducted among 165 participants using simple random sampling in selected child development centres of Colombo District. Data were collected through a pre-tested interviewer-administered questionnaire to assess socio-demographic and associated factors, and a community-validated Sinhala version of the 14-item Warwick-Edinburgh Mental Wellbeing Scale to evaluate the mental well-being. The data were analysed using SPSS version 26 and $p < 0.05$ was considered statistically significant.

Results: The response rate was 100%. The study revealed that 85.45% (n=141) of participants exhibited satisfactory mental well-being. Females comprised 131 (79.4%) of the sample, and Sinhala ethnicity was predominant (n=136, 82.4%). Significant associations were found between mental well-being and engagement in extracurricular activities ($p=0.001$) and exposure to verbal harassment ($p=0.043$). However, the other factors investigated did not demonstrate a statistically significant association with mental well-being.

Conclusions: The adolescents aged 13-19 residing in the child development centres within Colombo District exhibit satisfactory overall mental well-being.

Key words: Mental well-being, Associated factors, Adolescents, Child development centres

Corresponding author email: tnavo74@gmail.com

Prevalence of overweight and obesity and its association between physical activity and diet among children of grades 6 to 9 at type 1AB schools in Kalutara Educational Zone, Sri Lanka

Cooray P.L.S.R.¹, Dissanayake D.M.R.N.¹, Thilakarathna S.S.¹, Pehara M.W.G.R.¹, Silva K.S.K.¹, Rashmi W.A.¹, Talagala I.A.²

¹Faculty of Medicine, University of Moratuwa, Sri Lanka; ²Department of Community Medicine, University of Moratuwa, Sri Lanka

Background: Overweight and obesity is a global health crisis linked to sedentary lifestyle. Hence, incorporating healthy lifestyles since childhood is essential.

Aims: To assess the prevalence of overweight and obesity and its association with diet and physical activity level among grade 6 to 9 students at type I AB schools in Kalutara Educational Zone

Methods: A descriptive cross-sectional study was conducted from February 2023 to November 2023 among 275 grade 6 to 9 students of Type I AB schools within the Kalutara Educational Zone, selected using a multistage stratified probability proportionate cluster sampling technique. A self-administered questionnaire gathered socio-demographic, diet and physical activity related data from students, following parental consent. Students' weight and height were measured by the investigators using standard techniques. Results were analysed with SPSS software and presented as frequencies and percentages. Chi-squared test was applied to identify associations.

Results: The response rate was 100%. Of the 275 students, 17.8% (n=49) were overweight and obese. Almost 65% (n=178) consumed unhealthy diet and one third of them (n=207) were physically inactive. Further, a significant higher proportion of males (n=104, 72.2%) compared to females (n=74, 56.5%) consumed unhealthy diet (p=0.006) and students in grades 6 and 7 (n=126, 79.7%) were significantly more physically active than the older students of Grades 8 and 9 (n=81, 69.2%) (p=0.046). Consumption of unhealthy diet (22.5% versus 9.3%; $\chi^2=7.46$; df=1; p=0.006) and physical inactivity (20.8% versus 8.8%; $\chi^2=4.99$; df=1; p=0.025) were significantly associated with overweight and obesity among the students compared to their counterparts.

Conclusions: Overweight and obesity were prevalent among the students and unhealthy diet and physical inactivity were significantly associated with it. Implementation of targeted, focused activities at school settings are recommended.

Key words: Overweight and Obesity, Diet, Physical activity, Schools, Children

Corresponding author email: rashmiwijesekara94@gmail.com

Paternal depression and associated factors during peri-partum period of their spouse in polyclinics within Gothatuwa Medical Officer of Health (MOH) area in Sri Lanka

Wijesinhe S.A.V.W.¹, Wijesinghe W.A.I.C.¹, Chuwan J.C.¹, Fernando S.², Suraweera C.³

¹Faculty of Medicine, University of Colombo, Sri Lanka; ²Department of Medical Humanities, University of Colombo, Sri Lanka; ³Department of Psychiatry, University of Colombo, Sri Lanka

Background: New parenthood requires critical adjustments for both parents and may cause depression. Although maternal depression is recognized, paternal depression is an under-recognized issue worldwide. Increasing the social awareness regarding paternal depression will minimize the socio-health impact of it.

Aims: To describe the paternal depression and its associations during the peripartum period of their spouses in the Gothatuwa MOH Area

Methods: A descriptive cross-sectional study was conducted among 120 fathers in antenatal and postnatal periods in Gothatuwa MOH Area. The subjects were selected by random selection of 12 out of 32 public health midwife (PHM) areas. A predetermined cluster size of 10 fathers was taken from each area. Data collection was done as an interviewer-administered questionnaire. Prevalence of paternal depression was measured using Edinburgh Postpartum Depression Scale (EPDS). The socio-demographic features, psychological and behavioral factors and pregnancy related factors were assessed using frequency distributions. Associated factors were determined using Chi-squared test.

Results: Response rate was 100%. Mean EPDS score was 6.31 (SD=2.49) and 11.7% (n=14) reported EPDS score 9 or above. No one was identified as having high risk for depression (EPDS >12). Paternal age (p=0.003), marital satisfaction (p=0.004), family support (p=0.012), smoking (p=0.015) and having other children (p=0.034) showed statistically significant associations.

Conclusions: Paternal age, marital satisfaction, family support, smoking and having other children showed statistically significant association as per our study. Further studies will determine the depth and the variation of paternal depression in the whole pregnancy and its effects towards spouse and family. The awareness of the paternal depression, better identification of those at risk and the development of interventions should be encouraged.

Key words: Paternal Depression, Antepartum period, Postpartum period, Prevalence, Associated factors, Sri Lanka

Corresponding author email: medmbbs181603@stu.cmb.ac.lk

Knowledge on birth preparedness and associated factors among pregnant women attending antenatal clinics in Colombo South Teaching Hospital, Sri Lanka

Navodani K.A.T.¹, Goonewardena C.S.E.², Kottahachchi J.³, Liyanagama K.S⁴, Thulasini S.⁴, Khan W.M.⁴, Rashmika K.K.V.⁴, Silva M.P.K.P.M.⁴

¹National Institute of Health Sciences, Kalutara, Sri Lanka; ²Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka; ³Department of Microbiology, University of Sri Jayewardenepura, Sri Lanka; ⁴Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka

Background: Birth Preparedness and Complication Readiness (BPCR) is an intervention included by the WHO as an essential element of the maternal care package.

Aims: To describe the knowledge on BPCR and associated factors among pregnant women attending antenatal clinics in Colombo South Teaching Hospital (CSTH) in 2023

Methods: A descriptive cross-sectional study was carried out among 220 pregnant mothers between 20-36 weeks of gestation. Systematic random sampling method was used. An interviewer administered questionnaire was used to assess knowledge on danger signs and components of BPCR. Those who scored ≥ 45 was considered to have “good knowledge”. Significance was tested using Chi-squared test with the significance level at $p < 0.05$.

Results: With 100% (n=220) response rate, mean age of participants was 28.09 years with 50.5% (n=111) being multiparous. The majority (n=124, 56.4%) had “good knowledge” on BPCR. Most (n=182, 82.7%) were aware of danger signs of pregnancy, 70% (n=154) and 50.9% (n=112) knew danger signs of labour and post-partum, respectively. Identifying appropriate health facility for delivery (n=207, 94.1%), preparing essentials (n=182, 82.7%), arrangements for transportation and a companion for labour (n=177, 80.5%) were important findings. Mother’s higher education level ($p < 0.001$), spouse’s education level ($p = 0.005$), monthly income ($p = 0.024$), mother’s employment ($p = 0.033$), spouse’s occupational type ($p = 0.018$), and planning of current pregnancy ($p < 0.001$) showed significant associations with “good knowledge”. Participation in antenatal sessions ($p = 0.024$) and family support ($p = 0.014$) had significant positive association. Risk factors of mothers and history of abortions/ still births did not show a significant association.

Conclusions: Majority had “good knowledge” on BPCR. Only 50.9% were aware of those occurring post-partum and need to emphasis on post-partum danger.

Key words: Birth Preparedness and Complication Readiness, Antenatal care, Knowledge on birth preparedness, Pregnant women.

Corresponding author email: shahiniliyanagama@gmail.com

Perception of oral health promotion, knowledge and associated factors among Mother Support Group members in a selected Medical Officer of Health (MOH) Area in Kalutara District, Sri Lanka

Nilmini K.W.D.E.¹, Nanayakkara N.K.V.², Illangasinghe P.¹

¹Postgraduate Institute of Medicine, University of Colombo, Sri Lanka; ²Education, Training and Research Unit, Ministry of Health, Sri Lanka

Background: Dental caries, periodontal disease and oral cancer denote public health problems compounded by dental workforce shortage. Prevention and control of those diseases through oral health promotion utilizing Mother Support Groups (MSG) could be considered an effective strategy.

Aims: To determine prevalence of self-reported oral health problems, perception of oral health promotion, oral health knowledge and associated factors among members of MSGs in Dodangoda Medical Officer of Health (MOH) Area

Methods: A descriptive cross-sectional study was conducted from October 2020 to February 2021, recruiting all the MSG members in Dodangoda MOH Area with more than six months of service experience. Using an interviewer administered, close ended questionnaire 415 members were interviewed. Data were analysed using SPSS version 25. Chi-squared test was used to detect associations at 5% significance level.

Results: The response rate was 99% (N=411). The prevalence of self-reported oral problems among members was 35.3% (95% CI=30.4-39.9%) and 24.8% (n=102) suffered from dental pain and sensitivity. The majority (n=342, 83.2%) had satisfactory oral health knowledge (mean=65.1; (SD=13.3); median=65). Knowledge deficiencies were observed in the areas of maternal, infant and child oral health. Majority (n=381, 92.7%) accepted the importance of oral health promotion, 94.2% (n=387) wanted to learn more about oral health and 52% (n=214) had time for that. Only 98 (24%) had participated in oral health training programmes and 63 (15.3%) had engaged in oral health promotional activities. Members' good oral health knowledge was significantly associated with their higher level of education (p=0.008), participation in training programmes (p=0.009) and support given for public health midwife (p=0.041).

Conclusions: MSG members can be easily utilized for oral health promotion at the grass-root level as they have satisfactory oral health knowledge and interest. It is recommended to address their knowledge gaps using appropriate strategies to harness their potential to strengthen oral health promotion in maternal and child health care packages.

Key words: Mothers' Support Groups, Self-reported oral problems, Oral health knowledge, Oral health promotion

Corresponding author email: eyoshithanilmini@gmail.com

Effect of conducting mother support groups (MSG) activities by public health midwife (PHM) on performing routine duties at Ratnapura District, Sri Lanka

Welgama D. C.¹, Dr. Kannangara K. B.¹, Dr. Wasanthi L.¹

¹*Department of Health Services, Sabaragamuwa Province, Sri Lanka*

Background: The PHM is responsible for providing comprehensive healthcare in her service area and should be closely engaged with the community and organizational activities. Conducting MSG is not specifically mentioned in her duty list.

Aims: To assess whether there is a significant relationship between the performance of selected routine duties and the level of involvement in MSG activities

Methods: The study was conducted using secondary data collected for PHM appreciation. Performance of routine duties was an outcome variable. The exposure variable was the involvement of MSG activities primarily measured using a direct-observational check list. The association was checked by independent sample Mann-Whitney U test using SPSS software.

Results: Out of the 266 PHMs (total in Ratnapura District is 360), eligible family registration, postnatal home visits and under-5 children weighing were carried out by 92.0% (95% CI=91.3-108.6), 84.2% (95% CI=73.7-100.7) and 91.63% (95% CI=89.8-93.2), respectively. The mean score for the appreciation format for MSG activities was 21.7 (95% CI=19.8-23.9) and median for it was 17.5. There is no statistically significant relationship between the involvement of MSG activities (p values for results 0.21, 0.06 and 0.31 respectively).

Conclusions: PHM engagement with MSG activities is low in Ratnapura District. The involvement of MSG has not negatively or positively affected the routine activities of PHM.

Key words: Mother Support Group (MSG), Public Health Midwife (PHM) duties.

Corresponding author email: disalachandiwelgama@yahoo.com

Quality of adolescent and youth friendly health services provided through hospital-based *Yowun Piyasa* centres in Sri Lanka

Gunatilake A.W.P.I.¹, Vithana P.V.S.C¹, Jayarathna K.A.D.N.S.¹, Gunasoma L.P.A.I.¹, Siriwardana S.A.I.D.¹, Lokubalasooriya A.¹, de Silva C.¹

¹Family Health Bureau, Ministry of Health, Sri Lanka

Background: Adolescent and Youth Friendly Health Services (AYFHS) are essential for meeting the unique health needs of young individuals. Assessing quality of AYFHS utilization is essential for ensuring quality service provision.

Aims: To assess the quality of AYFHS provided by hospital-based *Yowun Piyasa* centres in Sri Lanka against eight standards of quality healthcare services for adolescents and youth

Methods: A descriptive cross-sectional study was conducted in 19 randomly selected centres out of 34 eligible centres functioning for over one year. Five interviewer-administered tools adopted to Sri Lanka, were used to assess the quality of AYFHS under eight standards of quality. The study tools included assessments for facility managers, health care providers, support staff, client exit interviews, and observation checklists. Analysis was conducted using Microsoft Excel 2019. Responses were scored as one or zero, and the total percentage scores for each standard was calculated. The level of meeting standards of quality of healthcare services was identified using the cut-off value set by the WHO: <10% indicates not meeting the standard, 10-40% indicates needing major improvement, 40-80% indicates needing some improvement, and >80% indicates meeting the standards.

Results: On assessment, standard 4 (Service Packages) met the requirement with a score of 81.6%. Standards 3 (Service Providers and Support Staff) and 8 (Equity and Non-discrimination) scored 68.0% and 73.8%, suggesting some improvement. Standards 2 (AYFHS Centre), 6 (Community Support), and 7 (Young Persons' Participation) scored between 59.1% and 64.9%, indicating need for some improvement. Standard 1 (Empowerment of Young Persons) scored the lowest with 46.2%.

Conclusions: Findings highlight the necessity for empowering young individuals and their participation in improving AYFHS, building community support, and upgrading *Yowun Piyasa* centres. Targeted interventions are recommended to enhance youth empowerment, participation, community support, and *Yowun Piyasa* centres.

Key words: Adolescent, Youth, Health Services, Hospital-based

Corresponding author email: indumini12@gmail.com

Timely response to a service need; sexual and reproductive health (SRH) education programme for young population in Kaduwela Medical Officer of Health (MOH) area

Silva L.P.N.¹, Siriwardhane S.¹, Dharmawardhane M.P.², Kumara S.¹, Rodrigo S.¹, Dangalla C.¹, Jayalath D.²

¹Medical Officer of Health office-Kaduwela; ²Office of Provincial Director of Health Services, Western Province

Background: Kaduwela is a semi-urbanized area with nearly 89,000 population. The recent development in the area has caused an increase in the migratory youth population, who reside in temporary places, away from their families. A survey done in 2022, revealed that the risk of teenage pregnancy and induced abortions, have increased in the area, with 47 teenage pregnancies reported for 2022. As most of these youth are temporary residents in the area, they could be missed for routine services. Therefore, special program to cover these migratory youth population on issues related to SRH is a timely need.

Aims: To conduct a comprehensive education package on SRH for young population, in Kaduwela MOH area.

Methods: The public health staff of MOH Kaduwela has conducted a series of “Youth awareness programs on sexual health” comprising of lectures and interactive sessions, The programmes were conducted in schools and private universities in the area, in 2023. The participants were encouraged to raise their issues related to SRH and those were discussed by an expert panel.

Results: In the year 2023, altogether 24 programs have been conducted with participation of 4895 school and university students. As reflected with the qualitative feedback obtained from the participants, an enhancement in their knowledge, skills, and attitudes regarding the modification of behavioral risk factors related to sexual health was noted. Additionally, the area has experienced a reduction in teenage pregnancies of under sixteen years, from 4 in 2022 to zero in 2023.

Conclusions: The importance and the effectiveness of specific and timely SRH education interventions to cater at risk populations, are highlighted.

Key words: Sexual and reproductive health (SRH) education, Young

Corresponding author email: malmeedha@gmail.com

Knowledge attitudes and practices on complementary feeding and factors associated with its practices among mothers attending a selected Medical Officer of Health area in Colombo District, Sri Lanka

Gunarathna D.P.A.¹, Walgamage V.¹, Kumarasinghe M.V.N.P.¹, Deshappriya D.L.V.¹, Adithya M.A.G.¹, Rajapakshe O.B.W.², Gamhewage N.C.³, Goonewardene C.S.E⁴

¹*Faculty of Medical Sciences, University of Sri Jayewardenepura;* ²*National Programme for Tuberculosis Control and Chest Disease, Ministry of Health;* ³*Department of Community Medicine, University of Sri Jayewardenepura;* ⁴*Department of Paediatrics, University of Sri Jayewardenepura*

Background: Complementary feeding with desirable practices is crucial for infant growth and development

Aims: To assess knowledge, attitudes, and practices regarding the initiation of complementary feeding and associated factors among mothers at immunization clinics in Maharagama Medical Officer of Health (MOH) area.

Methods: A descriptive cross-sectional study was conducted among 396 mothers of children aged 9-12 months, selected via systematic random sampling. An interviewer-administered questionnaire assessed knowledge, attitudes, and practices on complementary feeding initiation. Data were analyzed using SPSS version 26, with chi-square tests to determine associated factors (significance $p < 0.05$).

Results: Response rate was 93.6% (n=396). Among them, 58.6% (n=232) had adequate knowledge, 47.5% (n=188) had favourable attitudes, and 39.6% (n had desirable practices. Adequate knowledge was significantly associated with desirable practices ($\chi^2=17.73$, $p < 0.001$), whereas favourable attitudes were not ($\chi^2=0.87$, $p=0.53$). Furthermore, introducing a balanced diet was significantly associated with adequate knowledge ($\chi^2=36.41$, $p < 0.001$) and favourable attitudes ($\chi^2=25.87$, $p < 0.001$). Maternal age ($p=0.135$), education ($p=0.095$), occupation ($p=0.784$), and family income ($p=0.174$) were not significantly associated with complementary feeding initiation practices.

Conclusions: Over half of the population had adequate knowledge, but only about 40% had desirable practices. Since adequate knowledge is significantly associated with desirable practices, improving knowledge is recommended to enhance practices.

Key words: Complementary feeding, Knowledge, Attitudes, Practices, Associated factors

Corresponding author email: dewdinigunarathna@gmail.com

Knowledge, attitudes, and their association with the practice related to cervical cancer screening among female teachers over 30 years of age in the Kalutara Educational Zone, Sri Lanka

Shajahan Z.¹, Sathyapala N.A.R.¹, Senanayake P.R.T.¹, Siriwardana W.L.K.G.¹, Sivakumar S.¹, Dinupa K.D.T.¹ Talagala I.A.²

¹Faculty of Medicine, University of Moratuwa; ²Department of Community Medicine, University of Moratuwa

Background: Cervical cancer is the fifth leading cancer among females in Sri Lanka. Despite its importance, cervical cancer screening rates are low. Teachers' knowledge and attitudes on screening can influence community awareness.

Aims: To assess knowledge, attitudes, and their association with practice related to cervical cancer screening among schoolteachers over 30 years of age in Kalutara Educational Zone

Methods: A descriptive cross-sectional study was conducted among 375 female teachers over 30 years of age, selected through multi-stage stratified probability proportionate consecutive sampling, in schools of two randomly selected educational divisions, Kalutara Educational Zone. Those diagnosed with cervical cancer and who had undergone total hysterectomy were excluded. Data were collected using a self-administered questionnaire. Scoring systems developed by experts were used for participant categorization based on their knowledge and attitudes. Factors associated with practice were assessed using chi-square test at $p < 0.05$ significance level.

Results: Response rate was 100%. Majority of the participants ($n=276$, 73.6%) had poor knowledge on cervical cancer screening while 62.9% ($n=236$) of teachers had 'positive' attitudes. Of the participants, only 48.3% ($n=181$) had undergone cervical cancer screening. There was a statistically significant association between the level of practice and attitude ($X^2=5.631$; $df=1$; $p=0.018$). However, their knowledge and practice failed to show any relationship ($X^2=0.081$; $df=1$; $p=0.776$).

Conclusions: Although teachers over 30 years of age in Kalutara educational zone showed positive attitudes towards cervical cancer screening, their knowledge and practice were low. Their practice was significantly associated with attitude. Focused educational and behavioural change programmes at schools are recommended.

Key words: Knowledge, Attitude, Practice, Cervical cancer screening, Teachers

Corresponding author email: zainabshajahan111@gmail.com

Improving participation and engagement in newly married couple sessions: perspective from Bandaragama, Kalutara District in Sri Lanka

Nilushika Y.C.¹, Mansoor M.¹, Ranasingha J.M.S.D.¹, Balasooriya B.A.C.H.¹, Pitipana L.S.²

¹Postgraduate Institute of Medicine, University of Colombo; ²Medical officer of Health Office, Bandaragama

Background: Despite recording the highest registration of newly married couples in the Kalutara District, Bandaragama Medical Officer of Health (MOH) Area had a low attendance rate to newly married couple sessions by the end of 2022. This initiative proposed plans to improve participant's attendance and engagement.

Aims: To analyze the success of a programme to improve low attendance rate at newly married couple sessions in the Bandaragama MOH Area

Methods: An initial analysis of data from sessions with newly married couples was conducted for the year 2022. Then, data accuracy was assessed in public health midwife (PHM) areas with lower attendance. Supportive supervisions were conducted in these areas. PHM areas achieving high attendance for newly married couple sessions were recognized during monthly conferences. Success stories from these areas were shared at conferences and in-services. Home visits were conducted for newly married couples who are registered but not attending sessions. Feedback was gathered from participants to do the modifications in the session. Furthermore, the presentation structure was revised to be more engaging, with contributions from various healthcare professionals including the medical officer, public health nursing sister, supervising public health inspector, and public health midwife.

Results: The proportion of registered newly married couples who attended the sessions increased from 14.2% in 2022 to 24.9% in 2023.

Conclusions: Findings shows that motivation and supportive supervision of PHMs coupled with complementary domiciliary service delivery and by utilizing the client feedback the participation for newly married clinics could be increased.

Key words: Newly married couples, Attendance improvement, Intervention plans

Corresponding author email: ychaturangani@gmail.com

Work resilience among schoolteachers in selected Sinhala medium government schools in the Nuwaragampalatha-East educational division, Anuradhapura District, Sri Lanka

Sandanayake K.R.T.R.¹, Samarasingha G.E.D.K.¹, Samarathunga S.K.I.L.¹, Sampath J.M.S.T.¹, Sadamini P.R.¹, Sandeepa G.T.¹, Wickramasinghe N.D.²

¹Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka; ²Department of Community Medicine, Rajarata University of Sri Lanka

Background: Global literature emphasizes that promoting teachers' positive mental health such as work resilience leads to improved educational outcomes. However, there is a scarcity of Sri Lankan literature on mental health of teachers.

Aims: To assess work resilience and its correlates among schoolteachers in Sinhala medium 1AB government schools in the Nuwaragampalatha-East (NPE) Educational Division

Methods: A cross-sectional study with an analytical component was conducted among 640 teachers in six Sinhala medium 1AB government schools in the NPE educational division from July to November 2023. A self-administered questionnaire including validated Resilience at Work Scale-Sinhala version (RAW-S) was used. Data were analyzed using SPSS version 22.0. Work resilience was described using mean (SD) RAW-S score. Independent-samples t-test was conducted to compare the mean resilience scores between sub-groups.

Results: The final sample consisted of 448 teachers (response rate=70.0%). The majority were females (n=333, 74.6%). The mean (SD) age of the sample was 44.8 (9.0) years. The RAW-S score ranged from 43 to 93 with a mean of 71.5 (SD=7.1). Teachers who were; under 50 years of age (p=0.011), not married at present (p=0.003), teaching in primary section (p=0.006) and teachers having; high job satisfaction, satisfactory school infrastructure facilities, satisfactory support from co-workers, students, administration, and parents reported to have higher mean resilience scores than their counterparts (p<0.001).

Conclusions: Work resilience is high among teachers in Sinhala medium government schools in the NPE educational division. Various socio-demographic and work-related factors are associated with high resilience among teachers, highlighting the need for strengthening support mechanisms in this context.

Key words: Occupational health, Resilience, School teachers

Corresponding author email: rashmindasandanayake@gmail.com

Training need analysis of Public Health Midwives in Medical Officer of Health (MOH), Attanagalla, Sri Lanka

Dharmasoma U.W.N.K.¹, Priyadharshani S.S.²

¹Postgraduate Institute of Medicine, University of Colombo; ²Medical Officer of Health office, Attanagalla

Background: Context specific objective training will increase employee motivation, align training with organizational goals and ultimately, clients will receive evidence-based care. Lack of proper training need analysis made the in-service trainings for public health midwives (PHM) less responsive in Medical Officer of Health (MOH) area, Attanagalla.

Aims: To explore in-service training needs of PHMs in MOH Attanagalla

Methods: A cross-sectional study was conducted recruiting all the PHMs (n=50) in MOH Office Attanagalla in December 2023. A self-administered questionnaire was used. Data were analyzed with SPSS 21.0. Percentages with 95% Confidence intervals were computed. Chi-squared test determined the associations between topics, priority levels and to compare working experience while $p < 0.05$ was considered statistically significant.

Results: The response rate was 100%. The 'Common antenatal investigations' (100%, n=50), 'Emergencies in pregnancy' (n=46, 92.0 %, 95% CI= 84.5-99.5%), 'Mental health' (n=36, 72.0%, 95% CI=59.3-84.7%), 'Adolescent health and counselling' (n=34, 68.0%, 95% CI=55.1-80.9%) and 'non-communicable diseases in pregnancy' (n=28, 56.0%, 95% CI=42.2-69.8%) were the topics requested. 'Common antenatal investigations' and 'Emergencies in pregnancy' were the topics of first priority ($p < 0.010$). The topics of interest were not associated with the PHM's working experience ($p > 0.05$) or the last topic on which formal training was received ($p > 0.05$).

Conclusions: 'Common antenatal investigations' and 'Emergencies in pregnancy' were the main topics of interest, independent of the work experience or formal trainings received. The training needs are context specific and dynamic. Thus, the importance of training in response to training need analysis is underscored.

Key words: Continuous professional development, In-service training, Training need analysis, Public health midwives

Corresponding author email: kithminienkd@gmail.com

Challenges and quality of life among adults with type 1 diabetes mellitus at National Diabetes Center - Rajagiriya, Sri Lanka

Hathurusinghe H.D.W.P.¹, Saranga M.A.I.¹, Mylvaganam P.¹, Nirmanie G.N.¹, Weerathunga C.S.¹, Arambewela M.H.², Wijesuriya M.³, Goonewardena C.S.E.⁴

¹Faculty of Medical Sciences, University of Sri Jayewardenepura; ²Department of Physiology, University of Sri Jayewardenepura; ³National Diabetes Centre, Rajagiriya; ⁴Department of Community Medicine, University of Sri Jayewardenepura

Background: Literature on type 1 diabetes mellitus (T1DM) and its effects on daily living, financial, educational, psychosocial challenges and quality of life (QoL) is scarce in Sri Lanka.

Aims: To describe the difficulties, challenges and QoL along with their associated factors among adult patients with T1DM attending National Diabetes Center– Rajagiriya

Methods: A descriptive cross-sectional study was conducted among 228 patients with T1DM, on treatment for at least one year duration attending National Diabetes Center–Rajagiriya from November 2020 to May 2021. Self-administered questionnaires were circulated as google forms using consecutive sampling. General Health Questionnaire (GHQ-12) was used to assess the QoL. Descriptive statistics was performed and analyzed and their associations were established using chi-square test using the SPSS version 23. A p value less than 0.05 was taken as the significance level.

Results: Response rate was 70%. The majority (n=157, 70%) were between 18-27 years of age, with a mean age 25.5 years (SD=5.7). The mean age at the diagnosis was 10.7 years (SD=4.4). The most frequently encountered issues were family-related (n=69, 30.3%), followed by physical (n=63, 27.4%), psychological (n=47, 20.6%), nutritional (n=39, 16.8%) and treatment-associated (n=27, 11.8%) issues. A majority (n=124, 54.9%) reported a good QoL. Better QoL was significantly associated with higher monthly income (p<0.05). No significant associations were found with the level of education or employment status.

Conclusions: The QoL among T1DM patients in the study setting is family-related, physical and psychological issues are the most frequent issues related to QoL. Higher income is associated with better QoL. It is important to have support systems with the help of governmental and non-governmental organizations to improve their QoL.

Key words: Quality of Life, Diabetes Mellitus

Corresponding author email: wisalprasastha5414@gmail.com

Enhancing timeliness and quality of public health data reporting: a case study from Bandaragama Medical Officer of Health area, Kalutara District, Sri Lanka

Nilushika Y.C.¹, Mansoor M.¹, Ranasingha J.M.S.D.¹, Balasooriya B.A.C.H.¹

¹Postgraduate Institute of Medicine, University of Colombo

Background: Timely and accurate data reporting is crucial for effective decision-making in the public health sector. The Bandaragama Medical Officer of Health (MOH) area, serving approximately 119,000 people in the Kalutara district, faced challenges in reporting public health data in a timely manner. Initially, data submission to the e-NIP relied on the Public Health Nursing Sister, but various obstacles hindered timely and accurate reporting.

Aims: To improve the timeliness and quality of public health data reporting related to vaccination in Bandaragama MOH.

Methods: The medical officers of MOH, recognizing the importance of timely and accurate vaccination data reporting, took the lead in this intervention. They encouraged staff to ensure precise data submission on time. Gaps were identified through an evaluation of PHMs knowledge and attitudes towards vaccination. The ten underperforming PHMs from previous years were pinpointed using a desk review and data from the eRHMS. Tailored strategies for improvement were discussed with Medical Officer Maternal and Child Health in the district. Individualized support was provided to problematic PHM areas, and in-service awareness enhanced through knowledge sessions. Monthly conferences recognized and applauded improvements, highlighting their impact on data accuracy and timeliness.

Results: By 2022, the impact of the intervention was evident in the e-NIP data: Adverse Events Following Immunization (AEFI) notifications improved significantly in timeliness, rising from 33.3% timely reports to 91.6% by the end of the year. Additionally, the quality of record-keeping in the Clinic Immunization Register saw a substantial increase, a remarkable improvement from 6.4% registers with sufficient quality to 89.1%. Overall, there was a marked enhancement in data timeliness and accuracy, demonstrating the success of the intervention.

Conclusions: Regular motivation, knowledge improvement, and assessment of MOH staff enhance the quality and timeliness of data reporting.

Key words: Data Reporting, Timeliness and Accuracy, e-NIP, Medical Officer of Health

Corresponding author email: ychaturangani@gmail.com

“To eat and to know what you eat”: exploring perceptions on diet and diet recording among adults in Kegalle District, Sri Lanka

Rajakaruna V.P.C.¹, Wijesinghe C.J.¹, Chandana G.J.¹, Kasturiratne K.T.A.A.², Athauda L.K.²

¹*Department of Community Medicine, University of Ruhuna, Sri Lanka;* ²*Department of Public Health, University of Kelaniya, Sri Lanka*

Background: Dietary modification is important for the prevention of non-communicable diseases. Public perceptions on diet and diet recording are useful in developing culturally appropriate dietary data collection tools and nutrition education.

Aims: To describe the perception of diet and diet recording among adults in Kegalle District, Sri Lanka.

Methods: A qualitative study was conducted in a purposive sample of participants (n=30), representing different ages, genders and educational/occupational backgrounds. Three focus group discussions were conducted after completion of a 7-day food diary. Qualitative content analysis was used to identify key ideas/themes.

Results: The age of the participants ranged from late twenties to early fifties and the sample included housewives, skilled and unskilled manual workers, office workers and professionals. Six themes were identified: i.e. “what is a meal” “knowledge on calories”, “factors associated with daily diet”, “expectations on the improvement of the diet diary”, “benefits of record keeping” and “difficulties in record keeping”. Participants expressed meal as essential for living and were aware of specific nutrients. Most participants have heard of ‘calories’, though few had a clear understanding of it as ‘energy’. Many associated factors were identified for diet. Factors favoring a user-friendly diet diary included knowledge on balanced diet and diet-related diseases, appearance, instructions and food lists to select from. Participants stated that documenting diet is useful to track one’s illnesses, nutritional composition of meals and diet control, however, time factor was considered as a limitation.

Conclusions: The ideas of meal, calories and determinants of a person’s diet emerged as major components in describing the perceptions of diet. Perceptions of people on diet and diet recording need to be considered in designing diet tools.

Key words: Diet, Dietary data collection, Diet tools

Corresponding author email: vindyadoc@gmail.com

Implementing initial steps related to non-communicable disease prevention in a selected pre-school to convert it into a “health-promoting setting” – an intervention

Arunasalam L.¹, Wickramasinghe E.²

¹Post Graduate Institute of Medicine, University of Colombo, Sri Lanka; ²Health Promotion Bureau, Ministry of Health, Sri Lanka

Background: Preschool has been identified as a key health-promoting setting that can inculcate healthy behaviours among young children.

Aims: To assess the success of implementing initial steps related to non-communicable disease prevention in a selected pre-school to convert it into a “health-promoting setting”.

Methods: An intervention was designed with six specific goals related to non-communicable disease prevention. To assess the current lifestyle of children (n=30) related to non-communicable disease prevention, a baseline survey regarding the habits of the children was conducted using a self-administered questionnaire among the parents. Expected healthy habits were introduced to the children by playing the “snake and ladder” game with healthy habits, using nudge theory. An assessment form was provided to the parent/guardian each week, and the evaluation was done weekly for six weeks. A star chart was displayed in the classroom according to each child's score. A post-intervention survey was carried out at the end of six weeks.

Results: The percentage of children who got desired scores for healthy habits before and after the intervention for screen time was 43.3% each (no change), for physical activity 30% each (no change), for eating vegetables 33.3% and 30%, for consuming sugar-sweetened beverages 23.3% and 13.3%, for eating sugary snacks 23.3% and 13.3% and for eating fruits 36.6% and 43.3%.

Conclusions: Out of the six mentioned healthy behaviors, only the habit of eating fruits, showed improvement in desired healthy scores after the intervention. Lack of consistent motivation of the children, teachers, and parents, coinciding other events at the preschool could be the possible hindering factors.

Keywords: Preschool, Health promotion, NCD prevention

Corresponding author email: lelukshan09@gmail.com

Assessment of fidelity in suicide prevention interventions: A systematic review

Rajaratnam K.¹, Agampodi T.¹, Schölin L.², Agampodi S.B.¹, Weerasinghe M.¹

¹Department of Community Medicine, Rajarata University of Sri Lanka; ²Centre for Pesticide Suicide Prevention, University of Edinburgh, UK

Background: Intervention fidelity refers to the extent to which an intervention is delivered as intended and is essential for determining its effectiveness. Synthesized knowledge is scarce on the fidelity assessment methods of suicide interventions.

Aims: To systematically review the methods used to assess fidelity in suicide interventions

Methods: We conducted an electronic search across nine databases, including PubMed, Web of Science, CINAHL Plus, and PsycINFO, to identify articles reporting fidelity assessment in suicide prevention interventions published up to November 2022. Peer-reviewed articles published in English were included, with no restrictions imposed on study design. Using the terms 'suicide', 'intervention' and 'fidelity', we retrieved 5852 articles. Following the PRISMA guidelines, we removed 3117 duplicates and screened 268 full texts. We utilized a narrative synthesis approach to summarize the findings.

Results: Forty articles, reporting on 35 studies, presented various fidelity assessment approaches. All studies were conducted in high-income countries (HICs), primarily the USA (n=26, 74.3%). Fidelity assessments spanned a range of interventions, predominantly psychotherapy and educational interventions. Delivery was the most measured domain (n=31, 88.6%). Enactment was assessed in four studies (11.4%). Researchers or raters coding observational data using scales or checklists was the most common approach (n=18, 51.4%).

Conclusions: There is significant heterogeneity in the conceptualization and methodology of fidelity assessment in suicide interventions, with data collection methods ranging from researchers coding observation data to participants' self-report measures. Reporting of these assessments was limited to HICs. Fidelity assessment needs to move beyond delivery and be a priority concern in suicide interventions in high-risk Global South.

Key words: Suicide Prevention; Intervention fidelity; Systematic review

Corresponding author email: rkrkanapathy@gmail.com

Knowledge and preventive practices related to drowning among grade 9 students in Panadura Educational Division in Sri Lanka

Wimalasuriya S.A.H.¹, Gamage A.U.²

¹National Dengue Control Unit, Ministry of Health, Sri Lanka; ²Department of Community Medicine, General Sri John Kotelawala Defence University, Sri Lanka

Background: Drowning is one of the leading causes of death across the globe. It is the prime killer for children between the ages of 1-14 years in Sri Lanka.

Aims: To identify preventive practices and knowledge related to drowning and factors associated with adequate knowledge and practices among grade 9 students in government schools in Panadura

Methods: A cross-sectional study was conducted among 634 students in Panadura Educational Division. Stratified cluster sampling was used to select students. A judgmental validity assessed, pre-tested self-administered questionnaire gathered information on socio-demographics, knowledge on drowning prevention and resuscitation of a drowned survivor. Knowledge was categorized as “satisfactory” and “not satisfactory” using a scoring system (cut-off value $\geq 75\%$). Univariate analysis was conducted using Chi-squares test at $p < 0.05$.

Results: Ninety-five percent responded to the survey. The majority were males (64%) and Buddhists (93%). Knowledge of drowning and resuscitation of a drowned survivor was not satisfactory among majority ($n=482$, 79.9%) and 91.0% did not know how to resuscitate a drowned person ($n=549$). However, 65.3% ($n=394$) correctly identified water safety signs and 55.6% could not swim ($n=335$). Majority watched/listened to news on television ($n=537$, 89.1%) and radio ($n=451$, 74.8%) related to drowning, however, 87.2% had not participated in any awareness program. Satisfactory knowledge was significantly ($p < 0.05$) associated with watching programs on drowning on television and listening to news broadcasted on radio on drowning.

Conclusions: Knowledge on drowning-related factors and first-aid for a drowned survivor is not satisfactory. Swimming and resuscitation skills are not enough. Using television and radio for awareness can effectively aid in prevention.

Key words: Drowning; Knowledge, Preventive practices, School children

Corresponding author email: hwimalasooriya@yahoo.com

Challenges in implementing palliative care in developing countries: A systematic review

Talagala I.A.¹, Rashmi W.A.², Pallegama C.M.², Gunawardhana U.H.G.K.²

¹Department of Community Medicine, University of Motaruwa, Sri Lanka; ²Faculty of Medicine, University of Moratuwa, Sri Lanka

Background: Palliative care (PC) optimizes the quality of life of patients with life-limiting illnesses, their family and caretakers.

Aims: To discern the unique challenges encountered by developing countries in delivering PC services

Methods: A total of 354 publications from PubMed, EMBASE, Scopus, Google Scholar and Semantic Scholar databases were identified on challenges in PC implementation in developing countries between 2013 and 2022. Following deduplication, two independent reviewers initially screened the articles for eligibility with titles and abstracts, and then, with complete articles. Bias assessment using Assessment of Multiple Systematic Reviews (AMSTAR-2) for observational studies was done. Non-English studies from developed countries, case-series/case-reports/essays/book-chapters/conference-abstracts/editorials/thesis and studies without full texts were excluded. The review was registered in PROSPERO (ID-CRD42024505781).

Results: The review included 24 observational studies. Challenges identified within the healthcare system included unavailability (n=12), unaffordability (n=13), inaccessibility (n=19) to PC services, untrained healthcare professionals (n=9), unavailability of financial/human resources (n=20), lack of national policies (n=11), scarcity/unaffordable pain management (n=18), deficient hospital infrastructure (n=15), weak referral systems (n=6), limited services/facilities at primary-care level (n=15), communication and documentation gaps (n=6). Individual/family level challenges were lack of knowledge (n=8), financial constraints (n=16), cultural/religious beliefs (n=12), delayed presentation (n=5) and obtaining herbal/traditional treatment (n=7). Socio-cultural/political challenges included beliefs towards death and dying (n=12), stigmatization (n=17) and limited social support (n=6), hindering effective implementation of PC services.

Conclusions: Health-systems related, individual/family and socio-cultural/political barriers hinder the implementation of PC in developing countries globally. Policymakers need to acknowledge and tackle these obstacles when implementing PC services in the country.

Key words: Palliative care, Developing countries, Challenges, Healthcare system, Implementation

Corresponding author email: rashmiwijesekara94@gmail.com

Validation of the bronchiectasis-specific quality of life questionnaire in Sri Lanka

Perera P.A.S.S.¹, Prathapan S.², Pallewatte N.C.³

¹National Programme for Tuberculosis and Chest Disease, Sri Lanka; ²University of Sri Jayewardenepura, Sri Lanka; ³Anti Leprosy Campaign, Sri Lanka

Background: Bronchiectasis is a complex respiratory disease which majorly affects the quality of life (QoL) of the patients. Out of the few disease-specific tools available to assess QoL in bronchiectasis patients, none has been validated in the Sri Lankan context. Bronchiectasis Health Questionnaire (BHQ) is a concise tool that can be efficiently used in busy clinic steps.

Aims: To validate the BHQ among patients with bronchiectasis in the National Hospital for Respiratory Disease (NHRD) in Gampaha District, Sri Lanka

Methods: A validation study was conducted to appraise the validity of the BHQ at NHRD, Welisara. The construct validity was assessed using hypothesis testing (convergent validity using modified Medical Research Council (mMRC) score and discriminant validity using an interviewer-administered questionnaire) and factorial testing (Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA)) methods. The sample size for EFA and CFA was 112 each. Test-retest method and internal consistency were employed to evaluate the reliability with a sample of 20 patients.

Results: The convergent validity with BHQ score and mMRC score was 0.75 and the discriminant validity with BHQ scores and the number of exacerbations in the previous year was -0.72. EFA showed two factors, which were named “feelings and physical symptoms of bronchiectasis” and “impact of bronchiectasis on a normal life”. CFA confirmed the two-factor model. The internal consistency measured using Cronbach’s α was 0.866 and the test-retest reliability was 0.877.

Conclusions: The Sinhala version of BHQ is a valid and reliable tool to assess the QoL among bronchiectasis patients in Sri Lanka.

Key words: Bronchiectasis, Quality of Life, Validation, Bronchiectasis Health Questionnaire

Corresponding author email: suwi86perera@gmail.com

Establishment of multidisciplinary pain management clinic at the level of primary care services in Divisional Hospital Mampitiya, Sri Lanka

Ranaweera K.K.D.O.¹, Jayasinghe R.K.A.B.L.¹, Dissanayake N.¹, Adhikari S.¹, Rambukwella R.²

¹Divisional Hospital Mampitiya, Central Province, Sri Lanka; ²Office of the Provincial Director of Health Services, Central Province, Sri Lanka

Background: The prevalence of pain complaints, both acute and chronic, highlights the need of comprehensive evaluation. Chronic pain often resorting to long term analgesic use, particularly prevalent in outpatient settings, focus attention on an emerging necessity of dedicated pain clinics.

Aims: To assess the effectiveness of a non-pharmacological approach to manage chronic pain among patients who use frequent analgesics for chronic pain at Divisional Hospital, Mampitiya

Method: The clinic was staffed by a multidisciplinary team comprising a medical officer, nursing officer, public health nursing officer, and a counsellor. The pain management package includes individual symptom analysis with numerical rating pain score, psychosocial background evaluation, lectures on lifestyle modification and tailored exercise programs. Patients with chronic pain for more than three months were referred to the clinic by the outpatient department medical officer and followed-up monthly with the above-mentioned pain management package.

Results: Thirty-seven patients were enrolled since establishment within the last 10 months, of whom 18 (50%) showed improvement in pain rating score from moderate to milder within three months follow-up, while 11 (29%) patients showed a similar pain score improvement in 6-8 months, three patients default the follow-up and 5 patients (13%) needed tertiary care treatment due to poor improvement of pain with nonpharmacological treatments. Patients with improved pain score to milder pain and established lifestyle modification were discharged from the clinic.

Conclusion: At the primary care setup management of chronic pain can be improved using nonpharmacological methods in addition to pharmacological methods successfully.

Key words: Multidisciplinary approach, Patient satisfaction, Nonpharmacological interventions

Corresponding author email: ranaweeraashadhi@gmail.com

Current dietary pattern and its association with perceived economic challenges among non-medical undergraduates of University of Kelaniya, Sri Lanka

Jayawardana N.D.¹, Perera K.M.N.²

¹Post Graduate Institute of Medicine, University of Colombo, Sri Lanka; ²Department of Public Health, University of Kelaniya, Sri Lanka

Background: Economic challenges can determine a person's dietary pattern. Undergraduates, most being economically dependent, are vulnerable to malnutrition amidst the current economic crisis in Sri Lanka.

Aims: To describe the dietary patterns and their association with perceived economic challenges among non-medical undergraduates of University of Kelaniya, Sri Lanka

Methods: A descriptive cross-sectional study was conducted among 720 non-medical undergraduates of University of Kelaniya, selected using multistage cluster sampling technique (with probability-proportionate-to-size). A self-administered pre-tested questionnaire was used. Dietary pattern was assessed based on the recommendations of the Food Based Dietary Guidelines for Sri Lankans (FBDGSL), Dietary Diversity Score (DDS) and Dietary Serving Score (DSS). Diet-related perceived economic challenges were assessed using eight questions prepared based on food insecurity questionnaires and score was calculated out of 16. Independent sample t-test and Chi-squared tests were used to find associations of dietary patterns with perceived economic challenges.

Results: Only 586 (81.4%) were analysed due to non-response and incomplete submissions. The majority were females (n=383, 65.4%) and obtained meals from canteens (n=288, 49.1%). Mean DDS and DSS were 4.5 (SD=1; Max=6) and 13.7 (SD=4; Max=24) respectively. Mean daily serving intake was below the recommended amount for four out of the six main food groups in the FBDGSL. Majority (n=568, 96.9%) had consumed at least one considered unhealthy food groups once a week. Around half (n=276, 47.1%) reported diet-related perceived economic challenges with a median score of 12 (IQR=8; Max=16). It was significantly associated with both DDS (p=0.049) and DSS (p=0.049) but not with the consumption of unhealthy food.

Conclusions: The dietary patterns are unsatisfactory, and related economic challenges are common among undergraduates. The perceived economic challenges affect diversity and serving scores, not unhealthy food consumption.

Key words: Dietary pattern, Medical undergraduates

Corresponding author email: m40236@pgim.cmb.ac.lk

Knowledge of postnatal women with gestational diabetes mellitus (GDM) regarding screening and early identification of type 2 diabetes mellitus (T2DM) for the prevention of complications

Halambarachchige L.P.¹, Kumarapeli V.²

¹Medical Officer of Health Office, Wattala, Sri Lanka; ²Directorate of Policy Analysis and Development, Ministry of Health, Sri Lanka

Background: There is a significant risk of developing type 2 diabetes in women with a history of GDM. Timely screening and application of evidence-based interventions will create an opportunity to prevent or delay development of T2DM.

Aims: To describe the knowledge of postnatal women with GDM on screening for T2DM for the prevention or delaying development of T2DM and its complications in Gampaha District

Methods: A descriptive cross-sectional study was carried out in 2021 in nine randomly selected MOH areas in Gampaha District. A random sampling technique was used to recruit 400 postnatal women with GDM. Data were collected using an interview-administered questionnaire. Descriptive statistics were calculated using SPSS software version 21.

Results: In this study, 88.2% (n=353) of women with GDM were aware that it is vital to screen for diabetes. It was recorded that 31.8% (n=127) of women had identified the correct timing for screening for T2DM. However, 58.0 (n=232) of women with GDM were aware of the need for screening for T2DM prior to their next pregnancy.

Conclusions: There is a knowledge gap in screening for T2DM among postnatal women with GDM in Gampaha District. Awareness programs for women with GDM and women belonging to the reproductive age group would be useful in improving their knowledge.

Key words: Gestational diabetes, Postnatal care, Type 2 diabetes

Corresponding author email: lalithhalambarachchige561@gmail.com

Influence of yoga exercises on the psycho-social wellbeing of sedentary workers in Colombo District, Sri Lanka

Yogeswaran. S.¹, De Silva Weliange S.², Arambepola C.²

¹Faculty of Medicine, University of Colombo, Sri Lanka; ²Department of Community Medicine, University of Colombo, Sri Lanka

Background: Psycho-social wellbeing is crucial for a healthy life, especially among sedentary workers. How it is influenced by yoga exercises is not well studied in Sri Lanka.

Aims: To compare the psycho-social wellbeing of long-term yoga practitioners and non-yoga practitioners

Methods: A cross-sectional comparative study was conducted among 83 adults who were regular yoga practitioners for more than one year (Exposure group) and 83 adults not involved in any routine recreational activity (Non exposure group). All were working adults residing in the same catchment area in Colombo District and recruited systematically from yoga training centres and workplaces. Psycho-social wellbeing was evaluated on 5-point Likert scale using 30-item Psycho-social Wellbeing Questionnaire (PWQ) validated for Sri Lanka (lower scores indicating better psycho-social wellbeing); was categorized as 'normal'/'poor' based on T scores; and compared between the two groups using independent sample t-test.

Results: The sample aged 25-55 years comprised yoga practitioners (mean age=42.2 (SD=9.1); 31 males; 52 females) and non-practitioners (mean age =34.4 (SD= 8.6); 29 males; 54 females). Mean T-scores obtained for the PWQ were 49.2 (SD=7.7) in yoga practitioners and 52.4 (SD=10.7) in non-practitioners. A significant difference in relation to having 'normal' psycho-social wellbeing was noted between yoga (n=77, 92.8%) and non-yoga (n=64, 77.1%) practitioners (p=0.005) with an odds ratio of 3.81 (95% CI=1.43-10.11). Out of all domains of psycho-social wellbeing, only social acceptance & coherence domain scored less in yoga than non-yoga practitioners (p<0.05).

Conclusions: Long-term yoga practice influences the psycho-social wellbeing in routine practitioners, thus recommended for sedentary working adults.

Key words: Yoga, Psychosocial well-being, Healthy life, Mental health

Corresponding author email: ysuganya@yahoo.com

Healthy lifestyle practices and quality of life among middle-aged women in mother support groups in Colombo District, Sri Lanka

Moonasinghe P.M.¹, Gajanayake C.¹, Ellawala M.I.², Kalubowila K.C.³

¹Office of the Regional Director of Health Services, Colombo, Sri Lanka; ²Medical Officer of Health Office, Battaramulla, Sri Lanka; ³Office of the Provincial Director of Health Services, Western Province, Sri Lanka

Background: Healthy lifestyle plays a pivotal role in preventing and managing non-communicable diseases, thereby enhancing quality of life (QoL). Mother support groups (MSGs) serve as empowered community entities, fostering healthy behaviours among the community.

Aims: To assess the healthy lifestyle practices and QoL of middle-aged women participating in MSGs within Colombo District

Methods: A cross-sectional study was conducted among 950 participants, selected using convenient sampling method representing all 18 medical officer of health areas in the district. A self-administered questionnaire comprising three main domains; diet control, exercise and QoL with Likert scale, was used. Questionnaire was developed and validated (face, content and construct) and reliability test was done (Cronbach Alpha=0.75). Descriptive statistics and independent sample t-test were conducted.

Results: The mean age of participants was 48.2 (SD=6.4) years. In the sample, 36.2% (n=344) and 34.3% (n=326) of women were within the healthy range of body mass index (BMI) and waist circumference (WC), respectively. Diet control was followed by 68.8% (n=653) while 14.3% (n=135) of the participants did exercises regularly. Further, 81.2% (n=771) had no barriers to follow diet control (portion control). The mean percentage scores of physical, psychological and social QoL domains were 61.34, 51.32, and 62.14, respectively, with an overall QoL of 58.26. Notably, diet control showed a significant association with QoL (p=0.000).

Conclusions: Diet control can substantially improve the QoL of middle-aged women in MSG.

Key words: Healthy lifestyle, Quality of life, Middle aged women

Corresponding author email: munasingheheo@gmail.com

Definitions and methods of measurement of intangible cost of a disease or a health condition: a scoping review

Lalani J.M.G.¹, Wickramasinghe N.D.¹, Prasanna R.P.I.R.², Agampodi T.C.³, Agampodi S.B.⁴

¹Department of Community Medicine, Rajarata University of Sri Lanka; ²Department of Economics, Rajarata University of Sri Lanka; ³ECLIPSE Sri Lanka, Rajarata University of Sri Lanka; ⁴International Vaccine Institute, Seoul, South Korea

Background: While the term intangible cost (IC) in health economics is commonly used, uncertainties persist regarding its precise definition and methods of measurement.

Aims: To review the definitions, and methods of measurements of health/disease-related IC used in global literature

Methods: An electronic search was conducted in Web of Science, PubMed, and Scopus databases using search terms relevant to IC according to PICO. Primary studies published in English that assessed IC related to a disease/a health-related condition were included without any time or population restrictions. Narrative synthesis was conducted to distinguish and map the underpinning constructs of IC.

Results: Of the 729 retrieved articles, 66 were included in the final review. The majority of studies were from high-income countries (n=37.56%). IC of diseases (e.g. multiple sclerosis) (n=5, 15%), was assessed in 51% of studies (n=34), and 49% (n=32) in health conditions (e.g. injuries) (n=6, 19%). Of all reported diseases 3% (n=1) were on neglected tropical diseases. IC was identified as a collection of physical (fatigue, functional limitation), mental (pain, anger) and social (social isolation, relations within family) bearings or costs by the patient or vulnerable community that are not directly measurable. Interviews and participant diaries were the qualitative tools used to assess IC. Objective questionnaires and scales were used as quantitative tools. Among the studies that used quantitative analysis only, 62% (n=36) of studies monetarily valued IC, and among them (n=23, 64%) applied the contingent valuation method.

Conclusions: Though a broad range of definitions and measurements to assess health-related IC in global literature, there is a research vacuum on an operationalized definition and appropriate measurement.

Key words: Definitions, Disease, Health condition, Intangible cost, Methods, Scoping review, Tools

Corresponding author email: lalani.mihin@yahoo.co.uk

Effect of yoga and aerobics on anthropometry of middle-aged, overweight, and obese people in Colombo District, Sri Lanka: a randomized control trial

Moonasinghe P.M.¹, Gajanayake C.¹, Ellawala M.I.², Kalubowila K.C.³

¹Office of the Regional Director of Health Services, Colombo, Sri Lanka; ²Medical Officer of Health Office, Battaramulla, Sri Lanka; ³Office of the Provincial Director of Health Services, Western Province, Sri Lanka

Background: Obesity is a dominant health issue, particularly among middle-aged people in Sri Lanka and Colombo District having the highest prevalence. Yoga and aerobics are feasible lifestyle interventions for obesity that reduce the risk of metabolic syndrome.

Aims: To determine the effect of yoga and aerobics on body mass index (BMI) and waist circumference (WC) of middle-aged, overweight and obese people in Colombo District

Methods: The study included yoga, aerobic, and control arms with 50 participants in each group, selected through a simple random method from Healthy Lifestyle Centres. The intervention groups underwent 12 weeks (150 minutes per week) of yoga and aerobic sessions. BMI and WC were assessed at the pre- and post-intervention stages. Paired sample t-tests, one-way ANOVA, Kruskal-Wallis H test, and simple linear regression were performed.

Results: The mean age was 44.2 (SD=5.7) years, and the baseline differences in BMI and WC among the three groups were not significant ($p>0.05$). There were significant differences between pre- and post-intervention values of BMI and WC in the experimental groups ($p<0.001$). The mean rank of BMI of aerobic group was significantly higher ($p<0.001$). There was a strong correlation between the total duration of exercise and the change in BMI ($r=0.880$, $p<0.001$).

Conclusions: Aerobic exercises and yoga are effective for reducing BMI and WC of middle-aged, overweight, and obese people. However, aerobic exercises are more effective than yoga in reducing BMI. Total duration of exercise is imperative to achieve optimal benefits.

Key words: Aerobics, yoga, Anthropometry

Corresponding author email: munasingheheo@gmail.com

Knowledge and attitudes toward yoga exercise among middle-aged people in urban areas of Colombo District, Sri Lanka

Moonasinghe P.M.¹, Gajanayake C.¹, Ellawala M.I.², Kalubowila K.C.³

¹Office of the Regional Director of Health Services, Colombo, Sri Lanka; ²Medical Officer of Health Office, Battaramulla, Sri Lanka; ³Office of the Provincial Director of Health Services, Western Province, Sri Lanka

Background: Yoga has a therapeutic effect in preventing and controlling metabolic disorders, particularly among middle-aged people. It is a safe and inexpensive practice. However, the majority of people in Colombo District do not engage in yoga exercises, despite its benefits.

Aims: To assess the knowledge and attitude on yoga among the middle-aged (31 to 59 years) people in urban areas in the Colombo district

Methods: A cross-sectional study (n=1100) was conducted using multi-stage cluster sampling in urban areas of Colombo. A content- and face-validated, interviewer-administered questionnaire was used. Bloom's cutoff was used to categorize knowledge and attitudes. Descriptive statistics and Chi-squared test were performed.

Results: The response rate was 96.0% and 52.0% (n=549) of the respondents were female. The levels of knowledge on yoga among participants were as follows: high (n=110, 10.5%), moderate (n=464, 4.0%) and low (n=480, 45.5%). Attitudes towards yoga were positive (n=90, 8.6%), negative (n=627, 59.4%), and neutral (n=338, 32.0%). More than 80% (n=845) of participants lacked knowledge about the specific effects of yoga on body weight, waist circumference, blood glucose, and cholesterol levels. Additionally, 74.0% (n=781) stated that they were not confident enough to perform yoga. The level of education was not associated with knowledge of yoga (p>0.05).

Conclusions: The majority of participants had poor knowledge about yoga; therefore, awareness programs should focus on its specific health benefits. Conducting practical sessions is also important to improve self-efficacy.

Key words: Attitude, Knowledge, Middle-aged, Urban areas, Yoga

Corresponding author email: yamuna.ellawala@gmail.com

Knowledge and self-reported practices on preoperative patient care and associated factors among surgical ward nurses in selected hospitals in Colombo District, Sri Lanka

Nallaperuma C.D.¹, Atapattu B.Y.¹, Madubashini D.J.¹, Akash S.F.¹, Mathararachchi K.L.¹, Goonewardena C.S.E.², Ilankoon I.M.P.S.³

¹Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka; ²Department of Community Medicine, University of Sri Jayewardenepura, Sri Lanka; ³School of Health Sciences, University of New Haven, USA

Background: Preoperative care refers to healthcare provided before a surgical procedure.

Aims: To describe the knowledge and self-reported practices on preoperative patient care, and associated factors among surgical ward nurses in selected hospitals in Colombo District

Methods: A hospital-based cross-sectional study was conducted among 211 surgical ward nurses in the Colombo district. Data was collected using a self-administered questionnaire and analysed using SPSS version 26. The knowledge scores were categorized using the mean score, and data analysis included Chi-squared tests for categorical variables with significance set at $p < 0.05$.

Results: The total sample size was 298, with a response rate of 70.8%. The majority were female ($n=199$, 94.3%), married ($n=152$, 72.0%), and aged below 35 years ($n=115$, 54.5%). Most had completed the diplomas ($n=175$, 82.9%) and the majority ($n=144$, 68.2%) hadn't received in-service training on preoperative patient care. Most nurses ($n=183$, 86.7%) had less than five years of experience in the current ward. Only ($n=105$, 49.8%) had a good knowledge score. Majority had good self-reported practices ($n=115$, 56.9%). A good level of knowledge was significant among older nurses, females, and those married ($p < 0.05$). Those with a Diploma and more than five years of experience had better knowledge ($p=0.001$). No significant difference based on the training received ($p > 0.05$).

Conclusions: The study highlights a knowledge gap in preoperative patient care among surgical ward nurses. Despite this, the self-reported practices were better. To conduct training programs, creating more educational resources, establishing monitoring systems and advocating for policy changes can improve the quality and effectiveness of preoperative patient care.

Key words: Pre-operative care, Nurse, Knowledge, Practices

Corresponding author email: Prasanthi.ilankoon@gmail.com

Disability levels, and self-perceived needs of institutionalized physically disabled in care-homes in Colombo District, Sri Lanka

Ananda R.¹, Gunarathne N.K.², Costa G.R.N.³, De Silva D.L.A.⁴, Mahesh P.K.B.⁵

¹Post Graduate Institute of Medicine, University of Colombo, Sri Lanka; ²Asiri Medical Hospital, Colombo, Sri Lanka; ³National Institute of Infectious Diseases, Ministry of Health, Sri Lanka; ⁴Sri Lanka Army, ⁵Office of the Provincial Director of Health Services, Western Province, Sri Lanka

Background: Physical disabilities result in functional or structural impairment of the body with activity limitation and participation-restriction. There is a paucity of local literature especially for the people with physical disability in care-homes.

Aims: To determine the disability levels, self-perceived needs of physically disabled adults institutionalized in Colombo District

Methods: This was a cross-sectional study with an analytical component carried out among physically disabled adults aged 18-65 years residing in all registered care homes at divisional secretariat offices in Colombo District. Those with any intellectual impairment or psychiatric conditions were excluded. An interviewer-administered, judgmentally validated questionnaire incorporating participant-related details, Barthel Index (BI) and a section on self-perceived needs was used to collect data. Descriptive statistics followed by exploration of disability levels with self-perceived needs, assessed on ordinal scale with a Likert scale with Spearman correlation coefficient at 5% significance level.

Results: There were 292 participants (response rate of 96.74%). Their median age was 48 (IQR 20-54) years with 1: 1 male to female ratio. The median disability score was 75 (IQR 65-85). Majority (n=204, 69.9%) had moderate disability. The most affected activities of daily living (ADL) were mobility and using stairs. Needs for physiotherapy (n=188, 64.4%), obtaining assistive devices/technology (n=188, 64.4%) and receiving formal education or vocational training (n=249, 85.3%) were of high priority. Disability levels had positive associations with obtaining assistive device and technology ($r=0.188$, $p<0.05$), getting access for transport services ($r=0.204$, $p<0.05$), getting treatment for acute medical condition ($r=0.129$, $p<0.05$) and vocational training ($r=0.431$, $p<0.05$).

Conclusions: Despite having moderate disability level, many aspects of their needs were not met. The policy planners should intervene in these aspects as well as raising the satisfaction levels of services they receive.

Key words: Disability levels, Barthel Index, Activities of daily living

Corresponding author email: ruwanthi.ananda@gmail.com

Audit on good pharmacy practices in the Bandaragama Medical Officer of Health (MOH) Area in Kalutara District, Sri Lanka

Ranasinghe J.M.S.D.¹, Hettiarachchi C.²

¹ Faculty of Medicine, University of Colombo, Sri Lanka; ² National Institute of Health Sciences, Kalutara, Sri Lanka

Background: The National Medicines Regulatory Authority regulates the registration, licensing, manufacturing, importation, and supervision of all medicines and medical devices in Sri Lanka. Per the NMRA Act No. 05 of 2015, the MOH is authorized to implement the Act.

Aims: To assess the pharmacies in Bandaragama MOH Area abide with good pharmacy practices

Methods: An audit was conducted in the MOH area of Bandaragama for a two-month period starting from January 1, 2024. It was carried out in 12 out of 18 pharmacies in the MOH area. A judgmentally validated tool derived from guidelines on Good Pharmacy Practice was used. Items related to registration, dispenser qualifications, dispensing quality and recommended storage facilities were assessed under 12 sub-themes. Three medical officers participated in the supervision.

Results: Supervised 67% (n=12) of all pharmacies in the Bandaragama MOH area. Out of these, the pharmacist was unavailable in 58.3% (n=7), and in six (50%) pharmacies, drugs were dispensed by unauthorized persons. In 80% (8 out of 10 pharmacies), drugs under the Sections II and III were sold without a valid prescription. Three (30%) of pharmacies had expired drugs for sale, while 67% of pharmacies did not maintain proper room and refrigerator temperatures for drug storage. Eight important features were assessed in the dispenser envelope, but only 20% (n=2) of pharmacies satisfactorily filled more than 50% of the desired prerequisites.

Conclusions: The majority of pharmacies did not maintain good pharmacy practices. It is planned to reassess again in six months and organize awareness programmes for pharmacists, pharmacy owners, and authorized officers.

Key words: Good pharmacy practice, Bandaragama, Pharmacies, NMRA

Corresponding author email: dineshanrana2000@yahoo.com

An intervention to reduce waiting time at outpatient department of Base Hospital (BH) Kekirawa, Sri Lanka

Mansoor M.¹, Nilushika Y.C.¹, Dissanayake P.S.², Bandara H.G.J.W.², Deepika K.G.K.² Rajapaksha R.M.S.S.², Yatiwehera D.T.U.², Herath H.M.A.G.N.N.², Premarathna R.H.², Kumari L.G.N.P.A.²

¹Postgraduate Institute of Medicine, University of Colombo, Sri Lanka; ²Base Hospital, Kekirawa, Sri Lanka

Background: Waiting time, the period from a patient's arrival at the registration desk until departure, can affect the effectiveness of OPD services. The outpatient department (OPD) of BH Kekirawa, serving approximately 600 patients daily, experiences unnecessary gatherings of patients, leading to congestion and longer waiting times.

Aims: To assess the waiting time of patients at the OPD, identify factors affecting it and implement simple interventions to reduce it in BH Kekirawa

Methods: This project was done in BH Kekirawa in 2023. Patients were randomly selected during registration and given a chit to be filled out by the service providers to record the time spent at each service point until they left the OPD. The total and average times spent waiting before consultation, at the dispensary, blood drawing room, dressing room, nebulization area and laboratory were calculated to identify areas with longer waiting times. After a careful assessment, an additional medical officer and a dispenser were mobilized from other parts of the hospital without disrupting other work. A separate MO was designated for patient admissions. A token system was introduced to serve patients on a first-come, first-served basis, and the blood drawing and nebulization services, previously provided in the same room, were separated. The pre and posttest were compared with Mann-Whitney U Test.

Results: The intervention reduced the mean total waiting time from 96.7 minutes to 35.3 minutes. The mean waiting time before consulting a doctor decreased from 30.4 to 10.4 minutes, and the time spent at the dispensary was reduced from 39.5 to 13.7 minutes. There was a statistically significant difference in total mean waiting time before and after intervention ($p < 0.05$)

Conclusions: Careful assessment of patient trajectory and mobilizing staff and introduction of token system minimized the waiting time.

Key words: Waiting time, Outpatient department, OPD, Token system, Staff mobilization

Corresponding author email: muthash@ymail.com

Enhancing community participation in non-communicable disease screening through social leaders' awareness programs: a case study from rural Sri Lanka

Chinthana K.A.S.¹, Kumara U.D.G.H.¹, Wijekoon V.D.K.¹, Prasanga P.T.S.²

¹*Divisional Hospital, Delthota, Kandy, Sri Lanka;* ²*Office of the Provincial Director of Health Services, Central Province, Sri Lanka*

Background: In rural areas with limited healthcare access, non-communicable disease (NCD) screening programs through Healthy Lifestyle Clinics aim to identify hypertension, diabetes, overweight, and obesity, as well as individuals at risk or exhibiting risk behaviours. Incorporating community leaders into these programs is essential for building trust, improving accessibility, and promoting proactive health-seeking behaviours within the community.

Aims: To describe the social leaders' awareness programs in improving community participation in NCD screening initiatives in Delthota

Methods: The NCD team at Divisional Hospital (DH) Delthota enhanced community participation by involving key social leaders, including religious leaders, *Grama Niladhari* officers, divisional secretariat officers, leaders of farmers' associations, school principals and retired government servants. Five targeted awareness programs were conducted to educate these leaders on the significance of NCD screenings, the burden of NCDs and the benefits of early detection. In 2023, screening data were collected and analysed to evaluate the impact of these awareness programs on community participation rates.

Results: NCD screenings increased significantly from 1530 clients in 2022 to 4568 clients in 2023, indicating a substantial rise in community participation.

Conclusions: Social leaders' awareness programs play a crucial role in enhancing community participation in NCD screening initiatives in rural settings. By leveraging local leadership and fostering community engagement, healthcare providers can effectively address the burden of NCDs and promote preventive health behaviours among vulnerable populations.

Key words: Non communicable diseases, Community participation

Corresponding author email: kadkuruppu@gmail.com

Enhancing quality of life through home-based care and community empowerment: a case report on palliative care for pressure sores in a paraplegic patient in Sri Lanka

Chinthana K.A.S.¹, Kumara U.D.G.H.¹, Wijekoon V.D.K.¹, Chathuranga B.S.A.C.², Prasanga P.T.S.²

¹Divisional Hospital, Delthota, Kandy, Sri Lanka; ²Divisional Hospital, Marassana, Kandy, Sri Lanka;

³Office of the Provincial Director of Health Services, Central Province, Sri Lanka

Background: Pressure sores present significant challenges in palliative care, especially for paraplegic patients with limited mobility. Limited healthcare access and misconceptions about pressure sore management further impact patients' quality of life.

Aims: To demonstrate how home-based care and community empowerment can improve the quality of life for paraplegic patients with pressure sores

Methods: A 56-year-old paraplegic farmer had persistent pressure sores for five months due to financial constraints and lack of awareness among his family. A multidisciplinary team, including doctors, nurses, public health nurses, *Grama Niladhari* (GN) officers, social service officers, caregivers and family members provided home-based care, proper wound management and educational interventions. Family meetings addressed misconceptions, and wound management education was provided. Financial and equipment support were arranged through GN officers and the social service officer. Frequent home visits ensured ongoing support and empowered the family with necessary knowledge.

Results: Significant improvements in wound healing were observed. Proper treatment led to complete healing of pressure sores within two months. Family attitudes towards pressure sore management improved, enhancing the farmer's overall quality of life according to the WHOQOL-BREF.

Conclusions: Home-based care and community empowerment are crucial in improving the quality of life for palliative care patients with pressure sores. By addressing care barriers and empowering communities with knowledge, healthcare providers can positively impact patient outcomes in resource limited settings.

Key words: Quality of life, Palliative care, Home-based care, Community empowerment

Corresponding author email: kadkuruppu@gmail.com

Multi-strategic approach to increase the health coverage among estate community at Udapalatha Medical Officer of Health (MOH) Area, Kandy in Sri Lanka

Hegoda H.T.R.¹, Nithershani P.¹, Thalagala S.¹, Alahakoon A.M.S.¹, Dissanayake D.M.G.¹, Egodawatta M.G.U.C.A.¹

¹Office of the Regional Director of Health Services, Kandy, Sri Lanka

Background: Sri Lanka's estate sector faces significant hurdles in attaining Universal Health Coverage (UHC) due to poverty, low health literacy, and limitations in healthcare service accessibility and availability.

Aims: To assess the feasibility delivering essential health care package through improving accessibility to the estate community via interactive platforms

Methods: A multifaceted program was delivered targeting adults and school children of the estate community by the medical team of the Regional Director of Health Services (RDHS), Kandy. The program comprised screening facilities to the adults for non-communicable diseases, sexually transmitted diseases, tuberculosis (TB), and oral and cervical malignancies. Interactive awareness platforms including a medical exhibition, street-dramas, educational games, health promotion platforms and life skill promotion games were conducted targeting school children. The participation levels and health conditions detected were counted to measure the success of the programme.

Results: A total of 780 adults participated in the screening clinics and 690 school children benefited from the interactive educational platforms. There were five abnormal breast conditions, and three potential oral malignant lesions detected from the screening program. Fifteen PAP smears and 18 sputum samples for TB were collected and awaiting reports. All 42 screened for HIV and syphilis were negative. Thirty-seven males and 168 females were screened for NCD. Out of 168 females screened, 50 (29.8%) had high body mass index (BMI >25 kg/m²), 34 (20.2%) had high blood pressure (BP >140/90 mmHg) and 84 (50%) had high random blood sugar (RBS >140 mg/dl). Among 37 males screened, high BMI, BP and RBS were detected among 9 (24.3%), 6 (16.2%) and 7 (18.9%), respectively.

Conclusions: Mobile interactive platforms could successfully be utilized to improve availability and accessibility in order to achieve UHC targets and promote the health among underprivileged communities.

Key words: Universal Health Coverage, Health promotion, Estate community

Corresponding author email: thilinihegoda@gmail.com

**HEALTH SYSTEMS STRENGTHENING (HSS) AWARD
& COLLEGE ORATION**

Development of a system to address issues and queries of healthcare staff to improve the productivity of the healthcare delivery system in the Regional Directorate of Health Services (RDHS), Kalutara District in Sri Lanka

Gunawardana M.D.U.B.¹, Nandasena S.², Jayalath K.D.²

¹Office of the Regional Director of Health Services, Kalutara District, Sri Lanka; ²Office of the Provincial Director of Health Services, Western Province, Sri Lanka

Background: The RDHS in Kalutara District manages over 3000 employees across 45 healthcare institutions, ranging from primary-level workers to executive-level officials. Ensuring high-quality service depends on maintaining financial stability, job security and robust support systems. However, administrative ambiguities, personnel concerns and communication gaps have caused disruptions and a growing discredit towards the RDHS.

Methods: A Google Form-based system was introduced for data collection when employees contacted the office to address these communication barriers without disrupting operations—an officer assigned to manage and monitor the Google Form and its associated Google Sheet. Telephone operators and health assistants were trained to use the form via smartphones. An internal circular was issued to all institutional heads and employee trade unions to ensure compliance. Employees were informed they could contact the RDHS office between 9:00 AM and 3:00 PM from Tuesday to Friday. Queries were recorded in the Google Form and a reference number was provided. The relevant subject officer was required to respond within three working days, between 3:00 PM and 4:00 PM. Mondays were designated as public days. The daily query list was circulated to all sectional heads by the telephone operator, and responses were developed by the respective subject officer. The administrative officer monitored the process. If an employee was not contacted within three days or was unsatisfied with the response, they could call, send short messages, or social media messages to the RDHS or Deputy RDHS directly. This system was implemented in December 2023 and is ongoing. Query statistics were presented at meetings with the heads of institutions and unit heads, encouraging adherence to the new system.

Results: From December 7, 2023, to May 18, 2024, there were 754 telephone queries, averaging 8.9 per day. Primary-level staff made 57.2% (n=431) of queries, with nursing officers and midwives making 11.8% (n=89). Staff from divisional hospitals made 43.6% (n=329) of queries, and medical officer of health (MOH) staff made 26.1% (n=197). Most queries concerned salary increments (24.9%), grade promotion (20.8%) and service confirmation (13.5%), with 84% directed to the establishment unit. Qualitative feedback suggested an improved relationship between the RDHS and other staff, with increased trust. Recent monthly conferences and supervisory visits focused more on technical discussions than administrative issues. Random feedback revealed staff satisfaction with the new query system. Complaints about communication issues and work disturbances were markedly reduced within three months of the system's implementation.

Conclusions: The Google Form-based query system in the RDHS Office of Kalutara District has significantly improved communication efficiency and staff satisfaction. A notable decrease in daily telephone queries indicated effective issue resolution. Most queries were resolved within the stipulated timeframe, reducing complaints about communication issues and work disturbances. Qualitative feedback indicates the system has fostered a closer and more trustworthy relationship

between the RDHS and staff. The increased focus on technical discussions during meetings underscores the system's success in minimizing administrative disruptions. Overall, the new query system has enhanced operational efficiency and employee satisfaction, demonstrating a successful innovation in health system management.

Key words: Online, Productivity, Query, Category, Stakeholder

Corresponding author email: udayib@gmail.com

Global Warming to Global Boiling?

Marambe B.

Faculty of Agriculture, University of Peradeniya, Sri Lanka

Climate change and global warming have accelerated at an unprecedented rate in the first quarter of the 21st Century. The ten hottest years since the Industrial Revolution (1850 and 1900) were recorded during the last decade (2014 to 2023), with 2023 as the world's hottest year recorded to date. Overall, the Earth was about 1.36 °C warmer in 2023 than the pre-industrial average. Recently, the Copernicus Climate Change Services (CCCS) of the European Union reported the world's hottest days experienced on 21 and 22 July 2024, beating the previous hottest day recorded a year ago on 6 July 2023. All indications are now that 2024 will beat all annual temperature records to take the top spot as the hottest year. It is well known that El Niño can exacerbate the warming due to climate change. For example, warming in 2023 was boosted by El Niño conditions, which has continued into 2024. The unusually long periods of the La Niña periods experienced between 2020 and 2022 have helped keep global temperatures lower. The Second hottest year recorded to date (2016) was also influenced by El Niño.

The increasing levels of greenhouse gases (GHGs) in the atmosphere are directly linked to the average global temperature. Carbon dioxide (CO₂) is the most abundant GHG, mainly resulting from burning fossil fuels, contributing to about two-thirds of the overall GHGs. Methane contributes to about 25% of the warming that we experience today. The global warming potential of methane is 80 times more than that of CO₂. Furthermore, methane comes from human activities (60%) and natural sources (40%). The most significant sources of methane due to human activities are from agriculture (e.g. cattle and paddy fields), fossil fuels, and decomposition of landfill waste.

Since 1961, the average temperature of Sri Lanka has increased at a rate of 0.01 °C to 0.03 °C per year. A recent analysis has shown that wet areas in Sri Lanka (Wet zone) will be wetter, and dry areas (Dry and Intermediate zone) will be drier. This is an alarming situation as the Dry and Intermediate zones of Sri Lanka would face water deficit situations, leading to significant losses in crops, livestock and aquaculture, and the livelihood of people. Further, the cooler climates in the country have already shown a rapid rate of increase in the night temperatures than the day temperature. This indicates that the central highlands of Sri Lanka would experience crop yield reductions due to the loss of dry matter due to the increased rate of night respiration. All such events would increase the probability of food insecurity in Sri Lanka.

Climate change and global warming have devastating consequences for human health. For example, the Lancet Countdown reported that globally, the number of people exposed to extreme heat has grown exponentially due to climate change, and the heat-related mortality of people over 65 years of age has increased by approximately 85% between 2000–2004 and 2017–2021. Further, climate change increases vector-borne diseases and reduces water quality, risking human health and sanitation.

The countries need to develop implementable commitments to bring us in line with the 1.5-degree world aligning with the Paris Agreement. For example, to keep this Paris Agreement target within reach, the world has recognized that the energy sector should reach net zero emissions by 2050 by

speeding up the transition away from fossil fuels and utilizing zero- and low-carbon fuels well before or by around mid-century. The next two years will be critical in global climate negotiations, as the countries need to establish a new climate finance goal to reflect the scale and urgency of the climate challenge to come up with commitments to bring us in line with the 1.5-degree world (i.e. global temperature rise in this Century to be no more than 1.5 °C above pre-industrial levels) aligning with the Paris Agreement. For example, to keep this Paris Agreement target within reach, the 28th Conference of Parties (COP28) held in 2023, recognized that the energy sector should reach net zero emissions by 2050 by speeding up the transition away from fossil fuels, and utilizing zero- and low-carbon fuels well before or by around mid-century. This is challenging considering the record increase in global warming experienced recently, but it can be achieved only through a collective effort globally. Sri Lanka has already committed to (a) becoming carbon net zero by 2050, (b) achieving 70% renewable energy in electricity generation by 2030, and (c) no capacity addition of coal power plants. We need international support in terms of access to technology based on our needs, capacity building and adequate climate financing from the international community to achieve these targets.

To facilitate this process, Sri Lanka has already updated its National Policy on Climate Change in 2023, Updated National Determined Contributions (NDCs) in 2021 and NDC Implementation Plan (2021-2030) in 2023, Climate Prosperity Plan (CPP) in 2022, and the 2050 Carbon Net Zero Road Map and Strategic Plan in 2023. The CPP has identified US\$ 26.53 billion, while the Net Zero Strategic Plan identifies US\$ 140 billion as the financial requirement from national (including private sector) and international donor agencies to support climate actions of the country until 2030 and 2050, respectively. We need to attract donor funding to support the ambitious climate actions identified by the country.

The new Climate Change Act of Sri Lanka is in the final stages of drafting. At the same time, a Climate Change Office (CCO) was established in 2024 at the Presidential Secretariat and the Climate Change Secretariat of the Ministry of Environment was established in 2008 to coordinate climate actions in Sri Lanka. The country has proposed the “Tropical Belt Initiative” and “Climate Justice Forum” at side events conducted at the COP28 to attract global attention to climate actions in developing countries.

The International Climate Change University (ICCU), aiming at postgraduate education, will start its operations soon with support from national and international agencies. To strengthen collaboration and coordination with the ICCU and CCO, the University of Peradeniya has initiated activities to establish a “Climate Change Lab”. Further, the National Adaptation Plan for Climate Change Impacts (NAP), the Technology Needs Assessment (TNA) and Technology Action Plans (TAP) for climate change adaptation and mitigation, Provincial Adaptation Plans (PAPs), and Climate Smart Green Growth Strategy (CS-GGS) are updated and/or developed to support systematic implementation of climate action in Sri Lanka.

The country needs to adopt “no-regret” options through a systematic approach. We must assess climate vulnerabilities periodically using the latest scientific methodologies, identify the technology needed to respond to climate challenges, access those technologies through global partnerships and climate financing, and build the capacity to adopt such technologies effectively under local conditions. The climate actions should not be decided upon haphazardly but through an informed decision-making process with broader stakeholder consultation.

Corresponding author email: bmarambe@pdn.ac.lk

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Journal of THE COLLEGE OF COMMUNITY PHYSICIANS OF SRI LANKA

Aims and scope

Journal of the College of Community Physicians of Sri Lanka (JCCPSL) is the official publication of the College of Community Physicians of Sri Lanka. Its first issue was published in 1995. Mission of the JCCPSL is to encourage, empower and stimulate researchers and health professionals to publish high quality research, which is novel and of public health importance in the local and global context.

JCCPSL is an open-access, peer-reviewed journal, which is published quarterly (four issues per year) from 2017. Currently, it is published as an online journal. It publishes original research articles, reviews, brief reports and short communications to inform current research, policies and evidence based public health practices in all areas that are of common interest to public health practitioners, clinicians and health policy makers.

The journal provides an interdisciplinary forum for dissemination of research material in a variety of disciplines relevant to public health such as demography, epidemiology, statistics, communicable and noncommunicable diseases, health systems and policy, health service management, and health economics.

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Editorial office:

Journal of the College of Community Physicians of Sri Lanka
No. 6, Wijerama House
Wijerama Mawatha
Colombo 7, Sri Lanka

Phone: 0094(0)114487139
Fax:0094 (0)114487139
E-mail: editorjccpsl@gmail.com



The College of Community Physicians of Sri Lanka
No. 6
'Wijerama House'
Wijerama Mawatha
Colombo 7
Sri Lanka

Web: www.ccp.sl.net

