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ABSTRACTS

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Abstract

Prevalence, Contributing Factors, and Coping Strategies Utilized for Burnout Among Medical Officers in Tertiary Care Hospitals in the Colombo District: A Cross-Sectional Analysis

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Keywords: burnout, coping strategies, economic crisis, doctors, COVID-19, Sri Lanka

Introduction: Healthcare professionals, especially doctors, are prone to burnout due to the demanding nature of their work. The COVID-19 pandemic and the economic crisis in Sri Lanka have intensified these challenges.

Objective: This study examines the prevalence of burnout, associated factors, and coping strategies among doctors working in Tertiary care hospitals in Colombo district.

Methods: A descriptive cross-sectional study was conducted among doctors in government, non-specialized, Tertiary care hospitals in Colombo district, using snowball sampling. Data was collected via an online questionnaire from November 2022 to February 2023. Burnout and coping mechanisms were assessed using the Copenhagen Burnout Inventory (CBI) and the 28-item Brief COPE scale. Descriptive and inferential statistical analyses, including one-way ANOVA, linear regression, and Pearson's correlation, were performed using SPSS.

Results: Survey results was obtained from 138 doctors, 96.4% reported increased working hours due to the economic crisis, with nearly half performing 2-3 night shifts weekly and 85.5% noting a rise in shifts. All participants cited resource shortages in hospitals linked to the crisis, and 98.6% noted a lack of support programs. Burnout was reported by 76.8% overall: personal burnout at 82.6%, work-related at 78.2%, and patient-related at 55.7%. ANOVA revealed higher burnout among male doctors, those under 30, Tamil ethnicity, separated or divorced, childless, and living in Colombo. Factors like living in hospital quarters, using public transport, and working over 72 hours per week, lesser monthly income, not engaging in private practice, having fewer years of experience and being a preliminary grade doctor were significantly associated with burnout. Intern medical doctors and physicians engaging in postgraduate studies demonstrated higher levels of burnout. Pearson correlation showed weak positive relationships between burnout and problem-focused ($r = 0.26$) and emotion-focused coping ($r = 0.33$), and a moderate positive relationship with avoidant coping ($r = 0.43$). Coping strategies significantly predicted burnout, with avoidant coping explaining the most variance (19%).

Conclusions: The study highlights significant associations between burnout and various demographic, economic, and occupational factors, as well as coping strategies, emphasizing the need for targeted interventions to build a sustainable medical workforce in Sri Lanka.

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Competing Interests: Author has declared that no competing interests exist.

Abstract

Assessment of burnout syndrome among emergency care professionals working in emergency departments of national, teaching, and district general hospitals in Sri Lanka: A Multi-Center Study

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Keywords: Burnout syndrome, emergency medicine professionals, emotional exhaustion, depersonalization, personal accomplishment, Sri Lanka, mental health, coping strategies

Introduction: Burnout syndrome is a psychological condition resulting from chronic occupational stress, particularly prevalent in professions requiring extensive human interaction, such as healthcare. It encompasses emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment.

Objective: To assess the prevalence of burnout syndrome and associated factors among emergency medicine professionals (EMP) at the Emergency Departments in tertiary care hospitals in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted from March 2024 to June 2024 among 146 emergency medicine professionals using a pre-tested self-administered online questionnaire, including the Maslach Burnout Inventory. Simple random sampling was employed using a list of EMP of the considered hospitals as a sampling frame, and data were analyzed using descriptive statistics and chi-square tests & binary logistic regression with SPSS 23.0.

Results: Response rate was 82.9% (n=120). The prevalence of high overall burnout was 43.3% (95% CI-34.32%-52.69%), with 20.8% (95% CI: 13.96%-29.20%) reporting high emotional exhaustion, 37.5% (95% CI: 28.83%-46.80%) high depersonalization, and 3.3% (95% CI: 1.0%-8.31%) high personal inefficacy. Significant associations were found between high burnout levels and factors such as anxiety (OR=5.02, 95% CI-1.81-13.90, p=0.001) and poor coping strategies (OR=4.23, 95% CI-1.15-15.6, p=0.02). No significant associations were found with socio-demographic characteristics or organizational factors.

Conclusions: A high prevalence of burnout among emergency medicine professionals, with significant levels of emotional exhaustion and depersonalization was reported. Burnout was significantly associated with anxiety and poor coping strategies, while no associations were observed with socio-demographic or organizational factors. Interventions should focus on addressing anxiety and enhancing coping strategies among emergency medicine professionals to reduce burnout. Future efforts should prioritize individual-level psychological support.

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Abstract

Seasonality and Bionomics of Sand Flies (Diptera: Psychodidae) as Vectors of Cutaneous Leishmaniasis in the Matara District, Southern Province, Sri Lanka

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Keywords: Leishmaniasis, Sand fly, Bimodal, Zoophilic, Entomology

Introduction: Leishmaniasis is an emerging public health problem in north-central and southern Sri Lanka. A total of 630 Cutaneous Leishmaniasis (CL) patients were recorded during 2019 in the District of Matara.

Objective: This study aimed to investigate the seasonality and host seeking behavior of sandflies *(Diptera: Psychodidae)* to assess the potential risk of leishmaniasis transmission in the district.

Methods: Entomological surveillance was carried out for 18 months (April 2020 - September 2021) in selected MOH areas, including Dikwella, Devinuwara, and Thihagoda. Seasonal changes were assessed using monthly cattle trap deployments and hand collections in each locality. The human-landing activity of *P. argentipes* was observed hourly from 17:00 to 6:00 in indoor and peri-domestic areas at the Devinuwara study site. A double trap net was used to protect the human.

Results: A total of 4,712 sand flies from six species across two genera were collected: *Phlebotomus argentipes* (25.8%), *Sergentomyia zeylanica* (63.3%), *S. malayae* (9.3%), *S. indica* (1.04%), *S. babu babu* (0.51%), and *S. koloshenensis* (0.11%). The seasonal activity of sandflies extended from April-September, showing two peaks, one in May-June and August-September. The indoor sex ratio of *P. argentipes* males to females was 1.3: 1 while the outdoor was 2.6 :1. The activity was highest early in the evening (5-6 pm, 6-7 pm) and late at night (11 pm-12 am, 1-2 am, 5-6 am). This pattern suggests that *P. argentipes* are actively seeking hosts in indoor environments during these times. *P. argentipes* showed zoophilic behavior, while *S. zeylanica* was anthropophagic.

Conclusions: *P. argentipes* exhibited a bimodal peak pattern with peak indoor activity and a zoophilic preference during specific seasonal and nocturnal periods, highlighting the need for targeted indoor control strategies to mitigate cutaneous leishmaniasis.

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Abstract

Assessing Dengue Vector Seasonality and Insecticide Susceptibility: Findings from an Ovitrap Survey in Colombo District, Sri Lanka

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Keywords: Dengue, *Aedes*, Seasonality, Susceptibility

Introduction: With a high incidence of dengue in the Colombo District of Sri Lanka, recorded as 17,456 cases in 2022 and 18,242 cases in 2023. Maharagama recorded 1,095 dengue cases in 2018, 2,292 cases in 2019, and 1,453 cases in 2022.

Objective: The study aimed to investigate the seasonal patterns and insecticide susceptibility of *Aedes aegypti* and *Aedes albopictus.*

Methods: An ovitrap-based survey was conducted in Maharagama MOH area from October 2022 to September 2023. Conventional ovitraps were deployed inside and outside 50 randomly selected houses to capture *Aedes* mosquitoes breeding in both environments, with collections made after five nights. Counted eggs were allowed to hatch and after the identification of larvae were reared under the laboratory conditions. Adults aged 2–3 days were exposed to common insecticides according to the WHO protocol.

Results: Outdoor ovitraps collected a total of 459 *Aedes aegypti* and 6,610 Aedes albopictus larvae, while indoor ovitraps collected 566 *Aedes aegypti* and 4,521 *Aedes albopictus* larvae. The *Aedes* ovitrap index was highest in December (62%) and April (55%). *Ae. aegypti* and *Ae. albopictus* populations fluctuated with the changing seasons. The density of *Ae. aegypti* peaked in March and May, whereas *Ae. albopictus* reached its highest levels in January and April. *Ae. albopictus* showed resistance to 0.8% Malathion, (mortality = 5%), but was susceptible to 4% Malathion, (mortality = 99%). *Ae. aegypti* was fully susceptible to both 5% Malathion and 0.25% Deltamethrin, with a mortality rate of 100% for each.

Conclusions: The persistent occurrence of the primary dengue vector may have contributed to the high prevalence of dengue in the district. *Ae. albopictus* showed resistance to the lowest Malathion concentration, highlighting the need to monitor susceptibility. Since *Ae. aegypti* is more prone to outbreaks and breeds more prevalently indoors (55%) than outdoors, this should be considered when formulating dengue vector control programs.

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Competing Interests: Author has declared that there is a competing interests exist.

Human resource & logistics - Provided by the Regional Director of Health Services, Colombo

Abstract

Validation of Portable Screening Audiometry (PSA) for screening hearing impairment among elders in an urban setting, Sri Lanka: A cross-sectional validation study

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Keywords: Validation, hearing impairment, Portable Screening Audiometry, screen for hearing, elders

Introduction: Hearing impairment is recognized as the fourth leading cause of disability globally most predominantly among aged population groups. The inability to perceive sound below the threshold level of 25 dB in one or both ears is considered as impaired hearing. Hearing impairment is usually not detected, until it progresses significantly partially due to unavailability of rapid, low resource intense, screening tests at the community level to determine the hearing status. The present study focused on validating the Portable Screening Audiometry (PSA) test to screen the hearing status of elderly individuals aged 65 years and above in Sri Lanka.

Methods: A clinic-based descriptive cross-sectional study was conducted in the Ear, Nose, Throat (ENT) clinic of the National Hospital, Sri Lanka (NHSL). The study included 103 elderly people (206 years) aged 65 years and above. Criterion validity of the PSA test was ascertained using the PSA test and the Pure Tone Audiometry (PTA) test. PSA testing was performed by trained pre-intern medical officer in a clinic setting. Reliability of the test was evaluated with test-retest reliability method.

Results : The mean age of the study sample was 75.0 (SD=+6.28) years. The sample consisted of (n=58, 56.3%) females and 45 (43.7%) males. PSA test at 60 dB level was found to be the most valid to detect hearing impairment with a sensitivity of 88.3% (95% CI: 82.2 – 93.0), and a specificity of 64.7% (95% CI 50.1 – 77.6), respectively. Cohen's kappa correlation coefficient value of the PSA test was 0.81.

Conclusion: The PSA is a valid screening test to assess hearing impairment among elders. Advocate policymakers for the implementation of hearing screening programs for the elderly population using validated PSA test in the primary health care facilities to address hearing impairment.

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Abstract

Effect of yoga to reduce the body mass index and waist circumference in middle-aged, obese individuals in urban areas of the Colombo District; A randomized control trial

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Keywords: yoga, randomized control trial, body mass index, waist circumference

Introduction: Obesity is a dominant public health issue that exacerbates the non-communicable disease, particularly in urban areas of Sri Lanka. Regular physical activity is vital for maintaining a healthy lifestyle, and yoga is a feasible, cost-free and home-based exercise that helps to reduce the Body Mass Index (BMI) and Waist Circumference (WC), especially among middle-aged people.

Objectives: To determine the effectiveness of yoga in reducing BMI and WC among middle-aged (40-59 years) obese people in urban areas of the Colombo district.

Methods:This randomized control trial included 140 participants, recruited from Healthy Life Style Centres in selected urban areas in the district. Participants were randomly assigned to either the yoga (n = 70) or control (n = 70) group using random generation number software with allocation concealment. The intervention group participated in twelve-week yoga programmes with a minimum of 150 minutes (three days) per week. Control groups were advised to involve in usual lifestyle practices. Chi-Square, independent sample t-tests and simple linear regression was done. Excluding criteria and randomization minimize the confounding effects.

Results : The majority (n = 95, 68%) were female, and the mean age of the participants was 48.6±1.8 years. Monthly income, level of education, and occupation of two groups were not significantly different ($p > 0.05$). At the baseline, BMI and WC of two groups were not significantly different (BMI $p = 0.26$, 95% CI (-0.42, 0.11); WC $p = 0.60$, 95% CI (-1.74, 1.01). However, after interventions, the results were as follows; BMI, $p=0.000$ 95%CI, (-1.36, -0.57), WC, $p=0.019$, 95% CI, (-3.06, -0.27). A high degree of correlation was observed between exercise time and change of BMI ($R= 0.815$, $F(53.52,27.03) = 134.65$, $p<0.000$). The reduction of WC in female is significantly higher than in males ($p=0.001$, 95% CI (-1.46, -0.40).

Conclusion: Yoga exercise can reduce the BMI and WC of middle-aged, obese people, and it is more effective particularly for women to reduce WC. However, duration of exercise is crucial to optimize the benefits.

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Abstract

Telehealth in Sri Lanka: stakeholder perspectives on knowledge, practices, and future requirements

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Keywords: health informatics, digital health, guidelines, telehealth, telemedicine

Introduction: The pandemic has led many to reconsider the role of telehealth. Understanding the key features underlying the user needs is necessary to maintain the sustainability of Telehealth programmes as well as enhancing healthcare via Telehealth services.

Objectives : To assess Telehealth knowledge, practice and requirements amongst doctors, programme vendors and consumers to help streamline the Telehealth practices in Sri Lanka.

Methods: The characteristics of these three key stakeholder groups were studied using a web-based survey questionnaire, which included 224 doctors, nine telehealth programs, and 235 registered telehealth consumers.

Results: A majority of the doctors (91.1%, n=204) use a telephone to communicate with patients in general while few (14.7%, n=33) use a Telehealth vender platform. A minority (4.5%, n=10)) thought Telehealth is not a need in Sri Lanka and from those who thought otherwise, 68.7%(n=147) were interested in using Telehealth for future consultations. The most popular reason given for this interest was physician convenience (136, 92.5%). Meanwhile, eight of the nine Telehealth programmes surveyed anticipated better coordination of healthcare and improvement of patient convenience. Three had electronic medical record systems, Six offered primary healthcare and health promotion services, while only one issued internet-based prescriptions. Of the registered consumers, a majority (78.7%, n=185) had received Telehealth care and 70.8% (n=131) agreed that the availability of an internet-based prescription option is important. Further, 56.2% (n=104) stated that use of Telehealth enabled them to reduce healthcare expenditures. Overall satisfaction about their experience was average (61.1%, n=114) and 69.2%(n=128) were willing to reuse Telehealth.

Conclusion: Addressing consumer needs, expanding access to specialized clinical care through telehealth, updating medical legislation, and integrating telehealth education into medical curricula could significantly enhance the adoption and utilization of telehealth. The findings of this study were used to plan multi-stakeholder focus group discussions in 2023, which ultimately contributed to the development of the National Telemedicine Guidelines, issued as a circular by the Ministry of Health.

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Abstract

Distribution of carotid artery intima-media thickness among Ischemic stroke patients and its association with common risk factors- a cross-sectional study

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Keywords: CIMT- carotid intima media thickness

Introduction: The increased carotid intima-media thickness (CIMT) has been frequently observed with ischemic stroke but the relationship between CIMT and common risk factors in ischemic stroke patients, were not universally understood.

Objectives: This study aims to describe the distribution of CIMT among ischemic stroke patients and determine its association with common risk factors.

Methods: This was conducted as a descriptive cross-sectional study in which 204 ischemic stroke patients were followed at Teaching hospital, Karapitiya from July to December 2023. CIMT measurements of both carotid arteries were obtained using B mode ultrasound. Risk factor data were collected through an interviewer-administered questionnaire. CIMT values above 0.80 mm were classified as abnormal. Statistical analysis was carried out using SPSS 21.0, with a significance level of 0.05.

Results: The sample's mean age was 60.74 years(SD = 12.51). Mean CIMT for the right carotid artery was 0.83 mm(SD = 0.12), and for the left, 0.88 mm(SD = 0.50), with no significant difference between the two sides ($P > 0.05$). Among patients, 58.0% and 52.1% had abnormal right and left CIMT respectively. Significant differences in CIMT were found between males and females ($P < 0.05$). No significant associations were observed between CIMT and hypertension or diabetes mellitus($P > 0.05$). However, the risk of abnormal CIMT was higher in dyslipidemic patients (OR 3.46 ;95% CI: 1.89–6.34, $P < 0.0001$). A one-way ANOVA test revealed a significant difference in CIMT between smokers and ex-smokers with non-smokers ($P = 0.03$). Hierarchical logistic regression indicated that all combined factors accounted for 39.4% of the variability in abnormal CIMT, although none emerged as significant independent risk factors.

Conclusion: Abnormal CIMT was significantly associated with dyslipidemia and smoking among ischemic stroke patients. However, further studies with comparative groups are needed to fully determine the association between CIMT and ischemic stroke risk.

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Abstract

Sensory impact of bilateral subcostal incision in long term survivors after Whipple surgery

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Keywords: Whipple surgery, bilateral subcostal incision, sensory impairment

Introduction: Whipple surgery needs adequate surgical exposure. Bilateral subcostal incision (BSI) is one of the traditional preferred approaches. Sensory impairment following BSI in long-term survivors has not been evaluated.

Objectives: This study aims to evaluate the factors affecting sensory impairment after BSI, in order to determine new approach to surgical incision can reduce the area of SI.

Methods: 39 patients who underwent Whipple surgery with bilateral subcostal incision completed a 6 months follow up were selected. The area of sensory impairment (SI) was measured using pin prick method and the Nottingham Sensory Assessment (NSA) scale and factors affecting the sensory impairment were evaluated. Area of sensory impairment was divided by body surface area to standardize and minimize individual variation. Correlation between the factors and the sensory impairment was evaluated.

Results: The median age was 51 (16-78) with 61% (n =23) males. The median area of sensory loss was 109.27cm2, 97.3 % (n=36) had grade NSA 1/0 SI. In univariate analysis, incision angle (p=0.068), incision length (p= 0.040), and distance from subcostal angle (p=0.023) had a significant association with SI while subcostal angle, interval following surgery, BMI or co morbidities had no impact on SI . In multivariate analysis, the distance from the subcostal angle had a significant association (p=0.009) with SI.

Conclusion: Long-term sensory impairment can be reduced when an incision is placed furthest away from the subcostal angle.

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Abstract

A prospective study on the correlation of symptoms, physical examination findings and endoscopic findings in adults suspected of upper aerodigestive tract fish bone foreign body

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Keywords: Fish bone, ingestion, odynophagia

Introduction: Fish bone impaction is a common clinical problem which can lead to many serious complications. in Sri Lanka.

Objectives: Assess the correlation of endoscopic findings with the history, physical examination and plain X-ray findings in adult patients presenting with a history of fish bone impaction; to improve diagnostic accuracy and avoid unnecessary intervention.

Methods: The study was a prospective descriptive cross-sectional study done in all patients presented with a history of fish bone impaction to the institution during the study period. Data collection was done from the bed head tickets and using questionnaire.

Results: The study population was 52 patients and out of which 24 patients were found to have fishbone impaction. The majority were within the age group of 20-39 years (50%) and presented within 3 days (82.7%). The primary symptoms were pricking sensation (86.5%) and odynophagia (78.8%) which showed the sensitivity of 91.6% and 79.1%, respectively, indicating their relevance in suspecting fish bone ingestion. Swallowing test positivity was observed in 53.8% of cases, while tenderness in the upper neck region was found in 23.1%. The tenderness in the upper neck showed a low sensitivity (20.8%) but a high specificity (75%). Plain cervical X-rays demonstrated a sensitivity of 33.3% and specificity of 92.8%. Fiber-optic laryngoscopy (FOL) and direct laryngoscopy (DL) increased the diagnostic accuracy. The base of the tongue was the most common site of fish bone localization.

Conclusion: The results emphasize the need for a comprehensive diagnostic approach, considering symptoms, physical examination, and imaging modalities to improve diagnostic accuracy without unnecessary interventions. The combination of pricking sensation and odynophagia showed a high sensitivity and specificity, making them valuable indicators for further investigation. Plain X-rays and endoscopic procedures played crucial roles in diagnosing fish bone ingestion.

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Abstract

Versatile use of the inferiorly based Naso-Labial Flap for the reconstruction of the Intra-Oral Onco-Surgical Defects

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Keywords: Oral-cancer, Naso-labial-flap, Reconstruction

Introduction: Oral cancer, one of the leading cancers in Sri Lanka is an emerging health hazard with a lot of morbidity and mortality. Reconstruction of intra-oral onco-surgical defects are essential to maintain oral integrity and quality of life. Pedicled naso-labial flap based on facial artery and facial vein can be effectively and extensively used for reconstruction of the tongue, floor of the mouth and buccal mucosa. 37 onco-surgical reconstructions using inferiorly based, single stage pedicled naso-labial flaps done both under local and general anaesthesia is presented.

Objectives: To access the success rate, donor site morbidity, swallowing and speech alterations of naso-labial flap reconstructions.

Methods: Thirty-seven naso-labial flap reconstructions (M-25, F-12), following T1-T3 primary intra-oral malignant tumor resections of the tongue (5), buccal mucosa (25) and floor of the mouth (7) were included. All cases were assessed using clinical records, for complications at first week and one month following reconstruction.

Results: In first week, complete (2) and partial (3) flap failures, donor site hematoma (1), salivary fistula (1) and pre-auricular swellings (2) due to temporary tissue oedema mediated parotid duct obstruction were noted as immediate post-operative complications. Platelet-Rich-Fibrin grafting was done for complete flap failures resulting in satisfactory healing in one month. Partial flap necrosis healed by secondary intension with mild trismus and articulation defect of speech. Above initial complications resolved with supportive therapy by one month. One patient with salivary fistula healed after two months. During the first week following reconstruction, 24.3% cases developed complications. Except the salivary fistula (2.7%), all other initial complications were satisfactorily managed by one month. This increased the success rate from 75.7% to 97.3%.

Conclusion: Single staged inferiorly based naso-labial flap is an excellent armamentarium for reconstruction of onco-surgical intra-oral defects with pleasing outcome with minimum complications.

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Abstract

Assessment of the prevalence of coronary artery calcifications in computed tomography chest and high-resolution computed tomography as a screening method for coronary artery disease in patients presented to the department of radiology at National Hospital, Kandy

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Keywords: coronary artery disease (CAD), coronary artery calcifications (CAC), non-contrast computed tomography (NCCT), high-resolution computed tomography (HRCT)

Introduction: Coronary artery disease (CAD) is a prevalent condition associated with significant morbidity and mortality. Coronary artery calcifications (CAC) are an important indicator of future cardiac risk. Early detection improves clinical outcomes, reducing the burden on patients, families, and society.

Objectives: Assess the coronary vessel calcifications among patients who undergo CT studies for non-coronary indications. The goal is to determine whether significant CAC should be routinely included in CT reports to aid early detection of CAD.

Methods: CAC was assessed in non-contrast computed tomography (NCCT) and high-resolution computed tomography (HRCT) chest studies acquired with a 128-slice CT scanner at the Radiology Department of National Hospital Kandy. Data was archived retrospectively through the picture archiving and communicating system (PACS). The vascular calcification, distribution, calcium score, and the risk of each patient's future major adverse cardiac events were calculated.

Results: A total of 434 CT studies were analyzed, of which 23% (101) were HRCT and 77% (333) were NCCT. CAC was observed in 307 (71%) of studies, while 126 cases (29%) showed no calcifications (Z 12.4, P<0.001). Calcifications within the right coronary artery were detected in 129 studies (30%). Within the left coronary artery in 146 studies (34%), within the left anterior descending artery in 253 studies (59%), and within the left circumflex artery in 150 studies (35%). Based on the total calcium score, 220 cases (50.7%) were grade 0. 11 cases (2.5%) had minimal risk, 71 cases (16.4%) had a mild risk, 102 cases (23.5%) had moderate risk, and 30(6.9%) cases had severe risk of CAD.

Conclusion: With the detection of a significant number of coronary calcifications, it is important to incorporate the grading of coronary arterial calcifications in HRCT and chest CT reports. This allows early detection of CAD, significantly benefiting patients by identifying future risks and facilitating timely interventions.

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Abstract

Assessing the adequacy of bowel preparation and associated factors in a tertiary care center in Western province of Sri Lanka: A cross-sectional study

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Keywords: colonoscopy, bowel preparation, runaway times, adenoma, Boston bowel preparation scale

Introduction: Colonoscopy, a procedure using a lighted flexible scope to visualize the colon, requires adequate bowel preparation. Despite adherence to recommended regimes, multiple factors both procedure-related and patient-related-significantly influence bowel preparation adequacy. Understanding these underlying factors is crucial for developing tailored bowel preparation protocols to ensure optimal results.

Objectives: This study aims to evaluate bowel preparation adequacy in a tertiary care center in Western Province of Sri Lanka and identify the associated factors.

Methods: A prospective single-centered study was conducted among 90 colonoscopy candidates at a tertiary care hospital in Western province of Sri Lanka from May to October 2022. Socio-demographic data were collected through an interviewer-administered questionnaire, while clinical data were obtained from medical records. Experienced endoscopists assessed bowel preparation adequacy using the Boston Bowel Preparation Scale (BBPS). Data were analyzed using descriptive and inferential statistics with IBM SPSS software, considering $p<0.05$ as significant.

Results: Inadequate bowel preparation was observed in 29.2% of participants. Adenomas were detected in 7.8% of cases, and 15.6% had other findings, including polyps (5.3%) and inflammatory conditions like ulcerative colitis and Crohn's disease. Multivariable analysis identified hypertension (OR=3.84, 95% CI: 1.32-11.13, p= 0.013) and neurological disease (OR=10.8, 95% CI: 1.54-75.58, p=0.017) as independent risk factors for inadequate bowel preparation. Education provided in the ward was inversely associated with inadequate preparation (OR=0.21, 95% CI: 0.05-0.89, p=0.034). Increased volume of clear fluids (p=0.65) and longer runaway times (p=0.91) were negatively associated with adequate preparation but statistically insignificant.

Conclusion: Nearly one-third had poor bowel preparation. Hypertension and neurological disease were identified as non-modifiable risk factors necessitating individualized regimes. Modifiable factorssuch as ward-based health education, volume of bowel preparation, runaway time, negatively impacted preparation adequacy. Further research with larger quantitative and qualitative studies is recommended to uncover underlying causes and develop patient-specific procedural recommendations.

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Abstract

Awareness, knowledge and adherence to the available CT head rules for head injury among doctors at National Hospital, Sri Lanka

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Keywords: CT head rules, awareness, Adherence, knowledge

Introduction: A large degree of variation in clinical practice exists among clinicians when managing mild head injuries which potentially cause harm to patients and further strains the limited resources of the healthcare system. Available highly sensitive Contrast tomography (CT) head rules can empower doctors to make safe and cost-effective decisions.

Objectives: This study aims to assess the awareness, knowledge, and adherence (AKA) to the available CT head rules among primary care doctors in the National Hospital Sri Lanka (NHSL).

Methods: A descriptive cross-sectional study was conducted in NHSL using a self-administered internet-based questionnaire.

Results: 246 doctors were enrolled in the study. Over 58% were aged 30-40 years and 67% were postgraduate trainees. More than 80% had >2 years of working experience. While 92% are aware of the available CT head rules, only 78.7% of doctors apply CT head rules. Among those who adhere, 54.5% primarily follow Canadian CT head rules while 33.2% follow the NICE guidelines. The main reasons for non-compliance include time constraints (41.0%) and colleague influence (62.3%). 49% demonstrated good knowledge of CT head rules, with higher knowledge levels observed in doctors aged 30-40 and those in more senior positions. 42% of the doctors have not received any education about head injury management. They expressed a positive attitude towards the application, use, and training of the aforementioned rules. Knowledge is significantly associated with age, professional category and previous education on topic ($P<0.001$). Gender ($p=0.445$) and work duration ($p=0.238$) do not significantly impact.

Conclusion: NHSL doctors are aware of CT head rules, but prevailing gaps in adherence and knowledge need to be filled with targeted education. Understanding the factors influencing low adherence can guide policymakers in knowledge translation and implementation of clinical decision rules which ensure quality and consistency of care while mitigating the risk for patients.

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Abstract

Evaluating the impact of watermelon consumption on blood pressure of prehypertensive young adults

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Keywords: Pre-hypertension, watermelon, exercise

Introduction: The watermelon which contains citrulline and nitrates exhibit blood pressure (BP) lowering properties.

Objectives: The prevalence of prehypertension among the medical students and the effective period of reducing the blood pressure after consuming watermelon will be investigated.

Methods: The blood pressure measurements were obtained from medical students who previously undiagnosed for prehypertension. In this placebo-controlled interventional study, 24 prehypertensive medical students (Age: 21-23 Y) were divided into 4 groups: Group-1: exercise, without watermelon, Group-2: exercise, with watermelon, Group-3: no exercise, with watermelon, and Group-4: control group, no exercise without watermelon. The participants of above group 2 and 3 consumed two glasses of undiluted watermelon juice (500 ml), daily, for 15 days and group 1 and 2 engaged in medium intensity exercise for 30 min, daily. BP was measured hourly until 3 hours of post-consumption, and another measurement obtained after 6 hours.

Results: Among all selected medical students (n=169), there were 39 (24.53%) undiagnosed pre-hypertensives. Of those, 76.92% were males, while 23.07% were females. The lowest average blood pressure values (systolic: 110.6 and diastolic: 70.8) were obtained after 3 h of consuming watermelon. The test group who consumed watermelon without exercise significantly lowered the systolic and diastolic BP ($p< 0.004$) also the watermelon with exercise showed a clinically significant reduction in systolic (127.26 to 121.8 mmHg) and diastolic (79.88 to 74.5 mmHg) BP. However, the BP changes between exercising and none exercising groups were statistically insignificant.

Conclusion: There is significantly higher proportion of undiagnosed prehypertension among the male medical student population than females. The blood pressure lowering effect of watermelon was clearly observed which peaked after 3 h of consumption. Exercise did not produce any significant results compared to none-exercise groups, therefore, the intensity and duration of exercise in this study would require altering in future studies.

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Abstract

Screening of healthcare workers for varicella zoster virus immunity in Sri Lanka

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Keywords: Varicella zoster; serostatus; healthcare workers; vaccination

Introduction: Varicella Zoster Virus (VZV) is highly infectious, causing primary varicella and herpes zoster. Health care workers (HCWs) are at increased risk of nosocomial transmission due to frequent exposure. Local studies on nosocomial outbreaks are limited.

Objectives: To analyze the association between VZV vaccination or natural infection, duration since infection/vaccination, and serostatus among HCWs and to Investigate the additional factors influencing serostatus.

Methods: This cross-sectional study analyzed blood samples from 400 HCWs attached to the NHSL, LRH and SJGH using an Enzyme Linked Immunosorbent Assay (ELISA). They were selected using multistage stratified sampling technique. Data were collected using an administered questionnaire. Seroprevalence was calculated and associations were determined using chi-square tests at 5% significance level and odds ratios (OR) with 95% confidence intervals (CI). Ethical approval was obtained from the Ethics Review Committee of the MRI and the respective hospitals.

Results: Among the 400 participants (mean age 34.1 years, SD=8.38), nurses, doctors, and support staff accounted for 57.5%, 18.5%, and 24%, respectively. The seroprevalence of VZV was 66.8% (95% (CI: 61.99%, 71.19%), with significant associations found for past infection (OR=81.75, p<0.001) and vaccination (OR=2.5, p=0.018). There was no significant association between the duration since infection (p=0.82) or vaccination (p=0.08) and seroprevalence.

Conclusion: A 33.2% seronegativity rate among HCWs suggests a higher risk of outbreaks compared to developed and some developing countries. This study supports the need for effective vaccine policies for HCWs to prevent future outbreaks.

Acknowledgement: This work was supported by the Research Committee, Medical Research Institute (Project No:20/2021).

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Abstract

Epidemiological and clinical features of centipede (*Scolopendra spp*.) bites: A single-center study

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Keywords: Centipedes, *Scolopendra*, itchy rash, clinico-epidemiology, Sri Lanka

Introduction: Centipedes (Scolopendra spp.) of the Family Scolopendridae are medically important arthropods in Sri Lanka. There are 19 centipede species from 6 Families in the country. They differ from small-house centipedes ("Paththeya") to larger formidable centipedes ("Garunda"). The incidence of centipede bites in Sri Lanka is not known. Also, the understanding of clinico-epidemiology of centipede bites in the country is lacking and poorly characterized.

Objectives: This study aimed to describe the epidemiolocal and clinical features of centipede bites.

Methods: A prospective observational clinical study was conducted for patients admitted with centipede bites to Teaching Hospital, Ratnapura from April 2022 to March 2024. Case definition was the history of centipede contact with immediate intense pain and swelling. Data were collected by using an interviewer-administered questionnaire. The severity of local pain and swelling were assessed as mild, moderate and severe. Data analysis was done using SPSS 22 version.

Results: There were 8 patients with centipede bites of which 6 (75%) were males and 2 (25%) were females. Their mean age was 30.6 ± 14.8 years (range 16-54 years). The sites of bites were feet (3;37.5%), hands (3;37.5%) and fingers (2;25%). The places of bites were inside homes (4;50%), home gardens (3;37.5%) and small jungles (1;12.5%). The occupations were manual labourers (4;50%) and estate workers (2;25%). Two (25%) were schooling children. Five (62.5%) were bitten at night (6 PM-5.59 AM) and 3 (37.5%) were bitten at daytime (6 AM -5.59 PM). The hospital stay was 2 days (IQR 1.25-2.75). Local envenoming was observed in all patients including local pain in 8 (100%) [mild in 1 (12.5%), moderate in 3 (37.5%) and severe n 4 (50%)], local swelling in 8 (100%) [mild in 1 (12.5%), moderate in 2 (25%) and severe in 5 (62.5%)], itching at the site of bite in 5 (62.5%) and generalized itching with urticarial rash in 2 (25%). Mild thrombocytopenia was observed in 1 patient (12.5%).

Conclusion: Centipede bites frequently cause local envenoming effects and itchy rash is a common manifestation.

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Abstract

Frailty and Quality of Life among community-dwelling older adults, in Northern Sri Lanka

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Keywords: frailty, quality of life, older adults, health

Introduction: In Sri Lanka, the proportion of older adults is rapidly increasing. Frailty is a major concern for ageing populations worldwide, as it is associated with multiple adverse outcomes including reduced quality of life (QoL). In lower-middle-income countries (LMICs) the pooled prevalence of frailty is 17.4% and prefrailty is 49.3%.

Objectives: To describe the epidemiology of frailty among community-dwelling older adults, and its association with QoL.

Methods: This study utilised secondary data from a population-based cross-sectional study that assessed the prevalence of atrial fibrillation across all five districts of Northern Sri Lanka using a multistage cluster sampling approach among 10000 participants aged ≥50 years. Data was collected using an interviewer administered questionnaire. To describe the frailty and QoL, we focused on a subset of 3,463 adults aged ≥60 years. Frailty and QoL were assessed using the Fried Frailty Index and EQ-5D-5L, respectively. Statistical analysis was performed using SPSS V.23.

Results: The mean age of the sample was 69.08 years and comprised 59.7% women. The prevalence of frailty and pre-frailty was 59.9% (95% CI 58.23% to 61.49%) and 40.1% (95% CI 38.51% to 41.77%) respectively. Frailty was significantly associated with factors such as age, gender, and presence of comorbidities: hypertension, diabetes, depression, anxiety ($p<0.05$). In a comparative analysis of the QoL index scores, there were significant differences between the frail (mean =0.8652) and pre-frail (mean= 0.9316) groups, with a mean difference of 0.06644 (95% CI: 0.05733–0.07556, $p < 0.05$).

Conclusion: The prevalence of frailty and pre-frailty in northern Sri Lankan older population was high compared with the pooled prevalence of LMICs. Frailty was inversely proportional to the QoL. The presence of frailty, combined with low scores in the QoL, escalates the risk of experiencing adverse health outcomes. Public health and social services should promote frailty screening and management while encouraging life satisfaction in older adults.

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Abstract

Audit on quality of postnatal domiciliary care provided by public health midwives in Galle MOH area

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Keywords: Audit, Quality, Postnatal domiciliary care, Midwives

Introduction: Majority of the maternal and neonatal adverse events take place during the postnatal period. Yet, with arrival of the newborn often health seeking behavior of the mother reduces and receipt of quality care get neglected. Provision of high-quality care during post-natal period can minimize adverse outcomes of both mother and newborn. More attention on domiciliary care provision to the doorstep of postnatal mothers would overcome barriers in health seeking pattern.

Objectives: To assess the quality (timeliness, appropriateness and effectiveness) of postnatal domiciliary care provided by Public Health Midwives (PHMs) in Galle Medical Officer of Health (MOH) area.

Methods: This was a baseline audit conducted in 2022 using a pre-tested, interviewer-administered questionnaire among 50 conveniently selected postnatal mothers attending the central clinic of Galle MOH office.

Results: PHMs have visited 82% of postnatal mothers at least once during first ten postpartum days and it was 1.36 postnatal visits on average. PHMs have examined both mother (90%) and the newborn (96%) during their home visits. Mothers have been educated by PHMs on correct technique of breast feeding (94%), postpartum risk conditions (88%) and maternal nutrition (84%). Family members have been educated on post-natal complications (74%), behavioral changes of the mother (70%) and maternal nutrition (68%). Level of awareness of mothers on danger signs in newborn and exclusive breast feeding was 88% and 98% respectively. Modern family planning method usage of the sample was 44%.

Conclusion: Postnatal domiciliary care provided by PHMs in the Galle MOH area does not fully meet expected standards. Timeliness of care delivery is a significant concern, as the frequency of home visits declines over time. There is a notable gap in delivering comprehensive health messages to mothers, particularly regarding danger signs and family planning.

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Abstract

Analysis of Salt Forms used in Siddha Medicine

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Keywords: Salt, *Pathiyam*, Diet, *Clerodendrum inerme*, *Azima tetracantha,* Siddha medicine

Introduction: Salt, a crucial element in human life, is derived from the earth, seawater, or plants. It has antiperiodic, emetic, laxative, stomachic, and vermifuge properties. Diet regulation (Pathiyam) is crucial in Siddha Medicine and includes two types: Itchapathiyam and Kadumpathiyam. Kadumpathiyam applies to medicines containing mercury.

Objectives: This study aimed to scientifically assess the various salt forms used in siddha medicine, including salt, fried salt, salt fried with Clerodendrum inerme, and Azima tetracantha.

Methods: Four samples were analyzed. There are salt (S1), fried salt (S2), salt fried with leaves of Clerodendrum inerme (S3), and Azima tetracantha (S4). Physicochemical assessment, scanning electron microscopy (SEM), Fourier-transform infrared spectroscopy (FTIR), and high-performance thin-layer chromatography (HPTLC) were performed on all four samples.

Results: These results indicate that all four samples exhibited similar properties. The samples were dissolved in water. FTIR spectroscopy is a valuable tool for determining the structural features of compounds and their bonding environments. In S1, a broad absorption peak was assigned to the O-H stretching vibration, indicating the alcohol characteristics. In S2, an aromatic NH2 vibration frequency was observed, indicating primary amine characteristics. In S3, a broad absorption peak was observed for the alcohol characteristics, whereas in S4, a broad absorption peak was observed for the O-H stretching vibrations. The HPTLC fingerprinting analysis of S3 and S4 revealed six and eight prominent peaks, respectively, indicating the presence of versatile phytocomponents.

Conclusion: The combination of spectroscopic and chromatographic techniques facilitated a comprehensive understanding of the chemical composition of the samples. Further analyses can offer valuable insights into the specific pharmacological actions of these compounds.

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Abstract

Healthcare workers' readiness and training needs in server and network management for electronic medical record systems

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Keywords: electronic medical records (EMR), server management, network management, digital health, digital transformation

Introduction: Sri Lanka's health system is undergoing digital transformation, with Electronic Medical Records (EMR) being crucial for modern healthcare and continuity of care. Effective server and network management is vital for sustaining EMR systems implemented in around 90 hospitals. This survey aims to assess their current attitudes and Information Technology (IT) readiness, ensuring the workshop is customized to meet their specific needs.

Objectives: Understanding current readiness and attitudes towards participants' competencies in handling IT infrastructure that supports EMR systems.

Methods: The survey was conducted as operational research within the capacity building program conducted by the health information unit in collaboration with ICTA on server and network management for hospital staff working as focal points for EMR implementation. This web-based questionnaire included multiple-choice questions, Likert scales, and open-ended responses. Data was collected anonymously and analyzed using descriptive statistics to identify trends.

Results: Thirty-one healthcare workers from seven districts participated in the program held in mid-2024. Participant designations included Saukya Karya Sahayaka (N=31,32.3%), Other staff (22.6%), Development Officers (19.4%), and ICT officers (12.9%). While 96.8% had computer access and internet at work, only 48.4% felt very comfortable using computers. In terms of EMR usage, 61.3% had prior experience. Key concerns were technical issues (61.3%) and lack of training (64.5%). Knowledge of server and network management was rated as moderate by 48.4% and 45.2%, respectively. Most participants (74.2%) requested onsite hands-on training, and 54.8% sought online resources. Overall, 61.3% rated the workshop highly, emphasizing the need for further training.

Conclusion: While participants showed confidence in adapting to new systems, they emphasized the need for more training and technical support for server and network management. These findings highlight the importance of targeted training to enhance IT system management and support EMR implementation, helping sustain digital health initiatives.

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Abstract

Assessment of weight estimation tool accuracy among paediatric population – a single tertiary center study

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Introduction: Sri Lanka's health system is undergoing digital transformation, with Electronic Medical Records (EMR) being crucial for modern healthcare and continuity of care. Effective server and network management is vital for sustaining EMR systems implemented in around 90 hospitals. This workshop on Server and Network Management was designed to meet these needs. Tailored training is essential to address participants' varying skills and readiness levels. This survey aims to assess their current attitudes and Information Technology (IT) readiness, ensuring the workshop is customized to meet their specific needs.

Objectives: Understanding current readiness and attitudes towards participants' competencies in handling IT infrastructure that supports EMR systems.

Methods: The survey was conducted as operational research within the capacity building program conducted by the health information unit in collaboration with ICTA on server and network management for hospital staff working as focal points for EMR implementation. This web-based questionnaire included multiple-choice questions, Likert scales, and open-ended responses. Data was collected anonymously and analyzed using descriptive statistics to identify trends.

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Conclusion: While participants showed confidence in adapting to new systems, they emphasized the need for more training and technical support for server and network management. These findings highlight the importance of targeted training to enhance IT system management and support EMR implementation, helping sustain digital health initiatives.

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Abstract

Knowledge, attitudes, and practices regarding rational use of local anesthetics among staff in radiology units of Teaching Hospital Peradeniya: before and after intervention

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Keywords: local anesthetics, interventional radiology, KAP study

Introduction: Local anaesthetics are extensively utilized in interventional radiology. These agents demonstrate both safety and efficacy in mitigating procedural and post-procedural pain. It is imperative that radiology team possess comprehensive knowledge about proper dosing regimens, techniques, applications and management of potential complications.

Objectives: This study aimed to evaluate the knowledge, attitude and practices related to local anesthetic use among radiology staff. Additionally, it seeks to identify the impact of training on above parameters.

Methods: The study population included all consultants, medical officers and nursing staff affiliated with the interventional radiology unit at Teaching Hospital Peradeniya. Participants who declined to provide consent were excluded. A 15-item questionnaire was administered to all staff categories pre-training. A structured and interactive teaching session was conducted. The questionnaire was re-administered post-intervention.

Results: The sample consisted of 14 doctors (58%) and 10 nurses (41%). Adequate mean knowledge of the participant before the intervention showed 62.74% ranged 27.3 in q5 to 95.5 in q 3. After the intervention, the adequate mean knowledge increased in to 91.84% which ranged in 81.8 in q4 to 95.5 in q1,2, and 3. Paired t-test analysis of the attitudes before and after the intervention showed p value < 0.001 (t=5.6866) indicating a statistically significant difference. Practices section which inquired regarding safe technique showed a p value <0.001 (t= 5.257), also reflecting a highly significant improvement following the training session.

Conclusion: Updating the healthcare team on local anaesthetic use and explaining rationale of new practices, enhanced effective and safe use of local aesthetics.

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Abstract

Audit of missing and leaving against medical advice (LAMA) patients over a period of 3 months in a single surgical unit in Teaching Hospital Ratnapura

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Keywords: audit, LAMA cases, missing cases

Introduction: Leaving against medical advice (LAMA) is defined as discharge at the request of the patient prior to completion of agreed-upon medical care, and missing is defined as voluntarily admitted patient whose whereabouts cannot be accounted for despite efforts to locate them by the clinical treating team and other agencies e.g., police. It affects both patients and healthcare providers because it increases the risk of readmission, and mortality, more extended hospital stays, exhausts the workload and healthcare costs.

Objectives: The purpose of this audit was to evaluate the prevalence and demography, presenting complaints of both LAMA and missing cases.

Methods: This retrospective descriptive analysis was conducted in a single surgical unit at teaching hospital Ratnapura. Data were collected using admission and discharge registry over a period of 3 months (from march to May 2024). The number of total admissions in each of the 3 months, total number of LAMA and missing cases according to sex, age, and presenting complaint were evaluated.

Results: 3065 of the total admissions were evaluated. Of these, 250 (8.1%) were total LAMA and missing cases, with a high prevalence of missing cases 184(6%). Out of the total LAMA and missing population, 84% were male and 16% were female. The mean age of the LAMA and missing population was 42.3 years, which was the highest among 30-50 age group. Unintentional trauma was the commonest complaint in both LAMA and missing cases (41.6%).

Conclusion: Compared with the prevalence in developed countries which was 1-2% of all LAMA cases, our analysis showed an overall high prevalence, largely due to missing patients. Thus, the development of large-scale studies to examine the prevalence, characteristics, and reasons for LAMA and missing cases is mandatory to adopt national admission criteria, adequately staff the facilities, and establish comprehensive management guidelines that minimize deviations from international standards in healthcare service delivery.

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Abstract

Incidence and epidemiological characteristics of laboratory confirmed Japanese Encephalitis among suspected acute encephalitis syndrome cases in Sri Lanka

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Keywords: Japanese encephalitis, incidence, acute encephalitis syndrome, Surveillance, Vaccination

Introduction: Japanese encephalitis (JE) is one of the most important causes of acute viral encephalitis syndrome (AES). Annually sporadic JE cases reported from various districts of Sri Lanka (SL), indicating the significance of JE surveillance program in par with WHO AES surveillance program. JE vaccination programme with live attenuated vaccine has been undertaken by the State Health sector, SL.

Objectives: To analyse the laboratory detection, epidemiological and clinical characteristics of patients with JE among AES cases in SL.

Methods: CSF/serum samples referred from suspected AES to the National Reference Virology Laboratory, Medical Research Institute, Colombo, from different hospitals in the country. Study retrospectively analyzed JE test results through January 2023 to July 2024. JE IgM-capture-ELISA performed according to the WHO recommended testing algorithm on CSF and serum samples using kits supplied by the WHO. CSF positive cases reported as confirmed JE and serum positive cases further tested with Dengue IgM-Capture-ELISA. Serum samples negative with dengue testing reported as JE whereas positive cases reported as dengue as per the WHO recommendations. Descriptive statistics used to characterize sociodemographics/clinical profile of JE cases.

Results: Overall positivity for JE is 18 (4%) out of 434 tested for the period. JE is mainly prevalent in adults over 55 years (78%) with no gender predominance. Highest JE cases reported in Western province followed by North Central, Sabaragamuwa and Eastern. Risk areas in the Western province are Gampaha, Kalutara and Ragama. Seasonal distribution patterns highlight a significant number of cases (89%) detected from May to December. All confirmed JE cases hospitalized with fever and altered consciousness.

Conclusion: Low JE cases among children /adolescents revealed the impact of mass vaccination program in the country. Awareness on strengthening JE vaccination at high-risk areas is suggested. Peak mosquito activity may be responsible for the observed clustering of cases during monsoon season.

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Abstract

Screening and testing for Hepatitis B virus infection: Report from National Reference Laboratory, Sri Lanka

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Keywords: Hepatitis B, serology markers, laboratory panel testing, disease stage, vaccination

Introduction: Testing/screening for Hepatitis B virus (HBV) is recommended for adolescents/adults belonging to high-risk populations and pregnant women. Laboratory test results are useful to individualize the stage/treatment, since serologic markers change over the typical course of acute or resolved infection and progression to chronic infection.

Objectives: To report HBV screening/testing findings and its interpretation in different clinical groups, including high-risk populations.

Methods: The study analysed blood samples received for HBV screening/testing at the National Reference Laboratory, Medical Research Institute, Colombo, from hospitals and blood transfusion centers across the country, through January 2023 to July 2024. Samples were first tested for HBV surface antigen (HBsAg) and reflex testing was performed with on HBsAg reactive samples for HBV core total-antibody (total-anti-HBc), HBVe-antigen (HBeAg) and HBVe-antibody(anti-HBe) with the HBV-panel. Highly sensitive and specific immunoassays/ELISAs were utilized to test HBV serological markers. CDC/American Association Liver Diseases (AASLD) guidelines were used to interpret test results. All positive cases were scrutinized with clinical history which accompanied samples, to understand disease stage.

Results: Of total 12,456 samples tested/screened for HBsAg, 283(2.2%) reactives were observed indicating 283 individuals to be infected with HBV infection, either acute or chronic. Of 283 tested for total-anti-HBc, 136 were positive, depicting 136 individuals with on-going natural infection. HBsAg reactives were tested separately for HbeAg and anti-Hbe which showed 44 and 93 positives respectively, suggesting 44 individuals to be in viral replication/high infectivity stage and 93 to be in virus inactivity / low infectivity stage.

Conclusion: Combined viral serological marker panel analysis showed a greater comprehensiveness in considering the different stages of HBV infection. HBeAg/anti-HBe results disclosed information to guide clinical management. Although the results may not be generalizable as a significant proportion of the study samples included high-risk populations, the overall increasing trend in HBsAg positivity observed, compared to figures in 2021/2022, flags the importance of HBV-vaccination in high risk populations.

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Abstract

Preoperative frailty assessment using FRAIL scale before major surgery in Teaching Hospital Peradeniya: A descriptive observational study

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Keywords: frailty, pre-frailty, major surgery, FRAIL scale

Introduction: In Sri Lanka there is a significant population aging. This has caused a significant increase in the prevalence of frailty among older adults. Frailty could impact surgical outcomes, which include postoperative complications and mortality. Even though it is important to assess frailty before surgery, it is not widely integrated into routine clinical practice.

Objectives: This study aims to evaluate the prevalence of frailty among patients who have undergone major surgeries at Teaching Hospital Peradeniya.

Methods: This is a prospective observational study, which was conducted at Teaching Hospital Peradeniya. The study included 157 patients aged 18 and above who underwent elective major surgeries. Frailty was assessed using the FRAIL scale, and data were analyzed using descriptive statistics.

Results: A total of 157 patients undergoing elective surgical procedures at Teaching Hospital Peradeniya within a period of 1 month were studied. The cohort included general surgery (23.6%), vascular surgery (20.4%), gynecology (45.2%), and orthopedics (19.1%) and plastic surgery (3,2%). The mean age was 64.5 years (SD ± 10.2), with 54.1% females and 45.9% males. The prevalence of frailty, based on FRAIL Criteria, was 8.3% frail and 77.1% pre-frail. Majority if the frail patients belong to 50–60-year age category where pre-frail individuals belong to less than 50 years group. Patients with multiple co-morbidities are likely to be frailer. Among those with more than five illnesses, 68.75% were categorized as pre-frail and 31.25% as frail, with none found to be free of frailty.

Conclusion: This study reveals a significant proportion of patients undergoing major surgery at Teaching Hospital Peradeniya exhibit frailty and pre frailty yet is not routinely assessed preoperatively. This finding highlights the importance of incorporating the FRAIL scale into future preoperative assessments to improve patient care.

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Abstract

Anthelmintic activity of methanolic extract of *Cìraka cūraṇam*: A Siddha herbal formulation

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Keywords: *Cìraka cūraṇam*, methanolic extract, *Pheretima posthuma*, anthelmintic activity

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Conclusion: This study reveals a significant proportion of patients undergoing major surgery at Teaching Hospital Peradeniya exhibit frailty and pre frailty, yet is not routinely assessed preoperatively. This finding highlights the importance of incorporating the FRAIL scale into future preoperative assessments to improve patient care.

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Abstract

Clinical symptoms and comorbidities associated with organ-specific complications of leptospirosis: An observational study in Teaching Hospital Peradeniya, Sri Lanka

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Keywords: lLeptospirosis, acute kidney injury, comorbidities, organ specific complications

Introduction: Leptospirosis is a zoonotic disease that causes outbreaks in harvesting seasons. The spectrum of the disease ranges from simple febrile illness to multi-organ failure with fatal outcomes.

Objectives: This study was conducted to identify clinical symptoms and comorbidities associated with organ-specific complications (OSC) of leptospirosis.

Methods: This is a retrospective observational study carried out using the leptospirosis registry. All the patients with serologically confirmed leptospirosis admitted to the Teaching Hospital Peradeniya from May 2020 to May 2023 were included.

Results: Among 71 patients, the majority were males (female to male ratio 1:4) and the median age was 43 years (IQR 34 – 57). There were 29 (41%) patients who developed at least one OSC and acute kidney injury (AKI) was the commonest (n=13). Multi-organ failure (n=8), pulmonary hemorrhages(n=5), and hepatitis (n=3) were noted as other OSCs. Loss of appetite was associated with the development of AKI (P=0.03; OR 4.03, 95% CI 1.15-14.13). Other common symptoms including fever, myalgia, vomiting, diarrhea, cough, impaired consciousness, and hematuria did not demonstrate a statistically significant correlation with OSCs. The majority (69%) did not have a history of comorbidities including diabetes, dyslipidemia, obstructive airway disease, or hypertension, and no significant correlation was identified between co-morbidities and OSCs.

Conclusion: Leptospirosis patients with loss of appetite have a significant correlation with developing AKI as an OSC. There was no statistically significant association among other symptoms or co-morbidities and OSCs in leptospirosis in this cohort.

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Abstract

Improving soft skills of the operating theatre nursing officers of a teaching hospital- interventional study

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Keywords: Soft skills, Nursing officers, Operating theatres, Interventions, Communication

Introduction: Soft skills (SS) are social and cognitive abilities that complement technical expertise. They play a critical role in patient safety. A significant SS gap is observed globally in high-risk healthcare settings mainly in operating theatres where suboptimal SS can compromise patient safety. In Sri Lanka, limited research on SS in healthcare highlights a need for exploration and intervention.

Objectives: To improve the SS of operating theatre nursing officers at the National Hospital of Sri Lanka.

Methods: A before-after interventional study was conducted in 2023. As a finite sample, all eligible participants (N=169) with more than 2 years of work experience were included. The study explored all the SS categories—communication and teamwork, task management, and situation awareness— and their nine elements as in the "Scrub Practitioners' List of Intraoperative Non-Technical Skills (SPLINTS)" system. Their level of knowledge and practice were assessed quantitatively using a self-administered questionnaire and a self-administered checklist with a scoring system with predetermined cutoff values on the expected level of knowledge (>60% of knowledge score) and level of practice (>3 practice score). Interventions included introducing 'SS Standards for Operating Theatre Nurses' and implementation of a 'Training Module' on SS. Post-intervention SS levels were assessed eight weeks after the interventions. Data were analyzed using '26th version of SPSS'.

Results: Pre-intervention level of knowledge of SS was 90.19%, and the practice level was 2.99, indicating a soft skills gap in practices. Post-intervention, knowledge scores improved significantly to 98.59% (p=0.000), and practice levels increased to 3.29 (p=0.000), with statistically significant ($p<0.05$) improvements across most categories and elements.

Conclusion: An SS gap was identified in the practices. The interventions effectively improved the knowledge and practices of SS. This research indicates the importance of addressing SS gaps in high-risk healthcare settings and therefore recommends continuous exploration and improvement of SS among nursing officers.

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Abstract

Improving knowledge, attitudes, and practice in the laboratory process of nursing officers working in District General Hospital, Matale

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Keywords: Laboratory processes, knowledge, attitudes, practices, training, user manual

Introduction: Laboratory investigations are accountable for 65%-70% of major clinical decisions, making the accuracy and reliability of test results critical. A majority of errors occur in the pre-analytical phase, where nursing officers play a crucial role. Their knowledge, attitudes, and practices (KAP) of sample selection, collection, and handling, directly impact the quality of reports. Improving the KAP of nursing officers is essential for minimizing pre-analytical errors and improving overall test reliability.

Objectives: To improve the KAP of nursing officers regarding laboratory processes in DGH Matale.

Methods: This interventional pre- and post-study was done at DGH Matale from 2nd January 2023 to 30th November 2023 involving 189 nursing officers who were directly involved in the blood sampling process. Nurses on long-term leave were excluded. Knowledge and attitudes were measured using a self-administered questionnaire, while practice was assessed through an observational checklist. Knowledge was assessed in three stages: pre-sampling, sampling, and post-sampling. The intervention included targeted training sessions and the introduction of a user manual for the sampling process. Pre- and post-intervention assessments were compared to determine improvements. Data was analyzed using the '26th version of SPSS'.

Results: Overall knowledge improved significantly from 80% to 90% (Z=3.406, p=0.000). Significant improvements were observed in all stages; pre-sampling knowledge increased from 84% to 96% (Z=3.739, p=0.000), sampling knowledge from 79% to 91% (Z=3.084, p=0.002), and post-sampling knowledge from 77% to 85% (Z=2.044, p=0.041). Practices improved significantly from 41% to 88% (Z=4.22, p=0.000). Although the mean attitude score increased slightly from 4.14 to 4.19, this change was statistically non-significant (Z=0.856, p=0.196).

Conclusion: The intervention, comprising training and a sampling manual, significantly improved the knowledge and practice of nursing officers concerning laboratory processes. This suggests that structured educational initiatives and supportive resources can enhance the accuracy of laboratory results hence patient care.

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Abstract

Aetiological agents and antifungal susceptibility pattern of fungal bloodstream infections in patients from National Cancer Institute, Maharagama, Sri Lanka

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Keywords: fungaemia, Candida, fuconazole, amphotericin B

Introduction: Invasive fungal bloodstream infections are common opportunistic infections among patients with malignancy that lead to high morbidity and mortality. Understanding the local prevalence of fungal pathogens and their susceptibility to antifungal agents is crucial in clinical management and addressing antimicrobial resistance.

Objectives: To identify the causative agents of fungal bloodstream infections and to determine the antifungal susceptibility pattern of fungal blood culture isolates from the National Cancer Institute, Maharagama, Sri Lanka.

Methods: Blood culture isolates received from 2015 to 2023 from the National Cancer Institute to the Department of Mycology, Medical Research Institute were retrospectively analyzed to identify the aetiological agents and their antifungal susceptibility pattern.

Results: Among the 471 isolates received were 391 *Candida* isolates, 64 non-candida yeast isolates and 8 mold isolates. *Candida tropicalis, Candida parapsilosis* and *Candida albicans* were the most prevalent *Candida* species, with percentages of 33.0%, 29.2% and 7.8%, respectively, while *Candida glabrata, Candida kruseii* were less frequently isolated.

Trichosporon sp. (9.5%) and *Saccharomyces* sp. (3.3%) were the most prevalent non-candida yeasts while molds (*Fusarium* and *Aspergillus* species) were occasionally isolated.

Overall susceptibility of *C. tropicalis*, *C. parapsilosis* and C. *albicans* to fluconazole was 71.0%, 71.4% and 77.7% respectively. Higher resistance to fluconazole was noted in *C. glabrata* and *Trichosporon* species. Over 99% of the isolates were sensitive to amphotericin B throughout the years. These susceptibility patterns have not differed significantly over the years.

Fourteen isolates, including a few probable *Candida auris* isolates, could not be speciated by the available laboratory facilities.

Conclusion: C. tropicalis was the most common cause of fungaemia. The susceptibility of blood culture isolates has remained high for amphotericin B but relatively lower for fluconazole over the years.

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