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International Conference On Medical Sciences

2022 INNOVATION. EXPERIENCES. RESEARCH.

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**Faculty of Medical Sciences,
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&

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"INNOVATION. EXPERIENCES. RESEARCH"

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Sperm parameters in men investigated for infertility with history of exposure to environmental and occupational toxicants and tobacco smoking

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Physical activity participation among community re-integrated army veterans following lower limb amputation in Sri Lanka

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Characteristics of self-medication among adults during the COVID-19 pandemic

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Raayiz RM, **Peramuna AD, Basnayake BMPV**

Department of Surgery, District General Hospital, Nawalapitiya, Sri Lanka

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Jayasundara SS, **Logini B, Waduge R**

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Jayasundara SS, **Waduge R**

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An extremely rare cause of dyspnoea in adulthood; Morgagni type congenital diaphragmatic hernia

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Lamotrigine and Sodium valproate induced Stevens–Johnson syndrome; a case report

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ABSTRACTS OF ORAL PRESENTATIONS

OP 1

Health related quality of life in patients on maintenance haemodialysis; a descriptive study in two in-center dialysis units at a major tertiary care medical institution in Sri Lanka

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Background

Maintenance haemodialysis is one of the life-saving procedures for patients with end stage renal disease (ESRD). As majority of patients are on center-based haemodialysis as treatment modality, thus offering a unique opportunity to examine the health-related quality of life (HRQOL).

Objectives

This study aims to describe the HRQOL and the associated factors among patients on maintenance haemodialysis at a major tertiary care medical institution in Sri Lanka.

Methods: An analytical cross-sectional study included 317 haemodialysis patients. Kidney Disease Quality of Life-Short Form (KDQOL-SF™) was used to assess the HRQOL while the Centre for Epidemiologic Studies Depression Scale was used to assess the presence of depression. Kidney Disease Summary Component (KDSC), Physical Component Summary (PCS) and Mental Component Summary (MCS) scores which are derived from the KDQOL-SF™ were assessed.

Results

There was a preponderance of males among the study population (69.4%, N=220). Mean age of the study population was 51.8 ± 12.6 years. Median KDSC (70.7; inter-quartile range (IQR) 42-79.1), was higher than the median summary scores of PCS (31.9; IQR 16.2-40.7) and MCS (45.5; IQR 35.9-55.7). The results indicated that the HRQOL in relation to KDSC was significantly greater for females than for males (U = 7840.5, P = <0.001). Screening positive for depression (U = 7015.5, P = <0.001), having comorbidities (U = 3200.0, P = 0.001) and currently not being employed (U = 5085.5, P = 0.021) were significantly associated with low HRQOL in KDSC.

Conclusions

The HRQOL of the haemodialysis patients in the study population was found to be poor. Absence of comorbidities, screening negative for depression and being employed were found to be independently associated with better HRQOL.

Acknowledgement

OP 2

Barriers and facilitators for weight reduction in obese young adults in an urban setting: A qualitative study

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Background

Young adulthood is a significant period that encompasses significant life events that tend to gain weight. Understanding barriers and facilitators for weight reduction among this vulnerable population is important in planning effective population-specific interventions.

Objectives: This study aimed to explore barriers and facilitators for weight reduction among obese young adults in an urban setting.

Methods

A qualitative descriptive study was conducted among a purposively recruited sample of obese (BMI≥25 kgm-2) young adults (18-35 years) (n=62) in the Colombo district through an open invitation during 2020. The data collection was done up to the data saturation point using semi-structured guide-based focus group discussions (n=10). Data analysis was conducted using the framework method in thematic analysis. The identified themes under barriers and facilitators were categorized into two levels as individual and environmental.

Results

The majority were women (n=40; 64.5%). More than 70% (n=45) of the participants belonged to obesity class I and 90.3% (n=56) had abdominal obesity. Incorrect knowledge, mood and emotions and lack of self-control were the barriers at the individual level and the inadequate social support, other commitments, lack of accessibility and availability and unsafe environment for physical activities were the barriers at the environmental level. The desire to improve the appearance and body image, health-related concerns, limitations in day to day activities and previous positive experiences were the facilitators at the individual level while support from others and weight-related victimization were the facilitators at the environmental level.

Conclusions

This study adds new insight into the field of obesity management in Sri Lankan obese young adults. A multitude of factors was found to interfere with weight reduction attempts of obese young adults and it is important to consider these barriers and facilitators when planning weight management programmes targeting obese young adults in urban Sri Lanka.

OP 3

Postpartum weight retention and factors associated with postpartum weight retention in mothers attending child welfare clinics in a selected Medical Officer of Health area, Colombo district

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Background

Postpartum weight retention (PPWR) is the difference between weight after delivery and weight prior to pregnancy of more than 5 kg. PPWR contribute to obesity in women of childbearing age and increase the risk of developing non-communicable diseases later in life.

Objective

To determine the proportion of postpartum weight retention (PPWR) and associated factors among mothers attending child welfare clinics (CWC) in a selected Medical Officer of Health area (MOH), Colombo district.

Method

A descriptive cross-sectional study was conducted among 70 mothers (7–12 months of postpartum period) attending the CWC at Boralesgamuwa MOH. A pretested interviewer administered questionnaire and a data extraction tool was used for data collection. The current weight was measured at the clinic visit. Pregnancy records of the mothers were used to extract data on pre-pregnancy BMI, pre-pregnancy weight, and the maximum weight recorded during pregnancy.

Gestational weight gain (GWG) and pre-pregnancy BMI were classified according to the Institute of Medicine (IOM) and WHO criteria for adults. $P < 0.05$ was taken as significant.

Results

Most (N=33, 47.1%) were in the age group 25-31 years, unemployed (N=41, 73%) and educated above Ordinary level (N=48, 69%). Most of the mothers (47.1%) had a pre-pregnancy BMI within the normal range of 18.5-24.9 kg/m2. The percentage of mothers with pre-pregnancy BMI of overweight (25-30 kg/m2) and obese (≥30 kg/m2) were 31.4% and 14.3%, respectively. Most mothers (N=29, 41.4%) have achieved normal GWG. Percentage of mothers who had PPWR more than 5kg was 47.1% (N=33). Higher PPWR (71%) was observed in those with excessive GWG. Lower educational level, higher GWG and higher pre-pregnancy BMI were associated with higher PPWR ($p<0.05$). Mothers who reported sedentary behaviour and consumption of snacks showed significant association with higher PPWR ($p<0.05$).

Conclusion

Higher GWG and higher pre pregnancy BMI is associated with higher PPWR.

OP 4

Taxonomic identification key to scrub typhus vector chigger mites in Sri Lanka

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Background

Scrub Typhus is an arthropod vector-borne zoonotic disease transmitted by the parasitic larval stage of Trombiculid mites known as "chiggers". Identification of vectors is crucial in vector control that enables the designing of appropriate control interventions. In Sri Lanka, there is no taxonomic key available for the identification of chigger mites.

Objectives

The present study was conducted to construct a morphological identification key to the chigger mites recorded in Sri Lanka.

Methods

A morphological taxonomic key to recorded chigger species in Sri Lanka were developed based on the literature and referring to the chiggers (n=394) collected from small mammals in Western and Southern provinces mounted with Hoyer's medium. Microscopic observation of basic morphological features such as the shape of the scutum, scutal setae, palpal formula, chaetotaxy and morphometrics of external features were used to build the key. The key was validated with the use of reference collections followed by a quality control procedure with the help of some international experts.

Results

From an extensive literature review of Sri Lankan chigger mite fauna recorded from 1946-2021, a total of 15 chigger mite species under nine genera within three families (Leeuwenhoekiidae, Trombiculidae, and Walchiidae) are included in the present work. This includes Genus Whartonia: Whartonia ratnasooriyai; Genus Ascoschoengastia: Ascoschoengastia indica, Ascoschongastia (Oculicola) oculicola; Genus Blankaartia: Blankaartia acuscutellaris; Genus Chiroptella: Chiroptella (Neosomia) kanneliya; Genus Ericotrombidium: Ericotrombidium jayewickremei; Genus Leptotrombidium: Leptotrombidium akamushi, Leptotrombidium deliense, Leptotrombidium imphalum; Genus Microtrombicula: Microtrombicula munda, Microtrombicula spicea; Genus Schoengastiella: Schoengastiella ceylonica , Schoengastiella punctata and Genus Walchia: Walchia (Walchia) disparunguis, Walchia (Walchia) turmalis.

Conclusions

This simplified key would be beneficial in identifying chiggers. Detailed island-wide studies and periodic revision of taxonomic keys are recommended.

OP 5

The effect of Sri Lankan Apis cerana (bee) honey on selected wound pathogens

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Background

Different honey types are used as wound dressings due to multiple factors including proven antimicrobial properties. More than 70% of chronic non-healing wounds are biofilm associated. However, anti-biofilm properties of Sri Lankan Apis cerana honey are not fully studied.

Objectives

This study evaluated the antimicrobial and anti-biofilm activity of Sri Lankan Apis cerana honey against selected wound pathogens.

Methods

The antimicrobial effect of A. cerana honey on planktonic growth of ATCC strains of selected wound pathogens; S. aureus, methicillin resistant S. aureus, K. pneumoniae, P. aeruginosa, E. coli, C. albicans and C. tropicalis were evaluated using well diffusion method and MIC determination. Anti-biofilm effect of honey was assessed based on its ability to inhibit the adhesion, development and established biofilms using microtiter plate assays followed by MTT assay. The post exposure ultrastructure of the biofilms was studied using the scanning electron microscopy (SEM).

Results

A. cerana honey displayed an antimicrobial effect against all test strains and the MIC values of honey ranged from 770.00 mg/ mL-1540 mg/ mL. The lowest MIC (770.00 mg/ mL) was exhibited against S. aureus, MRSA, K. pneumoniae and P. aeruginosa. It significantly inhibited the initial biofilm adhesion, development and established biofilms of the tested organisms. The lowest MBIC50 of honey in biofilm adhesion, development and established biofilms was observed against P. aeruginosa (12.00 mg/mL), E. coli (24.10 mg/mL) and MRSA (48.13 mg/mL) respectively. All the test strains exhibited a percentage reduction in biofilm development close to 100% in undiluted honey. The SEM images showed cell wall damage and cell shrinkage of mature sessile cells after treating with honey.

Conclusions

Sri Lankan A. cerana honey displayed potent antibacterial, antifungal and anti-biofilm activity against all the tested organisms. It has the potential to be used as a suitable candidate for development of wound dressings for treatment of infected wounds.

OP 6

Prevalence of toxoplasmosis among a selected group of cancer patients at Apeksha hospital, Maharagama, Sri Lanka

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Background

Toxoplasmosis is a widespread infection caused by an obligate intracellular protozoan Toxoplasma gondii (T. gondii). In immunocompromised patients, it causes life-threatening diseases such as pneumonia, retinochoroiditis and affects multiple organs.

Objectives

The aim of the study was to determine the prevalence of toxoplasmosis using Toxoplasma-specific IgG and IgM antibodies by enzyme-linked immunosorbent assay (ELISA) technique among cancer patients admitted to Apeksha hospital, Maharagama

Methods

After obtaining written consent blood samples were collected from 321 clinically diagnosed cancer patients aged between 18-80 years, who are under some form of immunosuppressive therapy and admitted to Apeksha hospital Maharagama from November 2021 to March 2022. Samples were tested for T. gondii IgG and IgM antibodies using a commercial ELISA kit.

Results

Among the participants, 153 (47.7%) were positive for T. gondii IgG antibodies and 31 (9.7%) were IgM positive. Among them, 18 (5.6%) were both IgG and IgM positive, 120 (37.4%) were IgG positive and IgM negative, 12 (3.7%) were IgG negative and IgM positive while 139 (43.3%) IgG and IgM negative.

Conclusions

Seroprevalence of T. gondii among cancer patients was 47.7% for IgG which indicates a high prevalence rate. These patients may have been exposed to toxoplasmosis infection in the past (six months or more). Reactivation could occur in the future since the patient is immunocompromised. Further, 9.7% IgM positive and it is difficult to interpret because Toxoplasma-specific IgM antibodies may be detected 18 months after acute acquired infection. Therefore, testing all the cancer patients for Toxoplasmosis as a routine test is recommended along with the health education on the risk factors for further management of the patient.

Acknowledgement

OP 7

Experts' agreement on usability and features of a web-based tool in promoting flipped classroom pedagogy

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Background

Flipped classroom pedagogy (FCP) is one of several modern blended learning strategies. FCP involves using several educational technologies. Therefore, teachers and students from undergraduate health professional education (HPE) would be likely interested in enrolling in an introductory training and development FCP course.

Objectives

To design, develop, and evaluate a web-based tool for fostering flipped classroom pedagogy in undergraduate health professions education.

Methods

This is an educational design-based research study with a descriptive evaluation component which was conducted in two steps: (i) design and development and (ii) evaluation of an educational website. An expert panel was formed to evaluate the website by using a website evaluation questionnaire. Descriptive statistics were employed to calculate the expert's agreement level.

Results

The flipped classroom promotional website design was adapted to provide access to the broadest range of digital devices. The development process occurred simultaneously in two steps: (i) website development and (ii) learning content development. A simplified homepage was developed commonly for teachers and students. The home page guides users to an attractive, colourful, and title-based course content page which directs users to topic pages which incorporated learning content. Learning content pages were developed in three different forms word/picture-based illustration, videos and quizzes, which were constructively aligned with the intended learning outcomes of the training programme. The web-based tool obtained a good level of agreement (>=80%) for its' feature and usability from the expert panel.

Conclusions

The web-based tool is an effective method for providing training to promote FCP in the HPE. The web-based tool achieved good ratings from experts. However, it is essential to obtain acceptance from the end-users, which will be a focus of future research.

ABSTRACTS OF POSTER PRESENTATIONS

PP 1

Patient perspectives of having cutaneous leishmaniasis and treatment with intralesional sodium stibogluconate

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Background

Cutaneous leishmaniasis (CL), a vector-borne parasitic skin disease is well-known to cause disfigurement and stigmatization due to the non-healing nature of lesions and the scars that can occur on visible parts of the body leading to a poor quality of life.

Objectives

To investigate the perspectives of CL patients receiving weekly intralesional sodium stibogluconate (SSG) as standard treatment in Sri Lanka.

Methods

Forty CL confirmed patients were asked two open-ended questions in their first language at their baseline visit; "How does your skin problem affect you?" and "What are the three worst aspects of having your skin problem?" The same two questions were asked from the same cohort of patients after commencement of treatment at their 4-week, 3rd month and 6th month visits. Answers were collectively analyzed with pen and paper for the thematic content.

Results

Patient responses (n=170) were categorized under 9 broad themes over the course of treatment. Out of these, six key themes showed changes in percentages of patient responses between baseline (n=35) and 6 months (n=33) visits viz: psychological effects 63% to 30%; symptoms 17% to 15%; social life 11% to 3%; sequelae 0% to 30%; treatment 0% to 9%, and side effects 0% to 3%. At the end of assessment, the key themes were then categorized into 37 subthemes. Most frequently encountered subthemes were: cosmetic effect (11%), itching of lesion (11%), travelling for treatment (9%) fear of worsening of lesion (8%), and long term treatment (7%).

Conclusions

This study demonstrated that CL patients receiving intralesional SSG as standard care in Sri Lanka, perceived symptoms and sequelae as a cause for concern over the course of treatment. However, psychological impact was the most commonly reported theme emphasizing the need to recognize psychosocial sequelae when assessing and treating CL patients.

Acknowledgement

PP 2

In-vitro antimicrobial effect of Gliricidia sepium inner bark extractions against skin pathogens – a preliminary study

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Background

There is evidence that throughout human civilization plant extracts have been used as remedies for various diseases. Many parts of plants are known to have curative properties. Inner bark of Gliricidia sepium which is locally known as ladappa, wetamara or albesia is used as a medicine for skin wounds in Sri Lanka. This study investigated in-vitro antimicrobial effects of Gliricidia sepium bark extractions against common pathogens which cause skin infections.

Objective

To assess the antimicrobial effect of Gliricidia sepium inner bark extraction against common skin pathogens.

Method

Ethanolic extract of Gliricidia sepium inner bark was obtained using cold maceration technique while hot water extract was obtained according to ayurvedic protocol. A dilution series of both extracts were tested against common skin pathogens including Gram positive bacteria (Staphylococcus aureus ATCC 25923), Gram negative bacteria (Pseudomonas aeruginosa ATCC 27853) and fungi (Candida albicans ATCC 10231 and a clinical isolate). Agar well diffusion method was used with positive (standard antibiotic disks) and negative (distilled water for hot water extraction and DMSO for Ethanol extraction) controls.

Results

Ethanolic extract showed significant antimicrobial activity against all the tested microorganisms with mean inhibition zone diameters of 20-13 mm, 19-14 mm and 22-16 mm (for the dilution series of 100% - 6.25%) for S. aureus, P. aeruginosa and C. albicans standard strains respectively. Hot water extract only showed significant activity against S. aureus (19-13mm) and P. aeruginosa (18-13mm) but did not have activity against C. albicans (0 mm).

Conclusion

Ethanolic extract of Gliricidia sepium inner bark has in-vitro activity against common bacteria and fungi which cause skin infections. Water extract shows good antibacterial effect but not antifungal activity. Gliricidia sepium could be a potential source of new antimicrobial agents and warrants further study.

PP 3

Characterization of East-Asian Helicobacter pylori encoding Western EPIYA-ABC CagA

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Background

The polymorphic bacterial oncoprotein, CagA shows geography-dependent variation in the C-terminal Glu-Pro-Ile-Tyr-Ala (EPIYA) motifs; East-Asian H. pylori isolates carry the ABD type while Western isolates carry the ABC type. In Western isolates, the EPIYA-C motif is sometimes found in multi-copy and this genotype is associated with disease severity. Interestingly, a small number of East-Asian H. pylori isolates have been found to carry Western ABC-type CagA.

Objectives

To gain a better understanding of the Western ABC-type CagA in an East-Asian H. pylori background.

Methods

The genomes of four Korean H. pylori clinical isolates carrying ABC-type CagA were sequenced via Pac-Bio SMRT sequencing technology. The obtained data was utilized for phylogenetic analysis as well as comparison of additional virulence factors that are known to show geographic-dependent polymorphisms. Moreover, the Korean clinical isolate, K154 with EPIYA-ABCCCC was further analyzed.

Based on DNA sequence homology, we predicted the possibility of changing the number of C motifs via homologous recombination. To test this hypothesis, 287 single colonies after culturing 1st generation were screened for the detection of multiple EPIYA-C motifs by PCR-based screening method and further verified by DNA sequencing.

Results

Three of four isolates indeed belonged to the hpEastAsia group and showed typical East-Asian polymorphism in virulence factors such as homA/B/C, babA/B/C, and oipA. One isolate grouped to HpAfrica and showed typical Western polymorphism of virulence factors such as cagA, homA/B/C, and oipA. In addition, three out of 287 (1%) single colony isolates derived from K154, showed polymorphism in the number of EPIYA-C motifs in vitro: increasing EPIYA-C motifs in five and decreasing EPIYA-C motifs in three and even in complete deletion.

Conclusion

The mechanism of dynamic change of EPIYA-C repeats may play a part in generating an intraspecies diversity in East-Asian H. pylori.

PP 4

Serum cytokines and its association with cervical intervertebral disc degeneration (CIDD) in patients with chronic neck pain

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Background

Cervical intervertebral disc degeneration (CIDD) is a common cause of neck pain and its etiology is not clearly known. Inflammation is correlated with degenerative disc disease but the role of inflammatory markers remains controversial.

Objective

The study aimed to determine the role of serum levels of selected inflammatory markers in CIDD.

Methodology

A case-control study was conducted among 36 moderate or severe grade CIDD patients (40–70 years) and 1:1 age (+/-5 years) sex-matched healthy controls. Patients with a history of neck surgery, cervical tumours, metabolic bone diseases, bone infections, chronic lumbar pain, lumbar disc degeneration, diagnosed inflammatory diseases, and pregnant females were excluded. X-ray features of CIDD were assessed in lateral cervical x-rays using AutoCAD 2014 and moderate or severe CIDD patients were selected. Pain intensity was measured using a visual analogue scale. Serum levels of interleukin (IL)-1a, IL-6, tumour necrosis factor-a (TNF-a), and matrix metalloproteinases 3 (MMP3) were analyzed using an enzyme link immunosorbent assay. An independent sample t-test was used to compare the mean difference and Pearson's correlation was used to determine the relationship between serum level of inflammatory markers and pain intensity.

Results

Thirty patients had moderate and 6 severe CIDD. Mean age was 56.42 ± 10.14 years and mean pain intensity was 71.25 ± 11.17. Mean levels of serum IL-1a (patients-7.02 ± 2.42pg/ml, control-3.59 ± 1.87pg/ml, p=0.00), IL-6 (patients-9.26 ± 8.14pg/ml, control-4.14 ± 3.15pg/ml, p=0.001), TNF-a (patients-26.17 ± 18.47pg/ml, control-7.44 ± 2.27pg/ml, p=0.00) and MMP3 (patients-7588.27 ± 5317.09pg/ml, control-695.55 ± 472.25pg/ml, p=0.00) were significantly elevated in patients. Pain intensity was positively associated with serum levels of IL-6 (p=0.00), TNF-a (p=0.02) and MMP3 (p=0.00) but not with IL-1a (p=0.28).

Conclusion

Serum levels of IL1-a, IL-6, TNF-a, and MMP3 were significantly correlated with radiologically diagnosed severe or moderate CIDD. IL-6, TNF-a, and MMP3 also significantly correlated with pain intensity. Profiling of patient cytokines may be of value in patient management in CIDD and in predicting outcomes.

PP 5

Causes for per rectal bleeding among people older than 50 years presenting to a tertiary care center in central province Sri Lanka

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Background

Per rectal bleeding is a common symptom of lower gastrointestinal pathology and it is the most common presenting symptom of rectal cancer. Approximately 15% of the adult population has per rectal bleeding and it may be even more prevalent in young population as most of them do not seek medical attention. With the advancing age risk of underlying malignant etiology is high.

Objectives

The objective of this study was to analyze the causes for per rectal bleeding among people of more than 50 years of age presenting to a tertiary care unit in central province Sri Lanka.

Methods

A retrospective analysis of patients between 50 to 75 years of age who underwent colonoscopy following per rectal bleeding from August 2019 to February 2020 at teaching hospital Peradeniya was carried out. Basic demographic data, colonoscopy and histological findings were analyzed.

Results

There were total of 379 patients. Male to Female ratio was 0.8. Mean age was 61 years. Commonest cause for per rectal bleeding was hemorrhoids (31.3%). Invasive malignancy was found in 7.6% (29) and single or multiple polyps were found in 24% (91). Inflammatory bowel disease was diagnosed in 8.7% (33) cases. Bleeding was associated with diverticular disease in 59 cases (15.5%). No cause was found in 48 patients (12.6%). Out of 379 patients 40.3% had serious pathologies like invasive carcinoma, polyps and inflammatory bowel disease.

Conclusion

Present study indicates significant percentage of people older than 50 years, presenting with per rectal bleeding have underlying malignancy. This highlights the importance of performing lower gastrointestinal endoscopy for older patients with per rectal bleeding.

Acknowledgement

PP 6

Subclinical hypothyroidism related insulin resistance among females living in Sri Lankan suburb; a preliminary study

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Background

Prevalence of thyroid dysfunction in overweight and obese females with normal fasting blood glucose in rural and suburban areas in Sri Lanka is unknown.

Objective

To identify the association of subclinical (SCH) or overt hypothyroidism (OH) with fating blood glucose (subjects with FBG < 100 mg/dl) along with insulin resistance in normal and overweight/ obese females in suburban areas in Sri Lanka.

Method

A community-based case-control study among females aged 18-35 years who had no past history of diabetes was carried out using eighty-eight participants. Fasting blood samples were analyzed for blood glucose, insulin, TSH, T4 and T3. Homeostasis Model Assessment was used to assess insulin resistance (HOMA- IR).

Results

Of the 88 participants, 59 subjects had normal BMI range (Mean 19.56 ± 2.44 kg/m2) and twenty-nine subjects had a BMI above normal range (Mean 27.18 ± 3.36 kg/m2) and they were considered as overweight/ obese cases of the study (Normal BMI: 18.5-22.9 kg/m2).

Among controls, eleven participants had SCH (18.64% of the total). Prevalence of SCH in overweight/ obese group was 51.72%.

Serum TSH levels in SCH moderately and positively correlated with HOMA IR in both normal and overweight/obese groups (r=0.485, P= 0.008 and r= 0.301, P= 0.02 respectively). But there was no significant association between FBS and SI (Serum Insulin) in SCH subjects in both cases and control groups (P> 0.05). Serum FT4 levels weakly correlated with insulin and HOMA IR in both normal (r= 0.038, P= 0.84 and r= 0.098, P=0.61 respectively) and overweight/ obese groups (r= 0.06, P= 0.65 and r= 0.06, P=0.96 respectively).

Conclusion

A positive correlation between SCH and insulin resistance was observed in both overweight/obese and normal females. Thus, it is may be of value in investigating and managing the SCH to reduce risk of DM.

Acknowledgement

PP 7

Perceptions of quality of life among hospitalized head and neck cancer patients on tube feeding at Apeksha Hospital, Sri Lanka

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Background

Head and neck cancer (HNC) patients are mostly on tube feeding. Assessing these patients' quality of life (QoL) is essential for identifying their diverse problems and needs during hospitalization.

Objectives

This study aimed to determine the perceptions of QoL among hospitalized head and neck cancer patients on tube feeding at Apeksha Hospital.

Methods

A descriptive cross-sectional study was conducted among 294 adult HNC patients who were on tube feeding from September 2019 to December 2020. Validated self-administered European Organization for Research and Treatment of Cancer Quality of Life Core-30 questionnaire (EORTC QLQ-C30) version 3.0 and Quality of Life Head and Neck-35 (QLQ-H&N35) were used with permission to collect data. Statistical analyses were performed using the SPSS software version 23. The EORTC QLQ scoring manual was used to linearly transform all scores to a 0–100 scale and descriptive statistics were done.

Results

The response rate was 97.9%. Majority (n=199, 69.1%) were 50–69-years range, males (80.6%), and 30.6% (n=88) were from Colombo district. The most common cancer site was the tongue (30.9%), followed by buccal mucosa (13.5%), and hypopharynx (12.8%). Nasogastric tube was the commonest (87.5%) tube type used and most was on radiotherapy (39.6%). The mean value of the QoL in QLQ-C30 was comparatively low (43.49±23.17). A high level of functioning was observed in 53.5% of the participants with a high cognitive (82.12±22.47), social (80.50±29.06), and emotional functioning (74.77±25.63), but low role functioning (27.72±31.15). A high level of symptomatology was seen among 47.9% with higher mean scores for fatigue (46.64±30.44), insomnia (41.20±35.52), and financial difficulties (39.24±38.96). In QLQ-H&N35, being on nutritional supplements (85.07±35.70), on analgesics (84.38±36.37) and weight loss (75.00±43.38) were the highest-rated symptoms that affected the QoL.

Conclusions

Overall QoL of HNC patients who were on tube feeding was poor compared to their high cognitive, social, and emotional functioning.

Acknowledgement

PP 8

Quality of life and its predictors among patients with chronic kidney disease of Unknown Etiology; Patients in North Central region, Sri Lanka

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Background

Quality of life (QoL) is a modern effective intervention that can be used in the treatment of patients with chronic incurable diseases. Chronic kidney disease of unknown etiology (CKDu) is a slowly progressive, irreversible disease with an increasing prevalence rate in Sri Lanka.

Objectives

The objective of this study was to determine QoL and its predictors among patients with CKDu in the North Central region of Sri Lanka, where the disease exists as an epidemic.

Methods

A cross-sectional study was conducted among CKDu patients who attended selected Ayurvedic clinics in North Central Province. Data on QoL was collected according to the Kidney Disease Quality of Life Short-Form survey (KDQOL™-36). Student's t-test and ANOVA were used to compare data on QoL between two or more groups respectively.

Multiple linear regression was used to assess potential predictors of QoL.

Results

A total of 174 patients were enrolled in the study. QoL was decreased with increasing the stage of CKDu. Presence of ankle edema, high body mass index (BMI), presence of high serum creatinine level and rural residence were identified as predictors for most aspects of KDQOL™-36. Absence of ankle edema, high BMI, rural residence and having a negative family history of CKDu were predictors of better QoL in physical component summary. For mental component summary, rural residence was found to be a predictor of better QoL.

Conclusions

Gradual reduction of QoL was observed as the stage of CKDu was advanced. High BMI, absence of ankle edema and rural residence were considered predictors of better outcomes in both physical and mental component summaries in KDQOL™-36.

PP 9

Socio-demographic, physical and biochemical characteristics of patients with chronic kidney disease of unknown etiology in North Central province, Sri Lanka

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Background

Chronic kidney disease of unknown etiology (CKDu) has been reported as an endemic in the North Central region of Sri Lanka. Clinical and biochemical manifestations of CKDu are important in evaluating its disease progression.

Objectives

The objective of this study is to assess socio-demographic, physical and biochemical characteristics of CKDu patients attending selected Ayurvedic clinics in the North Central Province of Sri Lanka.

Methods

A community based cross-sectional study was conducted including 174 CKDu patients. Blood and urine samples were obtained for biochemical analysis. Blood pressure was measured using a digital sphygmomanometer (Omron Auto BP-HEM 7322) 10 minutes after rest before blood sampling. Ankle edema was measured by the figure-of-eight technique. Pearson chi-square test and ANOVA were performed in the analysis of data.

Results

There was no significant differences in the mean values of body mass index (p = 0.264), systolic blood pressure (p = 0.619), diastolic blood pressure (p = 0.163) and ankle edema (p = 0.645) across different stages of CKDu. Significant gradual rise of serum creatinine (p = 0.000) and urinary microalbumin (p = 0.000) was identified while significant gradual reduction of estimated glomerular filtration rate (p = 0.000) and albumin to creatinine ratio (p =0.000) was observed as the stage of CKD advanced. Among the CKDu patients in stages ≥ 3, 37.9% were older than 60 years and 20.7% consumed filtered water as the source of drinking water. Significant associations were found between socio–demographic characteristics such as age (p = 0.039) and source of drinking water (p = 0.009) with different stages of CKDu.

Conclusions

Current study indicates a specific pattern of deviated renal profiles in CKDu patients as the disease stage advanced. These patterns are recommended to be validated in studies including a large number of participants.

PP 10

Clinical Audit: Awareness, confidence and CME participation of theatre staff on difficult airway management

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Background

Airway maintenance is the utmost priority in anaesthetized patients since airway obstruction kills within minutes. The devastating complications are hypoxia, pulmonary aspiration, cardiac arrest and death. To prevent them, anaesthetist's knowledge on airway management is of major importance. Nursing staff and supporting staff also should have a fair knowledge to assist anaesthetists during an emergency.

Objectives

To assess the knowledge on recent guidelines and level of confidence in handling difficult airway situations among theatre staff.

Methods

This was carried out at Teaching Hospital, Peradeniya. Self-administered questionnaires tailored to different levels of the staff were distributed to medical, nursing and supporting staff.

Results

Majority (29.9%; n=26) of the respondents were doctors, 70.1% (n=61) were other staff members. The mean number of general anaesthesia cases per anaesthetist per month was 46.9. 76.9% of the anaesthetists were "somewhat confident" in handling a failed intubation, 11.5% were "very confident" and 11.5% were "not confident". Most (57.6%) of them were "not confident" in handling advanced airway equipment. Only 33% (n=8) of anaesthetists were familiar about the latest guidelines issued by Difficult Airway Society in 2015. Only 68% of anaesthetists have participated in a CME (Continuing Medical Education) activity on airway management in their career and out of them only 22.2% had participated within last 2 years. 38% (n=9) of recent participants were postgraduate trainees. Among nursing and supportive staff, 70.3% were "somewhat" confident in assisting a difficult intubation scenario while 29.7% were not. Majority (70%) have never participated in an airway related CME. Of the participated, 76.5% had attend it more than 5 years ago. All participants requested an airway workshop to update the knowledge and skills.

Conclusion

Awareness and confidence on difficult airway handling among anaesthetists and other staff in theatre is "somewhat" or average. There is a striking lack of participation for CME activities by both medical and non-medical staff. Organization of such programmes targeting all professions and motivation to participate should be encouraged.

PP 11

Spectrum and distribution of paediatric epilepsy, prescription profile, compliance and adverse events associated with patients treated for epilepsy in paediatric neurology clinic: Lady Ridgeway Hospital, Colombo

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Background

Epilepsy is a neurological disorder which demands immediate medical attention and long term medical treatment. Every patient should be achieving a good control with one drug with fewest possible side effects. Treatment methods and compliance of the epilepsy patients should be reviewed regularly.

Objectives

To describe the spectrum and distribution of paediatric epilepsy, prescription profile, compliance and adverse events associated with patients treated for epilepsy in paediatric neurology clinic at the Lady Ridgeway Hospital, Colombo.

Methods

Descriptive cross-sectional study conducted in paediatric neurology clinic, Lady Ridgeway hospital among patients diagnosed with epilepsy and who are treated at paediatric neurology clinic. Patient who are on anti-epileptic drugs for less than 6 months and epileptic patients who are off antiepileptic medication were excluded. Interviewer administered questionnaire was applied among 424 study participants selected through convenient sampling technique. Data analysis was facilitated by SPSS version 25.0.

Results

A female predominance was observed among study participants (N=240: 56.6%) and 42.9% (N=182) of the study participants were receiving treatment for epilepsy for more than one year. Most prevalent type of epilepsy was focal seizures (N=172, 40.5%). Metabolic disorders (N=57, 13.7%) and autoimmune disorders (N=42, 9.9%) were the most prevalent associated factors for epilepsy. Majority of the participants had demonstrated a successful response for treatment (N=249, 59%). Negligence of the caregivers (N=18, 32.1%) and drug ingestion problems (N=18, 32.1%) were identified as the major reasons for not taking regular treatment. Sleepiness (n=26) and obesity (n=22) were identified as the most distributed drug induced side effects.

Conclusions

Although majority of children demonstrate a good response to treatment, there are many children with defaulted treatment due to definite and identified reasons.

PP 12

Evaluation of low back pain using Oswestry disability index, visual analog scale and electromyography

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Background

Low back pain (LBP) is a common clinical presentation causing marked disability and substantial level of pain interfering with activities of daily living. Assessing the severity of disability is important for successful patient management. Oswestry Disability Index (ODI) is the standard method to evaluate disability caused by LBP and its Sinhalese version has recently been validated. Severity of pain can be assessed by using visual analog scale (VAS). LBP could result from multiple etiologies. Needle electromyography (EMG) is used to detect neurological causes of LBP including lumbosacral radiculopathy.

Objectives

Aim of the study was to grade the severity of disability caused by LBP and assess the correlation of ODI with pain intensity and EMG findings.

Methods

The study was conducted on 113 patients who presented with LBP to the neurophysiology clinic, Teaching Hospital, Peradeniya. Their level of disability and pain intensity were calculated using the validated Sinhalese version of self-administered ODI questionnaire and VAS respectively. Needle EMG was performed to detect the presence of any lumbosacral nerve root lesions. Spearman correlation coefficient between ODI and VAS score was calculated. Correlation between EMG and ODI was analyzed using t-test.

Results

The age distribution of patients ranged from 15 to 75 years with the mean of 49.37±13.9. Out of them 80 (70.8%) were females. Mean ODI score of the study population was 36.95±17.70 with 50 patients (44.2%) in the ODI category of moderate disability. Mean intensity of pain was 61.77±23.46. There was a significant moderate positive correlation between severity of disability and pain intensity (r=0.528, p<0.001). Mean ODI score of those with positive and negative EMG findings were 38.6±18.7 and 34.8±15.4 respectively. EMG was not significantly correlated with ODI.

Conclusions

LBP causes moderate disability as assessed by ODI. Severity of disability is significantly associated with the pain intensity experienced by LBP patients. However, ODI may not reflect the neurological cause of the LBP.

PP 13

Assessment of periodontal disease patterns and the non-surgical periodontal outcomes in a group of patients attending a periodontology clinic

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Background

Periodontal disease is a chronic inflammatory disease that affects the tooth supporting structures. The disease presentation may vary and also could be associated with systemic risk factors such as Diabetes Mellitus (DM).

Objective

This audit was aimed to assess the differences in the disease presentation and the main outcomes of the Non-Surgical Periodontal Therapy (NSPT) in a group of patients attending to the periodontology clinic at the university dental hospital, Peradeniya.

Methodology

Data from 164 patients underwent NSPT within the audited three months duration were included. The disease presentation patterns and the treatment outcomes were assessed.

Results

The assessed population represented similar male to female ratio. Periodontitis was the commonest disease presentation (84.8%). The commonest co-morbidity was DM (26.2%) followed by hypertension (14.9%). However, only 9.1% had controlled glycemic levels. Among the patients with periodontitis, 37 (26.6%) patients had DM and 6 (4.3%) were found with current smoking habits. According to the disease severity, stage IV periodontitis was seen in 39.6% followed by stage III (38.1%). Most were among the Grade C (61.4%) and grade B (28.0%) with generalized disease distribution (80.1%). Following NSPT, the mean bleeding and plaque score reductions were 14.6% and 32.2% respectively. Current smokers showed lower mean bleeding score reduction 14.8% compared to the non-smokers (19.2%). However, these findings were not statistically significant.

Conclusion

Severe periodontitis was the most prevalent periodontal disease in the evaluated population. The effects of nicotine on the local oral environment may have contributed to the low response to NSPT in smokers. Majority of patients had uncontrolled DM. Thus, patient education on the importance of glycemic control should be emphasized.

PP 14

Impact of healthcare quality on patient safety in UK hospitals

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Background

Patient safety is still a major challenge in all the countries. Even though, there is variation in patient care and quality between the regions, always there is a room for improvement such as avoiding preventable adverse events. In the wake of unsafe patient care, globally healthcare institutions should develop a system with devoted continual learning and improvement of patient care.

Objectives

This study aimed to find the impact of healthcare quality on patient safety in UK hospitals.

Methods

Secondary data from contemporary reputed journals (2010 to 2021) were exposed to systematic review with deductive approach. Thorough literature review from databases like PubMed, Emerald, Elsevier, Pro-Quest, SpringerLink, Wiley MEDLINE, ISI Web of Knowledge and WHO publications was done. Primarily, 35 journal articles were selected by abstract reading considering relevancy and reliability. Consequently, 12 journals were filtered by PRISMA (2020) model.

Results

Theme and three subthemes of the key attributes of healthcare quality in healthcare institutions in UK, the factors affecting patient safety in healthcare institutions in UK and the correlation between healthcare quality and patient safety in healthcare institutions in UK were developed. Elements of healthcare quality having direct impact and positive correlation with patient safety factors, effective strategies to increase the patient involvement in patient safety, effective communication between healthcare provider and clients, innovative ways to implement infection control practices and the culture of the organization by improving positive attitude among staff. As patient safety is a part in healthcare quality umbrella, better patient safety can be achieved by improving service quality and environment quality.

Conclusions

Proposed model of patient safety improvement can be trailed and evaluated in health care institutions in Sri Lanka to enhance the healthcare quality and patient safety which are entwined.

PP 15

Awareness on oral cancer and oral potentially malignant disorders among rice mill workers in Polonnaruwa district

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Background

Oral cancer is the most common cancer among Sri Lankan males. Oral Potentially Malignant Disorders (OPMDs) is the collective term given for disorders that precede oral cancer. Rice mill workers were found to have a high prevalence of oral cancer related lifestyle practices. Therefore, assessing their level of awareness on oral cancer and OPMDs is needed to implement disease prevention and health promotion activities among them.

Objectives

To assess the level of awareness on oral cancer and OPMDs among rice mill workers in Polonnaruwa district

Methods

A descriptive cross-sectional study was conducted among 630 rice mill workers in Polonnaruwa district using multistage cluster sampling technique and an interviewer-administered questionnaire.

Results

The mean score for the level of awareness among study participants was 9.6 (SD=4.2) with a range of zero to 16. Based on the cut-off value to divide between the level of awareness as "satisfactory" or "poor", 56.6% of the total respondents had satisfactory awareness regarding oral cancer and OPMDs. While 98.8% of the respondents had heard about oral cancer, only 39% had heard about OPMDs. Seven point six percent were unaware that betel quid chewing was a risk factor for these diseases, as were 13.2% for smoking and 33.1% for alcohol consumption. Gradual limitation in mouth opening was not identified as a symptom of OPMD by 72% of the participants. Nearly half of the respondents have heard of self-oral examination and the majority of the respondents (93.4%) said that they would seek treatment if they noticed a change in their oral mucosa.

Conclusions

This study revealed satisfactory awareness on oral cancer and OPMDs among rice mill workers. However, there is still scope for improving particular aspects of awareness such as identification of early symptoms of oral cancer and OPMDs and creating awareness on self-oral examination among them.

PP 16

Adherence to age-appropriate immunization among children presented to Base Hospital, Valachchenei

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Background

Success achieved in controlling communicable diseases all around the world is predominantly due to the usage of vaccines in a methodical manner. It is extremely important to administer specific vaccines at the correct time in order to achieve effective immunity in the community.

Objectives

To describe knowledge of mothers on immunization and patterns of adherence of age-appropriate immunization among children presented to the Base Hospital, Valachchenei.

Methods

A descriptive cross-sectional study was conducted in the paediatric unit, Base Hospital Valachchenei from March 2021 to June 2021. Children aged more than 3 years and who have taken all vaccines in EPI schedule at the 3rd birthday were included. Children who got immunization from other countries were excluded and 425 children were selected through a systematic random sampling technique. Interviewer administered data collection sheet was used as study instrument. Data analysis was facilitated by SPSS Version 25.0.

Results

A female predominance was identified in the study sample (N=234; 55.1%). Mean age of the study participants was 7.9 years (SD=2.9 years). All the study participants had an accurate knowledge regarding administration of BCG vaccine at birth. But none of the study participants had precise knowledge regarding vaccination of an infant at 2, 4 and 6 months of age. All the doses of BCG and pentavalent vaccines were given age appropriately. Amount of delayed MMR vaccines were recorded as MMR1, 2.8% (N=12) and MMR2, 1.9% (N=8) and 2.8% (N=12) of JE Vaccines were delayed. DPT dose given at 18 months of age was delayed among 2.4% (N=10) of the participants. DT vaccine was delayed among 22.1% (N=99) of the participants. Service provider of a significant majority was the field clinic (N=419; 98.6%). Suffering from illnesses was identified as the predominant reason for delaying vaccines among children (88.3%; N=38). Among 46.5% of the participants decision to delay the vaccine dose was taken by the relevant PHM and among 39.5% (N=19) children this decision was taken by their mothers.

Conclusions

Vaccine delays were mainly observed among children after 3 years of age.

PP 17

Maternal awareness, attitudes, and practices regarding childhood immunization among children presented to the immunization clinic - SBSCH Peradeniya

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Background

The national immunization program provides its services through a wide network of service delivery points to ensure easy accessibility to the public. The vast majority of the public gets their immunization services accessible through state hospitals and clinics.

Objectives

To assess maternal awareness, attitudes, and practices regarding childhood immunization among children presented to the immunization clinic, SBSCH Peradeniya.

Methods

Descriptive cross-sectional study was conducted among 360 mothers presented to the Immunization Clinic at Children's Hospital Peradeniya. Sample was selected using a systematic random sampling technique. A self-administered questionnaire was administered for data collection. Frequencies and percentages were calculated according to the variables. A scoring system was used to assign knowledge and scores above 60% were considered as adequate knowledge.

Results

The knowledge on the correct antigen in each vaccine was as follows: MMR-65% (N=234), JE-73.2% (N=263), DPT/OPV-12.4% (N=45), DT-18.7% (N=67). Childhood immunization schedule was accurately mentioned by 21.1% (N=76) of the participants. Adequate knowledge regarding the implementation of the national immunization program was observed among 43.9% of the participants (N=108). Nearly half (49.5%: N=176) of the study participants did not have a proper understanding of the benefits of immunization. Among participants, 34.1% (123) thought that giving certain food items to children is not suitable after vaccination. Among study participants, 5.9% (N=57) think that vaccines available in the private sector are of higher quality. A significant majority (70.4%; N=252) were afraid of being blamed by the health service providers for not providing vaccination to their children. Among participated children, 12.5% (N= 45) had delayed vaccination, 48% (N=22) of which were due to unwanted experience in vaccinating their elder siblings.

Conclusions

It is essential to pay more attention to periodical awareness programs regarding childhood immunization, targeting both parents to fulfill the gaps in knowledge, attitudes and practices regarding the national immunization program and vaccines.

PP 18

Airborne particulate matter concentration trends and their impact on human health in South Asian countries: A review with new data

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Background

Air pollution has emerged as a serious global issue, and it impacts both developed and developing countries, including the South Asian region. Airborne Particulate Matter (PM) is a major air pollutant, and many researchers have reported that PM has a significant impact on the human respiratory system. According to PM2.5 levels, Bangladesh, Pakistan, and India are the most polluted countries in the region. PM2.5 concentration varies with meteorological and socio-economic conditions such as COVID-19 lockdowns.

Objectives

In this meta-analysis review, different impacts on human health due to PM are reviewed from the available literature. Also, the relationship between variations of PM2.5 concentration and mortality rate due to chronic respiratory diseases are studied with newly available data from 2015 to 2021.

Methods

The pathology of PM in the human body was analyzed using literature. Then PM2.5 concentration variation trends in ten crowded cities in south Asian countries are studied, namely Thiruvananthapuram, New Delhi, Mumbai, Hyderabad, Islamabad, Kathmandu, Lahore, Chennai, and Dhaka, to observe the relationship between reported Chronic Respiratory Diseases (CRDs) related mortality and PM concentration.

Results

PM2.5 can infiltrate the alveoli, whereas PM10 settles in the lower respiratory tract. These substances activate the respiratory epithelial cells which secrete cytokines and other substances, activating various cells including macrophages, dendritic cells, T cells, granulocytes, and other lymphoid cells hence released chemicals will modify the nature of the respiratory tract. Finally, respiratory symptoms and diseases including asthma, pneumonia, lung carcinoma and tuberculosis occur. Most countries show reductions in both death rates and concentration of PM where the above mentioned cities show -1.03, -5.65, -13.20, -10.88, -9.44, +2.07, -7.25, +2.04, -19.17 and -5.33 µg/m3/year trends respectively.

Conclusions

Negative trends in most countries will gradually decrease the PM concentration toward the permissible level. Death rates due to CRDs also decline during the study period; hence it indicates that PM concentration has a possible impact on those deaths.

PP 19

Heroin addiction status and associated factors; A study in a community-based treatment center

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Background

Heroin addiction is a chronic relapsing disorder characterized by compulsive drug seeking despite of adverse consequences. Addiction prevention is a complex procedure involving both client and the care provider. Since heroin addicts are ambulatory and contribute with multiple roles to their own families and society, sustainable guidance and policies are necessities for the successful remission.

Objectives

The study was designed to assess the association of heroin addiction status (continuing or relapsing) with socio-demographic, environmental, heroin related and treatment related factors.

Methods

A descriptive cross-sectional study was done on 105 heroin addicts aged between 17 to 64 years, using interviewer administrated questionnaire and data were analyzed using SPSS 16.0 software. Descriptive statistics, Chi-square test and Fisher's exact test were used to analyze the results. Ethical approval obtained from ERC-PGIM.

Results

Mean age of participants was 35.15(SD ±10.579) with 97% males. All had taken heroin as smoke. Of the sample, 27% had taken heroin continuously and 73% came with relapses. 65% from relapsing group had taken treatment before, none had received treatments from the continuing group.

Being unmarried (p=0.04), withdrawal symptoms (p<0.001) and peer pressure (p=0.036) were positively associated with continuous addiction. Contradicting to what is expected, having higher level of education, own house to live (p=0.015), having good family support (p=0.019) and social support (p=0.002) also were positively associated with continuing addiction.

Among those who received treatment, subjective attitudes on treatment varied with high degree of un-satisfaction on follow up care.

Conclusion

Being unmarried, withdrawal symptoms and peer pressure were significantly associated with continuing heroin addiction. Findings on education level and social factors were unexpected and further studies should be done to draw conclusions as this sample is small. Strengthening treatment facilities to address patient expectations may reduce relapse rates.

PP 20

Sleep hygiene and characteristics associated with sleeping among primary school children in Gampaha district, Sri Lanka

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Introduction

Sleep plays an essential role in development of physical and mental wellbeing of a child. Younger children, particularly infants, tend to spend more time in sleep when compared to their awake period of time.

Objectives

To describe characteristics associated with sleeping among primary school children in Gampaha district, Sri Lanka

Methods

Descriptive cross-sectional study design was conducted among 340 children selected from primary schools in Gampaha district during six months period in 2021. Children in the age group 5-10 years were included and children with diagnosed neurological and psychological disorders were excluded from the study. Questionnaire generated following an extensive literature review and expert opinion was used as the study instrument. Data analysis was facilitated by SPSS version 25.0.

Results

Mean age of the study participants was 7.28 years (SD=1.57 years). A female predominance was observed in the study sample (N=185:54.4%). All the children included into the study slept on a bed and majority slept with their parents, sharing the same bed (N=227;66.8%). A significant majority of the participants watch television before going to slept at night (N=247;72.6%). Majority did not have a specific sleeping time (N=193;56.8%) and 24.1% (N=82) of the study participants had the habit of urination during sleep. 26.8% (N=91) of children awoke from sleep due to bad dreams and 22.1% (N=75) of the participants demonstrated sleeping disturbances. Male gender (OR=1.49) and sharing parents' bed to sleep (OR=1.16) were associated with sleeping disorders.

Conclusions

It is possible to observe sleeping disturbances of different levels among primary school children. To address these sleeping disturbances interventions focused on both the child and the parents should be planned and implemented.

Acknowledgement

Principals and teachers at selected schools

PP 21

Cytotoxic effect of Fluoride and hardness on Vero monkey kidney cell line: an in-vitro study

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Background

Recent studies have suggested that the high concentrations of Fluoride and hardness are causes for the Chronic Kidney Disease of Unknown aetiology (CKDu) in Sri Lanka.

Objectives

The present study was focused on determining the cytotoxicity of Fluoride and hardness of drinking water using a Vero monkey kidney epithelial cell line.

Methods

MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assay was done to determine cell viability. Cells (5x 10^3 cells/well) were exposed to four dilution series of water samples (1:1000, 1:100, 1:10, 1:1 V/V, water sample: Dulbecco's Modified Eagle's Medium) collected from drinking water wells in Angunukolapelessa (CKDu non-prevalent), Galnewa (CKDu low-prevalent) and Padaviya (CKDu high-prevalent) areas. Non-viable cell percentages and CC50 values were determined. Water samples and the medium were filtered through 22μm pour size sterilized filters prior to the experiment. Concentration of fluoride, hardness and other water quality parameters in collected water samples were measured according to the standard methods.

Results

The fluoride concentrations and hardness in water samples collected from Angunukolapelessa, Galnewa and Padaviya were 0.281, 92; 1.53, 216 and 1.91, 280 mg/L respectively and the other water quality parameters remained within the SLSI drinking water standards. Non-viable cell percentages and CC50 values of the cells exposed to the Angunukolapelessa, Galnewa and Padaviya water samples ranged from 8.34% to 17.45%, 17.41 mg/L; 16.53% to 35.23%, 6.05 mg/L and 14.60% to 41.02%, 4.85 mg/L respectively. Significantly lower non-viable cell percentages were recorded in cells exposed to Angunukolapelessa water compared to Galnewa ($p<0.05$). Higher non-viable cell percentage was recorded for the Padaviya water ($p<0.05$). Significantly lower CC50 values were recorded for cells treated with Galnewa and Padaviya water, compared to Angunukolapelessa water.

Conclusions

The study concludes that the water from Padaviya with higher Fluoride and hardness of drinking water reduces the cell viability of Vero cells.

Acknowledgement

PP 22

The effect of mucoadhesives hydroxypropyl methylcellulose (HPMC) and carbopol 934 on doxycyclin-Nigella sativa-eugenol (DNE) formulation

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Background

Doxycycline, an antibacterial agent, is commonly used to treat oral periodontitis because of its efficiency against aerobic and anaerobic microorganisms. In order to improve its efficacy and reduce its toxicity, natural products, namely, Nigella sativa oil and eugenol are incorporated into a doxycycline-containing emulsion. To prolong the residence time of the antibiotic emulsion, thus enhancing its bioavailability and stability in the buccal cavity, mucoadhesive polymers are to be introduced.

Objectives

Hydroxypropyl methylcellulose (HPMC) and carbopol 934 were incorporated into doxycycline-Nigella sativa-eugenol (DNE) formulation to study the effect of different mucoadhesive polymers in enhancing muco-adhesive properties of the formulation.

Methods

Oil-in-water (O/W) emulsions of DNE were prepared by mixing doxycycline, Nigella sativa and eugenol at the ratio of 5:50:1. The emulsion was added with either 50 or 100mg HPMC or carbopol and mixed by ultrasonication method and kept at distinct storage conditions of 8 °C (in refrigerator), 25 °C (on bench) and 40 °C (in oven). Stability testing was performed by evaluating the organoleptic characteristics (colour, phase separation, liquefaction, bubbles, clumps, smell, taste), pH values, particle size, polydispersity index (PDI) value, zeta potential, rheology and freeze-thaw (F/T) cycle test. Then, compatibility and rheological testing of the samples was evaluated using ATR-FTIR spectroscopy and rheometer respectively.

Results

The emulsion prepared with 50 mg HPMC and stored in refrigerator had the most stable properties as indicated by no change in organoleptic properties and pH, a decrease in particle size, an increase in PDI value and a good zeta potential value. It also had a pseudoplastic flow. However, this emulsion cannot withstand freeze-thaw cycle and showed the presence of a new chemical group based on ATR-FTIR test. All emulsion with carbopol had no desirable properties.

Conclusions

The 50 mg HPMC DNE emulsion has the desired properties in terms of stability under non-extreme condition and a good viscosity for buccal application. Compatibility tests however indicate that the emulsion is only stable if stored at a refrigerator temperature and to be used singly.

Acknowledgement

PP 23

Determination of in-vitro antidiabetic and antioxidant activities of dietary supplement Coccinia grandis (L.) Voigt

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Background

Coccinia grandis (L.) Voigt (Family: Cucurbitaceae) is one of the most widely used plants in herbal medicine to manage diabetes mellitus.

Objective

To determine in vitro antidiabetic and antioxidant activities of the newly developed C. grandis dietary supplement.

Methods

The newly developed dietary supplement in capsule form consisted of 100 % genuine freeze-dried powder of the hot water extract of C. grandis leaves. In vitro antidiabetic activity of the supplement was determined via the assessment of a-amylase, a-glucosidase, DPP-IV enzymes inhibitory activities, and the method of glucose uptake by yeast cells. The standard inhibitor acarbose was used in a-amylase and a-glucosidase enzyme inhibition assays and Diprotein A was used in the DPP-IV inhibition assay. In vitro antioxidant activity was determined by DPPH and oxygen radical absorbance capacity (ORAC) assays. The total polyphenol content (TPC) and total flavonoid content (TFC) were estimated. Accelerated shelf-life was determined via microbial analysis. A chemical fingerprint was obtained by GC-MS.

Results

The supplement exerted a-amylase, a-glucosidase, and DPP-IV inhibitory activities as 1.70 ± 0.06, 0.70 ± 0.06, and 2.32 ± 0.12 mg/mL respectively. All activities were significantly lower ($p<0.05$) than that of the respective standard inhibitors. The supplement promoted glucose uptake across the plasma membrane of yeast cells. IC50 value of 141.9 ± 1.6 µg/mL was observed in the DPPH assay. The ORAC was 3.37 ± 0.42 µmol TE/g of dry weight. The TPC and TFC were 8.68 ± 0.83 mg GAE/g of dry weight and 18.0 ± 1.2 mg QE/g of dry weight respectively. Microbial analysis revealed none of aerobic plate count, Staphylococcus aureus, Escherichia coli, Coliforms, Salmonella, yeast and mould on 0th and 30th days confirming its stability against microorganisms. The GC-MS fingerprint profile showed prominent phytoconstituents as alpha-tocopherol, gamma-tocopherol, etc.

Conclusion

The dietary supplement C. grandis exerted potent antidiabetic and antioxidant activities with remarkable TPC and TFC. The obtained GC-MS profile could be used as a reference standard for the supplement in scale up production.

Acknowledgement

PP 24

Cytogentoxicity of Luffariella herdmani sponge extract on Allium cepa model: In vivo study

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Background

Marine sponges are well renowned for secondary metabolites with promising pharmaceutical properties. However, these metabolites are usually associated with high toxicities, hindering to develop them into therapeutic agents. Thus, prior use of biological models to screen preliminary toxicity is vital. Luffariella herdmani sponge extract was reported for anti-inflammatory properties.

Objectives

The present study aims at using Allium cepa, a low-cost plant-based in vivo toxicity model to assess cytogenotoxicity of L. herdmani crude extract (SCE), prepared by methanol/dichloromethane extraction.

Methods

Pre-germinated onion bulbs exposed to different concentrations of SCE (20, 10, 5, 2.5, 1.25, 0.625 and 0.3125 µgml-1), positive control (5% dimethyl sulphoxide), and negative control (5% ethanol) for 96 h were used to determine general toxicity. The root lengths along with visible morphological abnormalities were recorded while the percentage root growth of control and Effective Concentration 50 (EC50) were calculated. The onion root tips exposed for 48 h to SCE (5, 2.5, 1.25, 0.625 and 0.3125 µgml-1) and controls, followed by staining with acetocarmine were used to assess cytogenotoxicity. The Mitotic Index (MI), Mitotic Phase Indices (MPI) and chromosomal aberrations were recorded. The Lethal Concentration 50 (LC50) was calculated.

Results

The SCE induced inhibition of A. cepa root growth with EC50 = 10.34 µgml-1 (Pearson, r= -0.883, p= 0.008) and elicited a mitodepressive effect with LC50 = 1.95 µgml-1 (Pearson, r= -0.879, p= 0.050) in a dose dependent manner. Macroscopic abnormalities including gelling, swelling, presence of hooks, necrosis and pigmentation along with chromosomal aberrations including stickiness, c-mitosis and numerical aberrations were observed. Accordingly, the successful use of A. cepa bioassay for preliminary toxicity screening in sponge crude extracts is highlighted in the present study.

Conclusions

Overall, the present study reported the potent cytogenotoxic effect of SCE and warrants its use as a promising candidate for the development of potential anti-proliferative/anti-cancer drug with further comprehensive research.

PP 25

Physicochemical properties of ultra-sonicated starch obtained from Manihot esculanta (MU-51) to use as a potential pharmaceutical excipient

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Background

Starch is a widely used natural pharmaceutical excipient derived from various botanical sources. Tapioca starch is one of the pharmaceutical grade starches used as a binder or a disintegrant in solid dosage formulations. However, as the physicochemical properties of native starch affect the pharmaceutico-technical properties of the dosage, different modification experiments have been carried out to obtain desirable characteristics. Ultrasonication is a kind of physical modification which is safe and cheap; it does not only modify the starch but also sterilize it.

Objectives

This study was designed to explore the potential excipient properties of ultrasonicated starch through analysing its physicochemical properties.

Methods

Tapioca starch was extracted by wet milling with a ratio of water to cassava slurry of 4:1. The isolated starch was sonicated using a probe sonicator at a power of 100W and the colour, SEM, pH, solubility and swelling index of native and sonicated starch were analysed.

Results

The wet extraction for 2 hours yielded 20g of starch per 100g of fresh tuber weight. The L*a*b* (Lightness, redness, yellowness) value indicated that ultra-sonicated starch was significantly ($p < 0.05$) whiter than that of native tapioca starch. Morphology of the ultra-sonicated starch granules were similar to those of native starch, polygonal and round in shape with concave pits in a size range of 10-15µm. However, the granules of ultra-sonicated starch were in an aggregated structure and had a surface with cracks and fissures. The modified starch had a slightly acidic pH (6.17), and exhibited good swelling index (>120%) and solubility (7.82%). However, ultrasonicated starch had significantly lower swelling power than native starch. The aggregated structure of sonicated granules tends to confer compact packing, resulting in a greater degree of association, which in turn lowers the swelling.

Conclusions

The results revealed physicochemical properties of ultra-sonicated starch were consistent with the required characteristics of starch which is used as a binder in dosages, thus the ultra-sonicated starch could be explored for its potential use as a binder in pharmaceutical formulations.

PP 26

Studies on the anticancer potential of plants belonging to the genus Caesalpinia and Oenanthe

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Background

Plants belonging to Caesalpinia spp. and Oenanthe spp. are reported to be used in traditional medicine to treat various ailments, including cancer. However, the amount of studies that could confirm the reported anticancer potential of these plants is limited.

Objectives

The aim of the study was to evaluate in-vitro antineoplastic activity of plant extracts obtained from Caesalpinia bonduc, C. decapeleta var. japonica, Oenanthe aquatica, and O. silaifolia against hypopharyngeal squamous cell carcinoma (FaDu), cervical adenocarcinoma (HeLa), and colon carcinoma derived cells (RKO) in comparison to normal kidney fibroblasts (VERO).

Methods

Cytotoxicity was tested using MTT based assay. GraphPad Prism software was used to calculate CC50 (50% cytotoxic concentration). Moreover, the selectivity indexes (SI) were calculated and statistical analysis was performed (two-way ANOVA, Dunnett's multiple comparisons test). LC-ESI-QTOF-MS/MS analysis of extracts was performed.

Results

C. bonduc bark aqueous extract exhibited high cytotoxicity towards HeLa (CC50 28.5 µg/mL) but low selectivity (SI 1.26). For C. decapetala, the highest cytotoxicity was found for bark methanol extract on HeLa cells (CC50 46.08 µg/mL, SI 3.33). All Oenanthe extracts exerted selective antineoplastic activity, and the highest anticancer potential was found for O. aquatica aqueous extract on FaDu and HeLa cells with CC50 of 57.36 (SI>17.43) and 47.16 µg/mL (SI>21.2), respectively. The RKO was shown to be the most resistant amongst tested cell lines. C. bonduc was abundant in organic and phenolic acids as well as their esters (bonducellin, caesalminaxins) whereas, C. decalpetala possessed many galloylated compounds. Simple organic acids, phenolic acids, coumarins, flavonoids and their glycosides were found in O. aquatica and O. silaifolia extracts.

Conclusions

Based on the observed CC50 values and anticancer selectivity, O. aquatica and O. silaifolia aqueous extracts showed promising anticancer properties and should be further examined to elucidate the compounds responsible for this activity.

PP 27

Evaluation of the Healthcare Facility Survey Management system (HFSM) in all government hospitals, Sri Lanka

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Background

Health Facility Survey Management System is a system consisting of healthcare institutions (Teaching/Special hospitals, Provincial General hospitals, District General hospitals, Base hospitals A/B, Divisional hospitals A/B/C) and resources allocated to that institute. The primary purpose of this system is to maintain the sustainability of hospitals by collecting, aggregating, and analyzing facility-level data.

Objectives

The objectives were to evaluate the existing Health Facility Survey Management system in the areas of usability of the system, groundwork, partnership, financial health, technology and architecture, operations, and monitoring and evaluation, evaluate the system's success from the point of view of system users and data entry operators and to give recommendations to restructure the system to achieve strong, well-defined, comprehensive, functional, resilient, and scalable.

Methods

The method was to evaluate the process, outcome, and usability of the existing HFSM system in the areas of groundwork, partnership, financial health, technology & architecture, operations, and monitoring and evaluation.

The validated questioners based on the mHealth Assessment and Planning for Scale (MAPS toolkit) of the World health organization and the system usability scale tool of the US government for information systems were used to collect data from the system users.

Results

The questionnaire of usability assessment was circulated among the users of the HFSM system at 643 government hospitals in Sri Lanka but only 264 were responded. The questionnaire based on the MAPS toolkit was circulated among all HFSM system administrators (5) in the Ministry of Health and all were responded. There are gaps in general profiling of the system, basis, scientific planning, sustainability, finance management, financial model, data quality, interoperability, adaptability, training and support, contingency planning, process monitoring and evaluation aspects.

Conclusions

According to the results of the research, the HFSM system has many deficiencies in the areas of groundwork, partnership, financial health, technology and architecture, operations, and monitoring & evaluation. The usability of the system is up to standard. Several recommendations were made to improve the system further.

PP 28

Knowledge, attitude and perception of traditional Malay medicine practitioners of Malaysia on COVID-19

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Background

Traditional Malay medicine practitioners are among those affected by the COVID-19 pandemic. Their service is often very personal, and includes home services such as herbal formulations, massages, cupping and midwifery. They are often very close with and trusted by their patients, and hence could shape public opinion on many important public health issues. Nevertheless, this section of the society is often overlooked to be studied.

Objectives

This study was conducted to assess the level of knowledge, attitude and perception of traditional Malay medicine practitioners in Malaysia concerning COVID-19 pandemic.

Methods

A cross-sectional study was conducted among traditional Malay medicine practitioners of Malaysia (n=101). The sampling method was convenient sampling. Data was collected using an online questionnaire between April-July 2021.

Results:

The level of knowledge (including the cause, clinical symptoms, prevention, vaccination, regulations, and impact) among participants on COVID-19 pandemic was high (n=90, 89.1%), the level of attitude (n= 66, 65.3%) (such as on the impact, types of treatment, conspiracy theory, vaccination, and standard operating procedure) and practice (n=55, 54.5%) (including adherence to standard operation procedure and provision of advice on preventive measures) towards COVID-19-related regulations was moderate. 90.1% of respondents relied on social media as the source of knowledge on COVID-19. Age and marital status were significantly associated with knowledge (p-value of 0.001 and 0.010 respectively). None of the socio-demographic characteristics appear to have an association with attitude and practice. Strong and significant correlations are found between knowledge and attitude, and between attitude and practice of the traditional Malay medicine practitioners (p-value of 0.020 and <0.001 respectively) towards COVID-19. No correlation was found between knowledge and practice.

Conclusions

Like other sectors, COVID-19 has also impacted the traditional Malay medicine practitioners. Evaluation of this impact may be useful for formulating policies that are suitable to this important and influential group of healthcare providers to reduce negative impact while at the same time helping the government in spreading correct knowledge, attitude and practice on COVID-19 in society.

PP 29

Perceptions on emergency medicine and factors affecting its selection as a postgraduate medical specialty among post-intern medical officers in Sri Lanka

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Background

Exploring attitudes towards post-graduate specialties would provide beneficial findings for policy planners.

Objectives

To describe perceptions of post intern medical officers in Sri Lanka towards selecting emergency medicine as a postgraduate specialty and to explore the factors associated with its selection.

Methods

The study was conducted as a hospital-based descriptive observational study. Post intern medical officers were selected with random sampling. The tool was validated to Sri Lanka by a panel of experts. Data were collected via an electronic data collection form. Data on epidemiological factors, postgraduate specialty choice and attitudinal score were assessed in the questionnaire. Attitudinal score included 13 items, 7 measuring positive attitudes and 6 measuring negative attitudes. Scores were then summed up to generate an overall attitude measure. Seven items measured positive attitude while six were for negative attitude. Data were analyzed using SPSS (Version 20). Associations were explored with Mann-Whitney-U test at 5% significance level.

Results

A total of 210 junior medical officers responded to the survey with majority being females. In the post-graduate specialty selection Emergency medicine was ranked third. Median attitudinal score was 70.8%. (IQR=66.2 to 73.8) There was no significant association between age, gender, undergraduate exposure and attendance to emergency department during internship, with the attitudinal score. ($p>0.05$) Those who preferred emergency medicine as the first choice for the postgraduate specialty had significantly higher attitudinal scores (72.3 vs. 69.2, $p=0.001$.) Age, gender and undergraduate exposure also did not show significant association with selection of emergency medicine as the first preference.

Conclusions

Post-intern medical officers had an overall positive attitudinal score towards Emergency medicine. Those who had higher altitudinal scores tended to prefer Emergency medicine as their career specialty, while the undergraduate training related factors seemingly not associated with it. It is recommended to give a better orientation for the medical graduates during medical-faculty training as well as following internship on possible avenues for postgraduate training.

PP 30

Radiation exposure of the staff of the nuclear medicine unit, University of Peradeniya for the period of 2015-2019

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Background

The increase in the number of isotopes procedures performed has focused attention on the issue of radiation exposure to the workers in nuclear medicine departments worldwide. Nuclear medicine unit, Peradeniya carried out 76718 radioimmune assay samples, 8931 imaging procedures, 679 radioiodine treatments for thyroid disorder patients for above period. Eight staff members work at the unit. According to the Sri Lanka Atomic Energy Regulation Council (AERC), radiation workers annual occupational exposure permissible limit is 20mSv per year.

Objectives

To find out staff exposure rates for period of 2015-2019.

Methods

Staff radiation exposure levels were obtained from the records maintained at the department. Effective dose to the whole body (Hp (10)) was measured using a single Thermo-Luminescence Dosimetry Harshow (TLD) 100 (PMS/TM-02) based on ISO/IEC 62387-1 by the Atomic Energy Board. Minitab 18.0 was used for data analyzing.

Results

Technologists were found to be the highest exposed group, average mean annual occupation exposure 0.37 mSv (SD = 0.03) with minimum exposure 0.36 mSv and maximum exposure 0.47 mSv per year. Physicians average mean annual occupation exposure 0.38 mSv (SD= 0.06) with minimum exposure 0.36 mSv and maximum exposure 0.55 mSv per year. Approximately 73% of all doses were received by the technologists. Physicians obtained 25% of doses.

Conclusions

This study showed that the annual exposure of radiation workers during the 5-year period and there was no case of an exceeded dose limit for a worker, according to the AERC Sri Lanka. Furthermore, exposure limits are below the limits set by the International Commission of Radiological Protection (ICRP) and International Atomic Energy Agency (IAEA). Continuous evaluation of occupational dose records is recommended due to the increasing number of medical imaging procedures that are currently being performed. Improvement of radiological protection had a significant impact on the reduction of doses for the most exposed employees.

PP 31

Knowledge, attitude and practices about bee, wasp, and hornet stings and their complications among first and second year medical students of Faculty of Medicine, University of Peradeniya

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Background

Hymenopteran stings are a known cause of hospital admissions in Sri Lanka. They are important because they can cause deadly complications in victims. However local literature shows a significant knowledge gap in this area.

Objectives

To assess knowledge, attitudes and practices about Hymenopteran stings and its complications among first and second year medical students of University of Peradeniya.

Methods

A descriptive cross-sectional study was conducted involving the first and second year students who were in their pre-clinical training. Ethical clearance was obtained from the Ethical Review Committee of Faculty of Medicine, University of Peradeniya. Data was collected by a pre-tested online questionnaire. Knowledge regarding risk factors, risk areas, symptoms and complications of Hymenopteran stings was assessed. Attitudes of participants towards the importance of knowing about Hymenopteran stings, the seriousness of an attack and the importance of preventive measures were assessed. Practices were assessed on removal of the stinger, recognition of warning signs and preventive measures. Answers were scored and graded as 'Good'- >70 marks, 'Average' - 40-70 marks, and 'Poor' - <40 marks.

Results

Total number of study participants was 386, of which 57.77% were females. Majority of the study population was in the 22-24 age group and from the Western province. Hymenopteran stings were experienced by 87.56% of participants yet only 36 % identified all three insects correctly. Majority (62.7%) received an 'Average' score for "knowledge" while 86% received "Good" scores for "attitudes" and 70% received "Average" scores for "practices". Only 14% were aware of the correct method of removing a stinger.

Conclusions

An average level of knowledge and practice together with positive attitudes towards the importance of Hymenopteran stings and their complications were seen in this cohort.

PP 32

Knowledge, attitudes, and practices on risk factors of type 2 diabetes mellitus among Sri Lankan pre-clinical students of the Faculty of Medicine, University of Peradeniya

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Background

Type 2 diabetes mellitus (DM) is a metabolic disorder with a high global prevalence. Acknowledgment of the risk factors with regard to the disease has a pivotal role in prevention. Since medical students are the pillars of the future healthcare system, their knowledge, attitudes, and practices on the risk factors of type 2 DM should be evaluated and updated appropriately.

Objectives

To assess the knowledge, attitudes, and practices on risk factors of type 2 DM among pre-clinical students of the faculty of medicine, University of Peradeniya.

Methods

A descriptive cross-sectional study was done involving 420 pre-clinical medical students of the faculty of medicine, University of Peradeniya. The levels of knowledge, attitudes, and practices were assessed via a self-administered online questionnaire. Data analysis was done by statistical software package, SPSS. Following statistical tests were used; Pearson correlation, t-test. Respondents' levels of knowledge, attitudes, and practices were categorized as 'Poor' ($<$ Mean -1SD); 'Average' (Mean $\pm$1SD); and 'Good' ($>$Mean +1SD).

Results

405 students completed the online questionnaire. Of these students 57.8% were female and 42.2% were male. Among them, the levels of knowledge, attitudes, and practices were 'Good' in 9.4%, 7.7%, 14.8%; 'Average' in 77.3%, 79%, 70.9% and 'Poor' in 13.3%, 13.3%, 14.3% respectively. There was no significant difference in knowledge, attitudes, or practices with gender or diabetes family history. Practices concerning the assessed modifiable risk factors were lower than that of their knowledge. Although there was a statistically significant correlation between students' knowledge and attitudes on risk factors of type 2 DM ($p<0.001$); the correlation was not statistically significant between knowledge and practices.

Conclusions

Knowledge, attitudes, and practices on risk factors of type 2 DM in the study population were found to be 'Average'. Knowledge has not been reflected in their practices concerning the assessed modifiable risk factors. Measures should be taken on encouraging lifestyle modifications among medical students.

PP 33

Retrospective analysis of isotope bone scan service provided by nuclear medicine unit, University of Peradeniya for the period of 2015 - 2019

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Background

Each year 23530 new cancer cases and 14013 cancer related deaths are recorded in Sri Lanka. For patients presenting with metastatic disease, timely identification of the lesions and the metastases is imperative to reduce the mortality rates. The radioisotope bone scan has been the preferred imaging screening modality in diagnosis of cancer metastases. Nuclear medicine unit (NMU) at University of Peradeniya has provided bone scanning services since 1972 and majorly employ isotope imaging methods. 99m Tc Generators are used to prepare radioisotope that is being used in the bone scan.

Objectives

The aim of this study is to evaluate the service given by the NMU using bone scanning to screen cancer patients between the periods of 2015 to 2019 around the country. Clinical data was obtained from the NMU database.

Methods

This is a retrospective descriptive analysis of the bone scans done in NMU unit. Cancer patients who were presented to NMU/ Faculty of Medicine, Peradeniya in the above mentioned period who underwent isotope bone scan were included. Data analysis was done using Minitab 18.0

Results

The study included 2318 patients who were presented in above 5-year period. Each year, the average scans per 99m Tc generator has increased with respect to a gradual decrease in the number of generators received. According to the analysis the average number of the patients per 99m Tc generator was vary with 25 (SD=4.26) in 2015, 23 (SD=5.26) in 2016, 29 (SD= 4.56) in 2017, 29 (SD=8.28) in 2018, and 32 (SD=8.27) in 2019.

Conclusions

The main limitation on conducting the bone scans is availability of 99m Tc generators. Even with the limited number of 99m Tc generators NMU has improved the number of scans done per 99m Tc generator over the time. If more funds would be allocated on the generators NMU can increase and improve the bone scanning service. Improving the number of scans can benefit the cancer population for early identification of metastatic disease.

Acknowledgement

PP 34

Evaluation of medical waste management practices among selected hospitals in Sri Lanka

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Background

Safe Healthcare waste management (HCWM) includes appropriate practices of medical waste collection to disposal. This study was conducted to analyse and evaluate the medical waste management practices from medical waste collection to disposal in selected private hospitals in Colombo and Kandy.

Objectives

This study was conducted to analyse and evaluate the medical waste management practices from medical waste collection to disposal in selected private hospitals in Colombo and Kandy.

Methodology

Eleven hospitals having more than 50 beds capacity were selected according to convenience method of sampling. Information gathered by direct interviews, site visit observations, and validated questionnaire; designed to measure the collection of medical waste (CMW), waste storage and disposal (WSD). Hospitals were labeled with letters A-K. Marks were offered for gathered data and analysed with descriptive statistical analysis.

Results

All the hospitals displayed visual aids and except hospital K, 91% of hospitals followed the standard national color-coded medical waste segregation. Waste handlers of all the hospitals used protective clothing while waste handling. The mean value and standard deviation respectively for CMW and segregation was $64.2045+12.21261$, WSD was $60.1427+19.7817$. It was evident that 64.20 (± 3.68 SE) marks were obtained for CMW, 60.14 (± 5.94 SE) for WSD. All the hospitals had a separate area protected from unauthorized admission for medical waste storage. Hospital A and K disposed the infectious waste by their own incineration plants within the hospital premises and remaining hospitals disposed the infectious waste by an outsourced medical waste disposal company. General waste was given to municipal councils/recycling companies in all hospitals.

Conclusion

Comparing with the literature published in other countries, waste management practices were satisfactory as most of the selected hospitals followed standard medical waste management. A national framework should be implemented to monitor and evaluate the HCWM practices among hospitals in Sri Lanka.

PP 35

A study on medical students' perspective regarding online learning from a selected government medical school

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Background

Online lectures have become crucial in medical education after the Corona pandemic with the importance of social distancing.

Objectives

Aim of this study was to assess the feasibility of incorporating online teaching in medical curriculum.

Methods

Data was collected via a self-administered online questionnaire among the students of Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Results

Among our study population 63% (213/338) were females aged 20 to 29 with a mean of 23.4 years (Standard deviation 2.09). Majority (99.4%) had online lectures. Before pandemic only 3.6% had online lectures during their medical curriculum. Majority (56%) had more than 50 online lectures. Other than online lectures students have used YouTube videos, online guidelines and other methods to improve medical knowledge. Among them, 44% had stated that they read more books during the pandemic while 24% had reduced reading during the pandemic. Most of them (65.6%) found to have improved their knowledge during the pandemic than usual, mainly because they had more time. Majority preferred online lectures (57.1%) over traditional lectures because of minimum time consumption for travelling and less distraction. As they stated, they felt less sleepy during online lectures and found to have retained more facts from online lectures than traditional lectures. They preferred online lectures to be more interactive with a handout more than PDF prior to the lecture and to ask questions at the end of the online lectures. All had a smart device. Mostly they used the smart phone and zoom as their portal to online lectures. Among them, 77.2% had connection interruptions during online lectures. Also 50.6% of them had skipped online lectures intentionally. There is no significant association between the gender and skipping lectures (p-0.05%)

Conclusions

Need to consider involving more online lectures and technology in medical education with a better infrastructure.

PP 36

Outcome of simulation-based training in venipuncture skills acquisition for medical undergraduates

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Background

Graduating medical students are expected to perform various procedures in diverse clinical settings. Literature shows that medical students are under-competent to perform procedures upon graduation. Simulation-based procedural training (SBPT) has been introduced to medical curricula to mitigate this issue. Although SBPT is utilized in Sri-Lankan undergraduate education, its effectiveness has not been investigated.

Objectives

The purpose of this study was to evaluate the effectiveness of SBPT for the acquisition of procedural skills in relation to performing venipuncture among medical students of the Faculty of Medicine, University of Kelaniya, Sri Lanka.

Methods

Volunteering second-year medical students participated in the study. All participants underwent an SBPT session in venipuncture. The students were trained on venipuncture in groups of 10-12 students. Pre and post-training assessment of self-confidence and self-competence in performing venipuncture was done using a self-administered questionnaire. Post-training, the student's competence in performing the procedure was assessed by an independent assessor.

Results

A sample of 55 students included in the study. In the pre-training self-assessment, a majority of the students (n=45; 81.82%) rated their self-confidence to perform venepuncture was at the level of a beginner. Most students (n=39; 70.91%) felt they knew the steps but couldn't describe the steps in performing venepuncture. None of the students felt they could perform the procedure. After the training, students reported being significantly more confident and competent in performing venepuncture (p < 0.05). Most participants (n=46; 83.64%) felt they were able to perform venepuncture under supervision. The Independent assessor rated most participants as borderline 50.91% in performing venepuncture.

Conclusions

SBPT allowed medical students to learn venipuncture in a safe environment. Students' written comments indicated that this training modality was well received. Results showed that medical students' self-confidence and competence in performing venipuncture can be improved by SBPT.

PP 37

Simulation-based training vs traditional bed-side teaching in procedural skill acquisition

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Introduction

Procedural skills are a core component of clinical practice. Medical students traditionally learn procedures at the bedside, which occurs mainly following observation, "see one-do one" approach, and opportunistic practice. The effectiveness of simulation-based training (SBT) for procedural skill acquisition is widely recognized.

Objectives

The aim of this study was to compare the effectiveness of SBT as opposed to traditional bedside training in developing procedural skills competence among medical students in the Faculty of Medicine, University of Kelaniya, Sri Lanka.

Methods

A prospective, cluster-randomized, controlled trial was conducted. Six clusters of volunteer second-year medical students were randomly assigned to two groups. The intervention group (IG) underwent SBT on venepuncture. The control group (CG) underwent traditional bedside teaching in the clinical setting, where students learned venepuncture as opportunities arise. The students rated their self-confidence and competence to perform venepuncture. Afterward, both groups performed venepuncture on real patients in the clinical setting. An independent, blinded assessor scored students' performance using the Integrated Procedural Protocol Instrument (IPPI).

Results

116 students were recruited for the study (IG). The majority of IG (n=39; 70.9%) felt they were able to perform venepuncture independently. Majority of CG (n=50; 82%) rated their self-competence to perform venepuncture as able under supervision. IG scored significantly better on IPPI ratings (median: IG: 5.87; CG: 4.84; $p<0.01$). The overall performance in venepuncture in IG was rated as competent while CG was rated as borderline ($p<0.01$). A significant improvement was observed between the two groups across all categories of IPPI ratings.

Conclusion

This study demonstrated that the students can transfer venipuncture-related skills acquired through simulation-based training to the clinical setting effectively. SBT is superior to bedside teaching. SBT improves the clinical performance of medical students and such training can be incorporated into undergraduate medical curricula.

PP 38

Perceived level of English knowledge, challenges in English medium learning and associated factors among first year undergraduates of a selected medical faculty in Sri Lanka

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Background

Medical students who are not from English speaking families face many challenges related to English medium learning mostly during the first year of study.

Objectives

To describe the perceived level of English knowledge and challenges faced in English medium learning among the first-year undergraduates of Faculty of Medical sciences, University of Sri Jayewardenepura.

Methods

A descriptive cross-sectional study was conducted among 169 first-year medical students of Faculty of Medical sciences, University of Sri Jayewardenepura using convenience sampling technique via an online self-administered questionnaire. Data was analyzed using SPSS software version (25). P<0.05 was considered as significant.

Results

Mean age was 21.53 years (SD = 0.900). Out of 169 participants, 64.5% (n= 109) were female and majority (87%, n=147) were Sinhalese. Majority had A passes for General English in both O/L (86.4%) and A/L (60.4%) examinations. Most had satisfactory marks for both pre - and post- tests in English during the orientation programme. Among the English language skills, speaking was perceived as the most challenging; many were not able to communicate ideas fluently and express their opinions in English (62%). Those who had good knowledge in English Language had a low level of perceived language anxiety (82%, P= 0.018). Participants who had attended government schools comparatively perceived more challenges in English medium learning (36.2%, P= 0.004). Participants with high anxiety (45.6%) and low level of confidence (43.5%) found it more challenging (P<0.05). Those who were unsatisfied with English knowledge gained during school (54.8%) perceived more English language related challenges. Those who were from rural backgrounds (58.3%) and who sparsely used English at home (42.6%) evidently perceived more challenges in English medium learning (P<0.05).

Conclusions

Although majority had satisfactory results in English language examinations prior to the University commencement, speaking was perceived as the most challenging skill. It was associated with high anxiety and low confidence.

PP 39

Impact of picture archiving and communication system (PACS) on diagnostic performance in healthcare institutions of developing countries

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Background

The healthcare industry and especially the radiodiagnosis field have undergone significant evolution over the past few decades with the aid of modern Information and Communication Technology. Among them picture archiving and communication system (PACS) brought a paradigm shift in how radiodiagnosis is practiced. PACS has been widely accepted by the users and has shown to improve the performance of healthcare institutions mainly in developed countries. However, with the scarce resources, developing countries were faced with various challenges in implementing meaningful use of PACS. Unfortunately, there are not enough comprehensive studies exploring the different factors influencing the meaningful use of PACS and how it can impact on the diagnostic performance in healthcare institutions of developing countries.

Objectives

This study aimed at bridging the knowledge gap by critically evaluating the impact of PACS on diagnostic performance in healthcare institutions of developing countries.

Methods

This study is conducted using the systematic review strategy which used a deductive approach using secondary data from journal articles. Thematic analysis was used to find the patterns among the findings of these articles.

Results

Four key factors influencing meaningful use of packs (key factors – performance expectancy, effort expectancy, social influence and facilitating conditions), five key elements influencing diagnostic performance (key elements – speed, quality, flexibility, dependability and cost) and the direct and indirect impact of five PACS features on diagnostic performance (key features – timeliness, quality of service, flexible features, reliability and cost-effectiveness) were identified. From these key findings, a framework was synthesized describing all the direct and indirect correlations between these key factors, key features and key elements.

Conclusions

This framework will aid the healthcare administrators of the developing countries to properly understand the different factors influencing the meaningful use of PACS and help make the correct decisions in implementing, operating and maintaining the PACS and hence improving the diagnostic performance.

PP 40

Impact of the organizational culture on self-directed learning readiness among staff nurses in a selected hospital in Sri Lanka

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Background

Self-directed learning among staff nurses, whose baseline entry qualification is diploma in nursing, considerably depends on the organizational culture. Identifying the impact of the organizational culture is imperative as a healthy culture encourages nurses to develop their professional lives.

Objectives

To determine the impact of the organizational culture and identify enablers and barriers on self-directed learning readiness among staff nurses in a selected hospital in Sri Lanka.

Methods

A descriptive cross-sectional design was used. The study setting was Colombo South Teaching Hospital, Sri Lanka and the nurses who engage in higher studies were the study population. Stratified random sampling was done (n=77). A Pre-tested (n=10) validated, self-administered questionnaire named Self-directed learning readiness scale was used with permission to collect data from April to July 2021. Response rate was 90%. Data was analyzed by using descriptive statistics with SPSS 26.0 version. Ethical approval was obtained from the ethics review committee, UoC and relevant authorities.

Results

Most of the participants (71%) recognized that the hospital environment is education friendly, whereas 26% of them consider it is not. Almost 85% felt they were supported from their seniors to do studies and 42% mentioned that they struggle to get study leave as managers give priority for non-educational leave requests.

Conclusions

The results showed a positive organizational culture for higher education of staff nurses in many aspects. It is recommended to strengthen the understanding among nurses with their senior staff and line managers. The hospital authority should take necessary actions to encourage self-directed learning readiness among staff nurses.

PP 41

Development and validation of a measurement scale to assess nursing students' readiness for the flipped classroom

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Background

The Flipped classroom is a blended learning innovation and has been in the spotlight in contemporary nursing education. Students' readiness is an indispensable factor for determining feasibility for implementing a new pedagogical strategy. However, there is limited research on the flipped classroom readiness questionnaire in reference to Nursing Education.

Objectives

To develop and validate a scale to measure nursing students' readiness for the flipped classroom in Sri Lanka.

Methods

A literature review provided the theoretical framework for developing the Nursing Students' Readiness for Flipped Classroom (NSR-FC) questionnaire. Five content experts evaluated the NSR-FC, and content validity indices (CVI) were calculated. Cross-sectional surveys among 355 undergraduate nursing students from three state universities in Sri Lanka were carried out to assess the psychometric properties of the NSR-FC. Principal component analysis (PCA, n=265), internal consistency (using the Cronbach a coefficient, n=265), and confirmatory factor analysis (CFA, n=90) were done to test construct validity and reliability.

Results

Thirty-seven items were included in the NSR-FC for content validation, resulting in an average scale CVI of 0.94. Two items received item level CVI of less than 0.78. The factor structures of the 35 items were explored through PCA with orthogonal factor rotation, culminating in the identification of 5 factors. These factors were classified as technological readiness, environmental readiness, personal readiness, pedagogical readiness, and interpersonal readiness. The NSR-FC also showed an overall acceptable level of internal consistency (Cronbach a=0.9). CFA verified a 4-factor model (excluding the interpersonal readiness factor) and 20 items that achieved acceptable fit (standardized root mean square residual=0.08, root mean square error of approximation=0.08, comparative fit index=0.87, and χ2/degrees of freedom=1.57).

Conclusion

The NSR-FC, as a 4-factor model, is an acceptable measurement scale for assessing nursing students' readiness for the flipped classroom in terms of its construct validity and reliability.

PP 42

An analysis of common merit lists in eight Sri Lankan state medical faculties

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Background

Currently, medical undergraduates are passing out from 08 state medical faculties. Before appointing them as intern medical officers a common merit list (CML) is prepared by the University Grant Commission (UGC) based on common MCQ paper marks and clinical marks of the Final MBBS exam. This CML is considered as an unofficial ranking document of the state medical faculties

Objectives

To compare the performance of SJP medical undergraduates in extreme ends of CML with other 07 state medical faculties during the last 04 academic years

Methods

The CMLs issued by the UGC during last four academic years were analyzed to identify and compare how SJP undergraduates perform at two extreme ends of the CMLs. To make the interpretations fairer we analyzed student percentages according to the total intake of students for each faculty during respective academic intake.

Results

During last four academic intakes Peradeniya Medical Faculty had the highest intake for each batch of students when compared to other faculties while Eastern University had the lowest intake in each year during this process. Colombo Medical Faculty (CMF) gets the highest percentage of students on merit when compared to other faculties. CMF has secured the highest percentage in the first 200 positions of the common merit list except in 2012/2013 intake. SJP has secured the 4th place in the first 200 positions except in 2012/2013 intake. When analyzed the lower positions in CML, it was noted that the majority of 800-1000 positions in the CML over the last 4 years were filled by the SJP students.

Conclusions

CMF has secured highest number of positions in the first 200 while SJP students were mainly scattered between 800-1000 range in the UGC generated CML during studied 4 academic years.

PP 43

Impact on physical activity of Sri Lankan University athletes during COVID-19 lockdown

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Background

During COVID-19 pandemic, Sri Lankan government enforced island wide lockdown aiming to slow the spread of the disease. This hindered the sports activities and detraining effects reduced the performance of athletes.

Objective

To determine the extent to which the physical activities have changed among university athletes during the lockdown.

Methods

An analytical cross-sectional study was carried out among 199 university athletes in all government universities of Sri Lanka during the lockdown period. The data was collected from September 2021 to October 2021. Athletes engaged in board games and without internet facilities, were excluded. Stratified sampling method was used for sample selection. Tri-lingual self-administered questionnaire as a Google form was used for data collection. Changes in physical activity level were assessed using International Physical Activity Questionnaire–Short Form (IPAQ-SF). Metabolic equivalents (MET) scores were calculated for vigorous, moderate activities, and walking. This was obtained by multiplying the minutes they spent into the number of days by a factor specific to each form of physical activity. The factors were adopted from the IPAQ-SF and they are as follows. Vigorous physical activity = 8, moderate physical activity = 4 and walking = 3.3. Finally, the sum of all three MET scores was taken to obtain a final total MET score for each athlete which represented the total physical activity they engaged in during a week. The mean MET score for before and during lockdown period was compared using paired sample t-test. Data was analyzed using SPSS software version 15.0. P value of less than 0.05 was considered as significant.

Results

Majority (60.8%, N=121) were males, Sinhalese (70.4%, N=140) and average monthly income was Rs.100000 (32.8%, N=65). Those engaged in outdoor and indoor sports were 54.3% (N=108) and 45.7% (N=91) respectively. Total mean MET score reduced from 3144.07±3217.31 before to 1053.03±1536.53 after lockdown period. The difference was 2091.03 (t=9.49, P<0.001). The total MET score for vigorous physical activity decreased by 1181.39 (t=7.745, p<0.001), moderate activity by 471.5 (t=7.469, p<0.001), and walking by 438.16 (t=7.818, p<0.001). The number of days/week of vigorous physical activity during

confinement, decreased by 1.24 (t=8.864, p<0.001) and number of minutes/day decreased by 35.17(t=9.292, p<0.001). The number of days/week and minutes/day of moderate physical activity decreased by 0.66 (t=4.634, p<0.001) and 26.92 (t=7.885, p<0.001) respectively. Number of days/week and minutes/day spent for walking during confinement decreased by 1.87 (t=12.708, p<0.001) and 24.36 (t=7.803, p<0.001) during confinement.

Conclusion

There was a negative impact in the physical activity of Sri Lankan university athletes during the lockdown.

PP 44

Burnout, quality of life and coping strategies among intern medical officers in selected tertiary care hospitals in Sri Lanka during the lockdown of the COVID 19 pandemic

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Background

Burnout, quality of life and coping strategies among medical interns has been widely studied internationally. However, this area has been meagerly studied in Sri Lanka.

Objective

To describe burnout, quality of life and coping strategies among intern medical officers in selected tertiary care hospitals in Sri Lanka during the lockdown of the COVID-19 pandemic.

Methods

A descriptive cross-sectional study was conducted among 210 intern medical officers working in selected tertiary care hospitals in Sri Lanka during the lockdown of the COVID-19 pandemic. A self-administered questionnaire made using Copenhagen Burnout Inventory, WHOQOL- BREF and an author designed component was used to assess burnout, quality of life and coping strategies respectively.

Results

A high degree of both personal (60.1%) and work burnout (55.7%) with a low degree of client burnout (70.5%) was observed among most interns. A statistically significant difference was observed between the degree of client burnout and the current appointment (p = 0.037): a high degree of client burnout, reported from interns working in medical wards (n=22; 40%). The interns perceived their quality of life as good (n = 63; 35.4%), the social relationships domain having the highest mean score (58.5 ±19.5) and physical health having the lowest (44.1 ± 11.9). Despite interns mainly employing problem focused and emotion focused coping, dysfunctional coping was also used.

Conclusions

Interns showed high personal and work burnout and low client burnout with a statistically significant difference between client burnout and the current appointment. Findings were limited to our inclusion criteria and can differ in rural hospitals. Despite the interns mainly employing problem and emotion focused coping, the implications of considerable use of dysfunctional coping can be further studied.

PP 45

Knowledge on thyroid cancer and their associated factors among adults attending out-patient department of a tertiary hospital in Colombo district

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Background

In Sri Lanka thyroid cancer has become the second commonest leading cancer among females. Therefore, assessing and evaluating knowledge status is essential to take measures for primary prevention.

Objectives

To describe the knowledge on thyroid cancer and their associated factors among adults attending Out Patient Department (OPD) of Colombo South Teaching hospital (CSTH).

Methodology

A descriptive cross-sectional study was carried out at the OPD of CSTH among 102 patients. Systematic random sampling was done among patients aged between 18–65 years using pretested interviewer administered questionnaire. Each correct knowledge answer was given 1 mark and zero mark for each incorrect answer or don't know response. The mean knowledge score was calculated and based on this value. The data was analyzed using SPSS version 15.0. Significance was taken as $p < 0.05$.

Results

Majority was female (57.8%) and were educated up to Ordinary Levels (55%). Mean age was 44.31 years (SD=13.812). Majority (88.2%) knew the location of thyroid gland and 72.5% knew that thyroid gland could develop cancer. Only 57.8% knew it produces thyroid hormone. However, most (68.6%) were unaware that thyroid cancer was more common in females than in males. Knowledge on risk factors for developing thyroid cancer showed that 60.8% were unaware of childhood radiation exposure and 52% of having a family history of thyroid cancer. Majority knew the clinical manifestation such as enlarged thyroid (62.2%), change in voice (74%) and abnormal thyroid function tests (60%). Majority knew the complications of difficulty in breathing (55%) and difficulty in swallowing (61%) while 44.1% agreed that thyroid cancer could lead to alterations of calcium level in the body. Regarding knowledge on investigations and treatment, majority (70.6%) knew that thyroid cancers were confirmed by thyroid biopsy and 61.8% by thyroid gland removal. However, majority (62.7%) were unaware of ultrasound scan of neck to detect cancer. Most (57.8%) knew after complete thyroid removal patient should be on lifetime exogenous thyroxin. Higher monthly income showed statistical

significance for all aspects of thyroid cancer knowledge ($p<0.05$). Younger age, higher educational level and urban residency was significantly associated with knowledge on complications and clinical management ($p<0.05$). Positive family history showed significance with all aspects of knowledge on thyroid cancer ($p<0.05$).

Conclusion

Overall knowledge on thyroid cancers was satisfactory in all aspects among the study population.

PP 46

Factors affecting the perspective of blood donation among young adults in Sri Lanka

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Background

Maintaining an active donor pool is crucial for maintaining a safe and adequate blood supply. Blood can save millions of lives via donating. Youngsters are the most potent blood donors in every society. It is important to assess the factors that affect the perspective of blood donation in youngsters to maintain an active donor pool.

Objectives

To assess the perspective of blood donation and factors affecting among young adults in Sri Lanka.

Methods

This cross-sectional study included a sample of 388 respondents aged 18 to 35 years from the general population (including all 9 provinces in Sri Lanka) using an online structured self-administered questionnaire. The SPSS software, version 28 was used for statistical analysis.

Results

Overall, out of 388 respondents, 70.6% (n=274) were females while only 29.4% (n=114) of participants were male. Among the participants, most (82.7%, n=321) showed a positive future perspective toward blood donation, while 13.7% (n=53) had a neutral and 3.6% (n=14) had a poor future perspective toward blood donation. Most of the participants (61.3%, n=238) had average awareness, while 95% (n=370) had a positive attitude toward blood donation. There is a clear association between education level ($P<0.05$; $P=0.006$), general knowledge of blood donation (basic requirement criteria, transfusion transmitting diseases) ($P<0.05$; $P=0.022$), attitude ($P<0.001$), COVID-19 ($P<0.001$) and family support ($P<0.001$) toward future intention while there was no significant association between gender ($P>0.05$; $P=0.119$) and knowledge obtaining media ($P>0.05$). The non-donors fear ($P<0.001$), lack of information regarding donating camps ($P<0.001$), and being underweight ($P<0.001$) were significant factors affecting the future intention.

Conclusion

Among young adults, there is a positive future perspective toward blood donation, even though their knowledge is average. Knowledge and education, attitude level, family support during COVID-19, fear, lack of information regarding donating camps, and being underweight have been found to discourage the future intention toward blood donation.

Acknowledgement

PP 47

Factors associated with job burnout during COVID-19 Pandemic: A cross-sectional survey among nurses at the National Hospital of Sri Lanka

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Background

COVID-19 is a global pandemic. The rapid spread of infection influences increasing workload and responsibilities among nurses. Occupational stress is negatively associated with poor quality care and productivity of life. A higher level of job burnout is widely reported during the pandemic with multifactorial causes.

Objectives

The study was aimed to assess the level of job burnout and its associated factors among nurses during the COVID-19 Pandemic.

Methods

A descriptive cross-sectional study was carried out among randomly selected 190 nurses at the National Hospital of Sri Lanka (NHSL) from October to December 2021. Data was collected using a pretested, self-administered questionnaire. The validated psychometric instrument; the Maslach Burnout Inventory (MBI) was used to assess burnout with the permission of the author. Ethical approval was obtained from the ERC at KIU. Data were analyzed using descriptive and inferential statistics. The SPSS version 25 was used as a statistical tool.

Results

The mean age of participants was 31.67 ± 5.72 years. The majority were female (72.1%), married (65.8%), diploma holders (54.2%), and belonged to less than 30 years old. According to the MBI, the majority showed low-level professional accomplishment (96.3%), moderate level depersonalization (67.9%), and higher-level emotional exhaustion (66.3%). Mostly contributed factors for burnout were discomfort of using PPE (85.3%), risk of getting an infection (83.2%), lack of co-worker support (90.5%), staff shortage (97.9%), heavy workload (95.8%), patient pain (86.8%) pregnancy (54.7%) and medical conditions (59.5%). Job burnout was not associated with gender, marital status, and education level.

Conclusions

The level of job burnout is high among nurses during the Covid-19 Pandemic. Physical discomfort, risk of getting coronavirus, staff shortage, heavy workload, and lack of co-worker support were the associated factors of job burnout. Strategies need to be taken to minimize job burnout and further studies are recommended to assess the changes.

PP 48

Knowledge and practices of first-aid and Cardiopulmonary Resuscitation (CPR) in a road traffic injury among traffic police officers in selected police divisions in Colombo district, Sri Lanka: Preliminary findings

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Background

Road traffic injury (RTI) has become an increasingly significant public health issue and a leading cause of death among children and young adults. According to the studies, providing first- aid and CPR promptly minimizes the crash consequences in an RTI. Traffic police officers can play an essential role in providing first-aid and CPR for the victims in an RTI as they are given training on both first-aid and CPR.

Objectives

To determine Knowledge and practices of first aid and CPR in a RTI among traffic police officers in selected police divisions in Colombo district, Sri Lanka.

Methods

A descriptive cross-sectional design was used. A pre-tested (n=10) self-administered questionnaire was used to collect the data from police officers (n=50) who were currently working with one year of working experience at randomly selected three police divisions in Colombo. Descriptive statistics were used to analyze the data. The level of knowledge of first aid and CPR was categorized as poor (0% - 49%), good (50% - 74%) and excellent (75% and above). The level of practice was categorized as poor (0% - 49%), good (50% - 74%) and excellent (75% and above) based on attending to a victim in a RTI.

Results

Knowledge level was excellent, good, and poor in 38%, 54%, and 8% of the traffic police officers respectively. Also 56% of the traffic police officers had positive attitudes while 44% have negative attitudes. Furthermore, 0%, 4%, and 96% of the traffic police officers have an excellent, good, and poor level of practice, respectively.

Conclusion

Although the traffic police officers have good knowledge and positive attitudes, they have a poor practice in performing first-aid and CPR in an RTI. Therefore, the Police-Authoritative should plan for necessary training to improve skills in first-aid and CPR for traffic police officers.

PP 49

Prevalence of default treatment among patients with cancers at the National Cancer Institute, Sri Lanka

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Background

Default defines as refusal, delay, or discontinuation of treatment or visit, despite the ability to do so. Default anti-cancer treatment results in the progression of cancer and lower survival. Causative factors and prevalence of default anti-cancer therapy are varied and it is less explored in Sri Lanka.

Objectives

The study was aimed to determine the prevalence of default treatments among patients with cancers at the National Cancer Institute Sri Lanka

Methods

A descriptive cross-sectional study was carried out among adult patients with cancers attending the National Cancer Institute, Sri Lanka. The simple random sampling method was used to recruit the participants and 250 volunteered patients who were on treatment for at least six-month duration were included in the sample. Data was collected from November 2021 to January 2022 using a pretested, interviewer-administered questionnaire. The prevalence of default treatment was considered as delaying, refusing, and discontinuation therapy during the last two-month period. The study was approved by the ERC at KIU. Data were analyzed using SPSS version 25.

Results

Mean age of participants was 53.18+ 16.353 years. The majority were male (57.6%) and non-employed (65.2%). The breast, blood, colon, and lung cancers were prevalent in 20.4%, 16%, 14.4%, and 12.8% respectively. While combined ant-cancer therapy was common, 90% followed chemotherapy. Radiotherapy and surgery were also followed by 55.2% and 50.8% respectively.

Patients did not attend treatment due to Covid-19 pandemic (41.6%), fear of treatment (31.6%), other diseases (25.2%), poverty (26.4%), and adverse effects of drugs (17.6%). Also, treatment was delayed due to the other diseases (22%), psychological distress (18.4%), poverty (18.4%), Covid-19 pandemic (24%), poor insight (18%), fear of treatment (16%), and traditional treatments (14.8%). Furthermore, the patient who was on treatment refused treatment during the last two months due to Covid-19 (30.8%), fear of treatment (26%), suicidal ideas (22.8%), adverse effects of drugs (12.8%), and poverty (10.8%).

Conclusion

Covid-19 pandemic, poverty, fear of treatment and psychological issues have mainly contributed to default treatment among patients with cancers. Strategies need to be taken to minimize the factors contributing to default anti-cancer treatment to reduce the incidence of mortality and morbidity from cancer.

PP 50

Challenges in online education among parents who are having children engaged in online education during the COVID-19 pandemic in Western province, Sri Lanka

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Background

Rapid spread of coronavirus impact all dimensions of the world. The traditional physical teaching was moved into online mode. However, poor satisfaction with online learning is reported despite its advances. Challenges of parents who are having children engaged in online education during a pandemic are less explored and identification of gaps in this field is vital to minimize interruptions of online education among children.

Objectives

The study aimed to identify the challenges in online education among parents who are having children engaged in online education.

Methods

A descriptive cross-sectional study was carried out among 250 parents who lived in Western province, Sri Lanka, and who are having children engaged in online education. Data was collected using a pretested, web-based questionnaire developed by the researcher using scientific literature using the network sampling method. The questionnaire was circulated through online platforms and the study was approved by the ERC at KIU. Data were analyzed using SPSS version 25.

Results

The majority was female (58.4%), Sinhalese (99.2%), and educated above the G.C.E. O/L (67.6%). While 81.2% children engaged with online school classes, 67.6% engaged in tuition classes. Special data packages for online learning were used by 85% and 30.8% paid more than 2000 rupees per month for special data packages. Unfamiliarity with technology to guide online teaching (73.2%), not having enough time (58.4%), and poor signal strength (77.2%) were the most common barriers. Further, parents observed a higher prevalence of possible harmful behaviors such as playing online games (70.4%), the use of social media (51.5%), and watching videos (56%) with the transition to online education. While the majority of parents are satisfied with their children's online education (moderately satisfied– 37.2%, satisfied– 50%, highly satisfied– 3.6%) and a considerable proportion were dissatisfied (9.2%) to continue online education for children.

Conclusions

Unfamiliar technology, time pressure, and connection issues are common among parents whose children are engaged in online learning. Effective strategies need to be taken to minimize the misuse of online platforms. The use of web-based questionnaires and network sampling methods are the limitations of the current study. Thereby, further studies with the use of probability sampling methods are recommended to identify the associated factors/barriers to continuing online education and to generalize the findings to the population.

PP 51

Does semen quality predict the success rate of intrauterine insemination?

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Background

Delay in conception has become a public health issue affecting one in seven couples worldwide. Seminal fluid analysis (SFA) provides certain characteristics of a semen sample which helps to evaluate male fertility. Intrauterine insemination (IUI) is artificial insemination of washed and concentrated sperms into the female uterus at the time of ovulation. Published literature shows controversial results on the association between semen quality and the success rate of IUI (IUI-SR).

Objectives

To assess the association of semen quality with the IUI-SR.

Method

The study was a descriptive retrospective study. Data of key sperm parameters and the pregnancy status were extracted to a pre-designed data collection form using the SFA and IUI registries of the Fertility and Andrology clinic of the Professorial unit of Colombo South Teaching (CSTH) from January 2017-Agust 2021. Data analysis was done using the correlation test, cross-tabulation, and frequency test of SPSS version 22.0.

Results

The total study sample was composed of 140 SFA and corresponding IUI reports. A significantly high IUI-SR was noted when, pre-processed sperm concentration >30 million/ml compared to <30 million/ml (p-value=0.019, OR=3.12), percentages of pre-processed sperm motilies of total >40% compared to <40% (p-value=0.039, OR=5.31), progressive >32% compared to <32% (p-value=0.034, OR=3.12) and non-progressive <15% compared to >15% (p-value=0.003, OR=4.29). However, the period of abstinence (p-value=0.222), percentage of pre-processed normal form of sperm morphology (p-value=0.082) and percentage of sperm viability (p-value=0.093) did not show any significant association with IUI-SR.

Conclusion

The pre-processed sperm concentration >30 million/ml, percentages of total sperm motility >40%, progressive sperm motility >32%, and non-progressive progressive sperm motility <15% predict a high probability of IUI-SR in the absence of female factor infertility. Period of abstinence, percentage of pre-processed sperm morphology, or sperm viability may not predict high IUI-SR.

PP 52

Knowledge on colour vision deficiency and its associated factors among adults in western province, Sri Lanka

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Background

Colour Vision Deficiency (CVD) is an abnormality of photopigments in retinal cones. It can affect anybody of any age and is often undetected.

Objectives

The study aimed to describe factors associated with the knowledge on CVD among adults in Western Province.

Methods

A descriptive cross-sectional study was conducted among 423 adults aged above 18 years living in Western Province. Stratified sampling method along with snowball sampling within the district was used as sampling technique. A pre-tested self-administered questionnaire was used for data collection via online platform. The colour vision of study participants was assessed through an online colour vision assessment tool. Descriptive statistics and Pearson's Chi-square test were applied in analyzing data. Statistical significance was taken as $p < 0.05\%$.

Results

Majority was females (63.4%), and the mean age was 33 years (SD 12.62). Most were undergraduates (40.2%) followed by graduates (22.2%). Majority (92.0%) was aware of the term 'CVD'. Out of them, most had an overall good knowledge (53.7%). Most of the participants were aware of colour recognition, risk factors, prevalence of CVD, and impact on day-to-day activities and occupations. Most had gathered knowledge from internet/social media (40.6%). Participants with a younger age (p=0.01), higher level of education (p=0.001), unmarried (p=0.01) and unemployed (p=0.002) were associated with overall good knowledge on CVD. A notable proportion of 37 participants (9.5%) were already diagnosed with CVD. Out of them, a positive family history was observed in 21.6% and only 22 participants (5.2%) were suggestive of abnormal colour vision through the online colour vision assessment tool.

Conclusion

Most of the participants had an overall good knowledge on CVD (53.7%). Only a small proportion was detected of abnormal colour vision by online vision assessment tool.

PP 53

Depression, anxiety and stress among the academic staff in the University of Ruhuna: A cross-sectional study

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Background

Depression, anxiety and stress are rising problems worldwide. Almost every person suffers from mental or behavioral disorders at some point in their life. Early identification of depression, anxiety and stress is very important before they get out of control and pose negative impact on many aspects of life.

Objectives

This study aimed to assess the levels, prevalence and factors associated with depression, anxiety and stress among the academic staff of University of Ruhuna.

Methods

A descriptive cross-sectional study was conducted to collect information from academic staff (n=102), using a self-administered questionnaire with depression, anxiety and stress scale 21. Six faculties of the University of Ruhuna were selected randomly and randomly selected four departments from each faculty were included in the study. Due to COVID-19 pandemic data collection was mainly done using a Google form and printed questionnaire was used whenever possible. Data were analyzed using SPSS version 25.

Results

From the sample 69.6% were female and majority (42.2%) was at the 30-39 years age range. The overall prevalence of depression, anxiety and stress of the participants were found to be 22.22%, 31.31% and 11.11%, respectively. Significant positive relationships were found between depression and anxiety (r-0.849, p<0.001), depression and stress (r-0.871, p<0.001) and anxiety and stress (r-0.832, p<0.001). Sleep problems showed significant association with depression ($x2$=5.212, p=0.022) and stress ($x2$=7.570, p=0.006). Sleep time duration showed significant association with anxiety ($x2$=6.061, p=0.048). Not having weekend holiday breaks showed a significant association with stress ($x2$=4.084, p=0.043).

Conclusions: Study revealed that a considerable portion of academic staff members of the University of Ruhuna are suffering from depression (22.22%), anxiety (31.31%) and stress (11.11%). Study emphasizes the need of the attention on depression, anxiety and stress of the academic staff members in order to reduce them to improve their quality of life, work capacity, productivity and efficiency.

PP 54

Is bullying accepted in society? A cross sectional study among young adults in selected districts of Sri Lanka

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Background

Bullying is 'aggressive, intentional acts carried out by a group or an individual repeatedly and over time against a victim who cannot easily defend him or herself'. Bullying can be experienced as physical, verbal, psychological, social and cyber bullying. Being a victim of bullying can affect an individual in various adverse ways.

Objective

To describe the knowledge and attitudes among adults aged between 20-29 years in selected districts in Sri Lanka on bullying and its associated factors.

Methods

A descriptive cross-sectional study was carried out among adults aged 20-29 years who are conversant in Sinhala and English, living in selected districts in Sri Lanka. A total of 405 participants responded through the snowball sampling method. Data was collected via a pretested self-administered online questionnaire and IBM SPSS version 25 was used for data analysis. P<0.05 was taken as the level of significance.

Results

Mean age was 23.29 (SD=1.687) years. Majority 66.7% (N=270) were females, Sinhala (95.8%, N=388) and single (65.4%, 265). Most of the population studied (n=168, 41.5%) had been bullied at some point in their life. A majority was familiar with the terms "bullying" (n=395, 97.5%) and "cyber bullying" 87.9% (n=356). A majority (n=398, 98.5%) was aware about the effects of bullying but unaware (n=283, 69.9%) of the helpline of the National Institute of Mental Health. The median value (83) was chosen as the cut off score and the majority (n=255, 63.0%) had overall poor knowledge regarding bullying. Approximately half of the population were against (50.1%, n=203) bullying. Being a female, living in Colombo, introvert personality (which is self-perceived), not consuming alcohol and non-smokers had statistically significant association with good knowledge (p<0.05). Female, studying in a girls' school and introvert personality were statistically significant associations with attitudes against bullying (p<0.05).

Conclusion

Young adults had poor knowledge but had attitudes against bullying. The current study attempted to fill the gap on knowledge and attitudes on bullying among the adults who train for future professions.

PP 55

Physical activity level and its correlation with quality of life among undergraduates in University of Peradeniya

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Background

Physical activity (PA) has shown to have positive influence on quality of life (QOL). PA has been reported to reduce among young adults during university life and it reduced drastically during the pandemic.

Objectives

The objectives of this study were to determine the Physical Activity Level (PAL) and to assess the correlation between the PALs and eight domains of QOL among University undergraduates.

Methods

A descriptive cross-sectional online survey was conducted. Sample size was estimated using Slovin's formula. Three hundred and eighty-seven undergraduates of University of Peradeniya were recruited for this study. This sample was selected by proportionate random sampling from the nine faculties of the university. The International Physical Activity Questionnaire (IPAQ) - short form was used to assess PALs and the 36-Short Form Survey (SF-36) Questionnaire was used to assess QOL.

Obtained data was computed by standard methods for scoring the two questionnaires.

Results

The highest number of participants (195, 50.4%) was in the low PAL category whereas the lowest number of participants (60, 15.5%) was in the high PAL category. The data was not normally distributed; hence, Spearman's correlation test was used. There was no significant correlation between low PAL scores and the 8 domains of QOL. There was a significant weak positive correlation between the energy/fatigue (r value = 0.293, p<0.001) and role limitation (r value = 0.210, p<0.001) with moderate physical activity level. There was a significant moderate negative correlation between pain and high physical activity level (r value = -0.416, p<0.001).

Conclusions

Most undergraduates were in the low physical activity category. Involvement in PA had a positive influence on physical and psychological domains of QOL. This further emphasizes the importance of involvement in PA.

PP 56

Age related changes in hand grip strength and anthropometric measures and their associations in women

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Background

Age-related decline in muscle strength is a powerful predictor of future disability. Handgrip strength (HGS) is a known indicator of muscle strength, which is used to diagnose sarcopenia. Identification of factors associated with HGS is important for the preventive measures of development of sarcopenia.

Objectives

To investigate age related differences in HGS and anthropometric indices and associations between HGS and anthropometric measures in women.

Methods

A cross-sectional study was conducted in Galle with 241 healthy community dwelling women aged 30-80 years. HGS (kg) of dominant hand was measured using a hand held dynamometer. Weight, height, body mass index (BMI), skin-fold thickness (SFT) over triceps (TCP) and left iliac (LIC) were measured. ANOVA with post hoc significance was used to compare the 10-year age group differences. Associations between HGS and each anthropometric index were determined by Pearson correlation (r). Step forward multiple regression (MR) analysis was fitted with HGS as dependent variable and all measured anthropometric indices and age as independent variables.

Results

Mean (SD) of age and HGS of study sample were 56.21 (11.30) years and 12.01 (5.22) kg respectively. HGS and all anthropometric measures, except SFT-LIC were significantly different between 10-year age groups (For trend, all $p < 0.001$ and SFT-TCP, $p < 0.05$). Post hoc test for HGS showed that age groups between 1-4, 1-5, 2-4 and 2-5 differed significantly (All $p < 0.001$). HGS showed significant negative correlation with age ($r = -0.48$, $p < 0.001$). Except SFT-LIC, HGS showed positive correlations with all anthropometric indices measured with (r) range 0.17- 0.34 (All $p < 0.05$). In MR analysis, age ($\beta = -0.28$, $p < 0.001$) and weight ($\beta = 0.21$, $p < 0.05$) emerged as significant predictors of HGS.

Conclusions

HGS showed significant negative association with advancing age. Age and weight emerged as strongest predictors for HGS whereas SFT showed non-significant or lowest association with HGS and age in women.

PP 57

Sperm parameters in men investigated for infertility with history of exposure to environmental and occupational toxicants and tobacco smoking

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Background

Environmental or occupational exposure to toxicants and tobacco smoking are harmful to semen parameters and results in poor semen quality.

Objectives

The study aimed to determine the association between environmental and/or occupational exposure to toxicants, tobacco smoking and semen parameters of men investigated for infertility.

Methods

Male partners (n=150) of couples attending the infertility clinic of Colombo South Teaching Hospital were recruited after obtaining written informed consent. Demographic and data on smoking and exposures were collected using an interviewer administered questionnaire. Males (a) living in areas < 50m from main road or from an industry known to be harmful (b) exposed to hazardous substances in welding, painting, printing and agriculture (c) riding a motor bicycle > 40km/day or three wheel drivers were categorized as exposed (one or more of the above) and the rest were included in non-exposed group. Seminal fluid analysis was performed according to WHO guidelines. The two groups were compared using descriptive statistics, independent sample t-test, and Pearson correlation.

Results

The mean (SD) age of men was 35 (±7) years and mean duration of infertility was 4.89 (±3.00) years. All sperm parameters were normal in 61.3% (n=92). Out of 150 men, 30% (n=45) were current smokers and 59.3% (n=89) were exposed to toxicants through environmental or occupational sources. The means of the sperm concentration, total motility, normal morphology and viability were significantly lower in current smokers compared to non-smokers (p<0.01). Men who were exposed to toxicants had significantly lower total motility, normal morphology, and viability compared to non-exposed (p<0.01).

Conclusions

The mean sperm concentration, total motility, normal morphology and viability were significantly lower in current smokers compared to non-smokers. Exposure to toxicants through environmental or occupational sources reduced sperm total motility, normal morphology and viability when compared to those who were not exposed.

Acknowledgement

PP 58

The impact of compassionate love in marital satisfaction among married couples between the ages of 25-60 years in Kandy district, Sri Lanka

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Background

Compassionate Love is an important factor contributing to marital satisfaction among married couples. Compassionate love and marital satisfaction simultaneously play a major role at different stages of marital life. The different stages are the early years of marriage, marriage and midlife years, and marriage and later life. Each stage has challenges and compassionate love helps to balance the challenges and lead to marital satisfaction.

Objectives

This research examines the impact of compassionate love in marital satisfaction among couples in the early years, middle years, and later years of marriage.

Methods

This is a cross sectional descriptive study. The ethical approval was obtained from the Ethics Review Committee of KIU. A sample of 242 married couples was selected through convenient sampling and they completed the Compassionate Love Scale for Specific Close Other and ENRICH Marital Satisfaction Scale. Both the scales have a high reliability of 0.09 and 0.86 respectively and have convergent validity. The responses of the married couples were recorded individually and linear regression analysis was carried out.

Results

The sample population was selected from Kandy district and it included couples in the early years of marriage (54.1%), middle years of marriage (28.1%) and later years of marriage (17.8%). The linear regression test result revealed that there is a significant relationship between compassionate love and marital satisfaction in the early years, midlife years, and later life of marriage (p = 0.000, p = 0.027, p = 0.019 respectively).

Conclusions

According to the result, compassionate love positively impacts marital satisfaction in the three different stages of marital life. Thus, the research will make a difference in the targeted sample by providing support for the success of marital life.

PP 59

The influence of personality traits on the type of sport selected among undergraduates, Sri Lanka

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Background

Understanding introversion and extraversion is a key aspect to understanding personality, yet it is less understood within the sport psychology setting; especially in the Sri Lankan context. The study further describes the extensive literature that has explored and associated various personality attributes with athletic success.

Objective

Paying attention to the contrast of individual and team sports, the research aimed to investigate the relationship between personality traits (Introversion/Extraversion) and the type of sport selected (Team/Individual) among athletes in the Colombo region of Sri Lanka.

Methods

The study was descriptive cross-sectional in design and a sample of undergraduate athletes (n=378) were recruited via snowball sampling from selected universities; both state (n=144) and non-state (n=234) universities. A pre-tested questionnaire based on the Big Five personality inventory's Extraversion-Introversion domain was used to collect data and the same was distributed via online platforms. Data was analysed using SPSS 21 software.

Results

The results of an independent sample T-test revealed the statement of significance as 0.139 ($p > 0.05$), which suggested that there is no significant variation between introversion and extraversion related to sport selection.

Conclusions

The analysis did not find results suggestive of a significant relationship, suggesting that those playing individual sports were not more likely to be introverted than those engaged in team sports.

PP 60

Physical activity participation among community re-integrated army veterans following lower limb amputation in Sri Lanka

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Background

Physical inactivity is a modifiable risk factor for non-communicable diseases which is a leading health issue worldwide. Amputation and associated secondary disabilities lead to reduced physical activity (PA) levels among people with lower limb amputation (LLA). However, PA participation among LLA population in Sri Lanka is unknown.

Objectives

To identify the PA participation among community re-integrated army veterans following lower limb amputation in Sri Lanka.

Methods

A comparative cross-sectional study was conducted in five districts of Sri Lanka. Level of PA was assessed for community re-integrated army veterans with LLA (group 1, n=85) using the International Physical Activity Questionnaire (IPAQ). PA was defined as metabolic equivalent of task (MET)/minutes/week and computed for walking, moderate-intensity, and vigorous-intensity activities across four main domains: work, transport, domestic and garden, and leisure. Level of PA was classified as very active, sufficiently active, or sedentary based on total MET/minutes/week. This assessment was repeated with a group of age and sex matched normal healthy individuals (group 2, n=85).

Results

All the participants were males, age ranging from 30 to 60 years. Group 1 participants had undergone amputation >10 years ago (Mean±SD: 21.7±5.9). Total PA score was significantly lower in group 1 [Median (IQR):1913.6 (515.8-3506.9)] compared to group 2 [Median (IQR): 4857.3 (1008.4-8296.1)], (p<0.05). PA participation in walking, moderate-intensity, vigorous-intensity activities were lower in group 1 compared to group 2 with a significant difference in walking and vigorous-intensity activities (p<0.05). Thirty-four (40%) in the group 1 were classified as "sedentary" compared to 10 (11.8%) in group 2 (p<0.05).

Conclusions

PA participation is insufficient in majority of the veterans with LLA, and lower compared to healthy counterparts. Veterans mostly engaged in moderate-intensity and domestic and garden related physical activities. These findings may guide development and implementation of physical rehabilitation interventions for this population.

Acknowledgement

PP 61

Characteristics of self-medication among adults during the COVID-19 pandemic

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Background

Self-medication (SM) helps to prevent and mitigate minor medical conditions that do not require medical consultation. However, incorrect use may negatively impact despite the advances. Safe and effective drug usage is important and exploration of the characteristics of SM is vital to improve community health.

Objectives

The study was aimed to identify the characteristics of self-medication among adults during the COVID-19 pandemic

Methods

A web-based descriptive cross-sectional study was conducted among 186 adults in Sri Lanka from January to March 2022. The convenience sampling method was used. A pre-tested, self-administered web-based questionnaire was circulated through online platforms to collect data. Data were analyzed by using SPSS version 25 and the study was approved by ERC of the Medical Research Institute, Sri Lanka.

Results

Mean age of participants was 34.33 ± 9.21 years. The majority was female 68.28%, educated above the ordinary level (G.C.E O/L) (87.64%), and employed (90.71%). Among participants, 43.86% represent the health sector. The practice of SM was mainly observed with the use of over-the-counter drugs (OTC) without reason (14.71%), purchasing prescription-only drugs without a prescription (40.33%), usage or re-usage of previously prescribed drugs (45.71%), sharing medications 31.42% and using drugs for self-diagnosed disease or symptoms 56.59%. Headache (68.82%), cough/ cold/ flu (43.01%), gastritis related complains (33.87%) and fever (30.65%) were more common indications for SM. Pharmacy (75.81%), hospitals (36.56%), and preserved old drug packs (19.35%) were the common sources of drugs. Common information sources of SM are professional knowledge (40.32%), pharmacists, and the internet (39.25%).

Conclusions

SM practice is common despite the level of education status and occupational category. SM was common for headache, fever, respiratory and gastrointestinal tract-related medical complaints. While pharmacy is the main drug source, pharmacists, the internet, and academic knowledge are the main information sources of SM.

ABSTRACTS OF CASE REPORTS

PP 62

Rosai-Dorfman disease: clinically presenting as a lymphoma

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Introduction

Rosai-Dorfman disease (RDD) is a rare benign histiocytic disorder of unknown etiology, characterized by cervical lymphadenopathy, commonly seen in children and young adults. Typical manifestations of RDD include painless lymphadenopathy accompanied by fever, and elevated erythrocyte sedimentation rate (ESR).

Case report

A 23-year-old male presented with slowly enlarging right cervical lymph node for 3 months with low grade fever, without night sweats or weight loss. Examination revealed bilateral cervical lymphadenopathy without hepato-splenomegaly. Haemoglobin was 13.5 gm/dL and ESR was 75 mm/hour. FNA was done on cervical lymph node and revealed a polymorphous lymphoid infiltrate consisting of lymphocytes, plasma cells, centrocytes and centroblasts. Scattered large cells with abundant eosinophilic cytoplasm with vesicular nuclei and engulfed lymphocytes within cytoplasm noted (emperipolesis). These findings were consistent with Rosai-Dorfman disease. Histology of the lymph node (1.3x1.5cm) revealed distended sinuses with prominent population of histiocytes showing emperipolesis. No atypical cells noted. IHC to S100 protein showed strong diffuse positivity of histiocytes which further confirmed the diagnosis.

Discussion

The differential diagnosis of RDD includes lymphoma, malignant histiocytosis, disseminated tuberculosis, and Langerhans cell histiocytosis. The phenomenon of emperipolesis is central in differentiating RDD as the rest of these diseases fail to exhibit lymphophagocytosis.

Conclusion

Rosai-Dorfman disease is a rare condition which often mimics malignant neoplasms. Awareness of this lesion and its benign self-limiting course, will reduce unnecessary interventions to the patient.

PP 63

A rare case of squamous metaplasia in papillary carcinoma of thyroid

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Introduction

Squamous metaplasia (SM) in the thyroid gland is rare and seen with neoplastic lesions such as mucoepidermoid carcinoma, squamous cell carcinoma, papillary thyroid carcinoma (PTC) and nonneoplastic lesions like Hashimoto's thyroiditis.

Case report

A 29-year-old female, presented with a thyroid swelling of 6 months associated with cervical lymphadenopathy. Ultrasound scan of the neck revealed a suspicious nodule in the right midzone. Cytology revealed a papillary carcinoma of thyroid. She underwent total thyroidectomy and cervical lymphadenectomy. There was a solid nodule in the right mid zone of the thyroid measuring 20x12x8mm, abutting the deep resection margin. Microscopy showed a classical variant PTC with abrupt transition to a squamous component. The squamous component accounted for 20% of the tumor and was composed of variably-sized nests of squamous cells with no atypia. No diffuse sclerosis or psammoma bodies were noted. Focal lymphocytic thyroiditis was present in the background. Cervical lymph nodes had metastatic deposits of papillary carcinoma, with no squamous metaplasia.

Discussion

Focal or extensive SM in PTC is rarely encountered and represents an important diagnostic pitfall and challenge for the histopathologist. It can be misinterpreted as squamous cell carcinoma (SCC) or anaplastic carcinoma with squamous differentiation. SM is mostly seen in diffuse sclerosing and cribriform morular variants of PTC and is rare in classical variant. Absence of cytological atypia in the squamous component is essential for the diagnosis of SM.

Conclusion

In view of therapeutic implications of the various differential diagnoses, awareness of this lesion will help pathologists to make an accurate diagnosis.

PP 64

A massive thyroid lymphoma with compressive symptoms; a case report

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Introduction

Thyroid lymphomas are rare, and differentiating these from other thyroid malignancies is essential as further management of these takes a different route than the latter. Here we present a case of a massive goitrous thyroid lymphoma which was treated surgically due to local compressive symptoms.

Case report

A 63-year-old female patient with a 20-year history of uninvestigated thyroid enlargement presented with compressive symptoms due to a massive grade four goitre which was rapidly enlarging recently. She was clinically and biochemically hypothyroid with a TSH of 45.81μIU/ml. Although uninvestigated before, the history was suggestive of Hashimoto's thyroiditis. Fine needle aspiration cytology revealed Non-Hodgkin lymphoma. Contrast-enhanced computed tomography revealed massive enlargement of the gland suggestive of Non-Hodgkin lymphoma replacing normal thyroid tissue compressing the trachea. No splenomegaly or lymph node enlargement was noted elsewhere. A bone marrow biopsy was done for further staging. Total thyroidectomy was done with uneventful perioperative and postoperative periods. Histopathology report revealed specimen dimensions of the right, left lobes and isthmus measured 12×10×8cm, 10×7×5cm and 5×3×3cm respectively with a specimen weight of 600g. Histologically thyroid gland was diffusely infiltrated with lymphoid tissue consisting of small lymphocytes with irregular nuclei, medium size lymphoid cells with prominent nucleoli and few plasma cells. Conclusion was Non-Hodgkin lymphoma of the thyroid more likely of B-cell extranodal marginal zone type. Immunohistochemical analysis was not performed due to financial constraints.

Discussion

Although the mainstay of thyroid lymphoma management is oncological and non-surgical, an individualized approach may be needed to alleviate symptoms due to large goitres. As chronic autoimmune thyroiditis is a strong risk factor for thyroid lymphoma, patients with Hashimoto's thyroiditis should be screened for thyroid lymphoma.

PP 65

Two cases of mucormycosis presenting as severe facial pain

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Introduction

Mucormycosis is a fulminant angio-invasive fungal infection that can infect several parts of the body, especially sinuses. It can occur in immunocompromised patients such as uncontrolled diabetes, renal failure, patients with leukaemia and other malignancies. We reported two cases of mucormycosis affecting paranasal sinuses.

Case report

First case is a 53-year-old male patient presented with right sided facial pain for 8 months duration that did not respond to simple analgesics. It was an intermittent dull pain involving right upper tooth. The patient was a diabetic with a poor glycaemic control over the past few months and was on insulin. CT-brain revealed mucosal disease involving para-nasal sinuses.

Second case is a 40-year-old female patient with diabetes, thalassemia trait and dyslipidaemia. COVID-19 PCR test was positive on admission. This patient came with two days history of right side facial pain following tooth extraction. Right side maxillary antrostomy and necrotic debris removal were done.

Both cases revealed numerous thick ribbon like non-septate fungal hyphae branching at 90 degree angle in a background of necrotic debris. Grocott's methenamine silver stain highlighted fungal hyphae and some blood vessels showing angio-invasive foci.

Discussion

These patients were initially treated with intravenous antibiotics until the histological diagnosis made. However, intravenous Amphotericin B continued for 60 days. Despite of antifungal treatment the repeat CECT brain of the first case revealed enhancing lesion in right temporal lobe possibly a cerebral extension of the mucormycosis. Further evaluation with MRI brain is planned. Poor glycaemic control, COVID-19 associated lymphopenia, immunocompromised state could be the contributing factors for mucormycosis in these patients.

Mucormycosis is a rapidly progressing, angioinvasive fungal infection that needs early diagnosis and prompt management. Histological diagnosis is very important in the patient management.

PP 66

Unresolving rare case of adrenal histoplasmosis leading to Addison's disease

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Introduction

Addison's disease (AD) is an endocrine disorder where inadequate production of adrenal cortical hormones occurs due to destruction of adrenal cortical cells. We report a rare case of primary adrenal insufficiency due to histoplasmosis infection.

Case Report

This is a 47-years-old man who is a diagnosed patient with diabetes and hypertension. He was investigated for severe loss of appetite, loss of weight, abdominal pain and hyperpigmentation of skin five years back. His glycaemic control with metformin was good. Despite the reduction of metformin doses loss of appetite persisted. All the basic investigations were normal including bone marrow biopsy and retroviral studies. The initial USS abdomen revealed bilateral hypoechoic supra renal masses. CECT-abdomen showed right and left well defined ovoid masses 5.2x4.2x4.9 cm and 6.8x3.9x4.2 cm in size respectively. US guided biopsies taken from both masses revealed necrotic tissues and numerous fungal organisms. Special stain with Grocott- Methenamine silver highlighted round to oval histoplasma yeast forms. Culture

for fungi is not performed. He was diagnosed as having Addison's disease due to histoplasmosis infection and started on itracanazole antifungal treatment in 2017. He has been admitted to hospital with several episodes of addisonian crisis. Adrenal mass biopsies were taken three times earlier to assess the response to treatment. The recent fourth biopsy also showed fungal organisms. Possibility of tuberculosis, lymphoma and disseminated malignancy were excluded in this patient.

Discussion

Addison's disease is an endocrine disorder which is caused by adrenal cortical insufficiency. Fungal infections like histoplasmosis are a rare cause of Addison's disease. Adrenal gland involvement of histoplasmosis leading to adrenal insufficiency is a rare incidence in the literature. Adrenal gland is the commonest site of involvement in disseminated histoplasmosis. It is thought that lipid rich adrenal glucocorticoid cells and the paucity of reticuloendothelial cells in the adrenal gland contributing to this scenario. The poor response to treatment could be due to drug resistance or poor glycaemic control.

PP 67

Diagnosis of treatable eatiologies for peripheral neuropathy in sural nerve biopsy: two case reports

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Introduction

Causes for peripheral neuropathy are many. If diagnosed early, some of them can be treated before it hampers locomotion. We report two cases of tuberculoid leprosy and vasculitic neuropathy.

Case report

One case was a 56-year-old female patient with right calf pain and numbness for one-month duration. The ultrasound scan suggested a neuroma of the sural nerve. Microscopic examination of the excised specimen revealed multiple non-necrotizing, well-formed granulomata composed of epithelioid histiocytes, Langerhan type multinucleated giant cells and lymphocytes within the perineurium and epineurium involving and destroying parts of the axons. Although modified Ziehl-Neelson stain for acid fast bacilli was negative, granulomatous neuritis suggestive of tuberculoid leprosy was diagnosed. The patient improved with treatment.

The second case was a 47-year-old female recently diagnosed to have sero-positive rheumatoid arthritis, and who was investigated for pyrexia of unknown origin and limb numbness. The nerve conduction study showed patchy demyelinating polyneuropathy. Sural nerve biopsy specimen showed bundles of nerve fibers infiltrated by lymphocytes without granulomata formation. The perineural blood vessels showed moderate lymphocytic cell infiltrate with vessel wall disruption and vascular congestion. Luxol fast blue and Gomori trichrome special stains showed loss of myelin. This was diagnosed as vasculitic neuropathy. Neuropathy did not show remarkable recovery with treatment although joint pain subsided.

Discussion and Conclusion

There are many pathological conditions affecting nerves which can present as peripheral neuropathy. Careful histopathological evaluation with high degree of suspicion for the underlying cause is very helpful in the diagnosis as some of these are completely treatable.

PP 68

An extremely rare cause of dyspnoea in adulthood; Morgagni type congenital diaphragmatic hernia

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Introduction

Congenital diaphragmatic hernia (CDH) denotes herniation of intra-abdominal contents through a defect in diaphragm into thoracic cavity. Majority of CDH occur in left side posterolateral part of diaphragm in males during neonatal period and presents with respiratory distress.

Case report

A 53-year-old female presented with rapidly worsening dyspnoea and bilateral ankle swelling for 3 days. She denied symptoms suggestive of left ventricular failure, cough, chest pain, trauma to chest or past history of breathlessness. Plethora was absent. She had bilateral gross ankle oedema. There was no evidence of deep vein thrombosis (DVT). Respiratory rate was 25/minute. Oxygen saturation was 62%. A dull percussion note with absent breath sounds were noted in right lung base. Pulse rate and blood pressure were 110 bpm and 110/80 mmHg. Jugular venous pressure was raised. Arterial blood gas analysis revealed a type 2 respiratory failure with partially compensated acute on chronic respiratory acidosis. Bi-level positive airway pressure (Bi-PAP) ventilation was commenced. Chest radiograph revealed an indistinct right diaphragmatic border above which a soft tissue mass and a gas filled area was noted. Computed tomography (CT) revealed herniation of transverse colon and right lobe of liver into right hemithorax via a defect in anterolateral portion of right diaphragm. Venous duplex of lower limbs excluded DVT. CT pulmonary angiography revealed bilateral segmental pulmonary embolism with evidence of pulmonary hypertension (PH). Ejection fraction and transpulmonary pressure gradient were 50% and 70 mmHg, respectively. Autoimmune and thrombophilic screenings were negative. She was diagnosed to have Morgagni type CDH complicated with type-2 respiratory failure, precipitated by pulmonary thromboembolism. Anticoagulation was commenced. Diaphragmatic repair was deferred until completion of anticoagulation.

Discussion

We report the first case of Morgagni type CDH, presenting in adult life due to respiratory failure precipitated by pulmonary thromboembolism. Anticoagulation and management of respiratory distress, prior to surgical repair is mandatory.

PP 69

Lamotrigine and Sodium valproate induced Stevens–Johnson syndrome; a case report

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Introduction

Lamotrigine is a second generation anti-epileptic medication, which is effective in treating both partial and generalized seizures and it is also used as a mood stabilizer. Skin rash is a recognized adverse effect of lamotrigine. However, most of them are benign and mild skin reactions. Combined use of lamotrigine and Sodium valproate is known to cause severe cutaneous reactions, such as Stevens–Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN).

Case Report

A 19-year-old boy, who was diagnosed with epilepsy for 3 years, on Sodium valproate, presented with painful red eyes, oral ulcers, bleeding lips, diffuse erythematous rash over bilateral upper and lower limbs along with high grade fever (102.40F) with chills for 3 days duration. He was recently started on lamotrigine while continuing Sodium valproate due to breakthrough seizures despite good compliance. Onset of symptoms was one week after starting lamotrigine. On examination, he had multiple ill-defined erythematous skin rashes with target lesions, conjunctivitis and oral mucosal involvement. He was diagnosed to have SJS, induced by the combined use of lamotrigine and valproic acid regimen and was successfully treated with supportive management and steroids.

Discussion

Use of anti-epileptic polytherapy leads to more potential pharmacokinetic and pharmacodynamic interactions compared to monotherapy. Valproate is known to augment lamotrigine availability via reduced glucuronidation, causing severe immune mediated cutaneous adverse reactions like SJS and TEN. Lower starting dose of lamotrigine and slower dose escalations are recommended in patients who are taking valproate to minimize lamotrigine induced adverse reactions.

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