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Aims and scope

The *Journal of the Ceylon College of Physicians (JCCP)* is a forum for debate, education and entertainment for health professionals interested in clinical medicine, and provides a source for updating knowledge on medical developments and research worldwide. The *Journal* is aimed at practicing physicians with commitments and interests in Sri Lanka and has relevance to all those working in the health sector. The *Journal's* prime responsibility is to the members of the Ceylon College of Physicians (CCP) and its objective is to promote good clinical practice and influence health policy planning in Sri Lanka and across the medical world through peer reviewed original research and other forms of communications fostering responsible and balanced debate on current issues that affect medicine and health care. Contributions to the *JCCP* reflect its national and multidisciplinary readership and include current thinking across a range of medical specialties. The *Journal* assists the College in its continuing medical education programme.

While members of the CCP receive the *JCCP* as one of the benefits of membership, the *Journal* has full editorial independence.

Contents
Oral Presentations

Poster Presentations

PP01- Impulsive Control Disorder Among Parkinson Patients in Sri Lanka

PP02 - Post-Stroke Epilepsy in a Sri Lankan Tertiary Care Centre

PP03 - Stroke in Old Age in a Tertiary Care Centre

PP04 - Factors Influencing Achievement of Target Blood Pressure in Adult Patients Followed up in a Tertiary Care Hospital in Sri Lanka

PP05 - Patterns of Intentional Medication Overdose During the COVID Pandemic: A Retrospective Cross Sectional Study in a Single Medical Unit, National Hospital of Sri Lanka

PP06 - Presentation of Allergies to Local Fruits at an Immunology Clinic in Sri Lanka

PP07 - Impact of Economic Crisis on Providing Health Care Services and Patient Outcomes in General Medicine Units of National Hospital of Sri Lanka

PP08 -Prevalence of Multimorbidity in a Community Setting: a Descriptive Cross-Sectional Survey in Western Province, Sri Lanka

PP09 - Prevalence of Dyslipidaemia and its Implications Among University Students at the University of Peradeniya, Sri Lanka

PP10 - Socio-Demographic Characteristics and Glycaemic Control of patients with Type 2 Diabetes Mellitus (T2DM) Patients Attending the National Hospital of Sri Lanka

PP11 - Prevalence of Metabolic Syndrome and Diabetes in an Urban Slum Area and Semi Urban Area, Colombo

PP12 - Relationship Between Maximal Muscle Power and Visceral Adipose Tissue in Healthy Individuals and in Those with Metabolic Disease

PP13 - Prevalence of Hypoglycaemia Among Patients with Diabetes who Drive and Ride

PP14 - Prescribing Patterns of Antibiotics for Common Infections at a Tertiary Care Setting in Southern Sri Lanka

PP15 - Temporal Patterns of Intentional Medication Overdose During Socioeconomic Crises: a Retrospective Cross Sectional Study From a Single Unit At a Tertiary Care Centre in Sri Lanka

PP16 - Effect of Clinical Pharmacy Intervention on the Resolution of Drug Related Problems in Haemodialysis Patients in Sri Lanka

PP17 - An Audit of Prescriptions of Pre-intern Medical Graduates in Sri Lanka

PP18 - Audit and Re-Audit of Knowledge, Attitudes and Practices of Medical Officers in Monitoring for Toxicity of Disease Modifying Anti Rheumatoid Drugs (DMARDs) in the Clinic Set-up in a Tertiary Care Hospital in Sri Lanka

PP19 - Audit on Post-Acute Coronary Syndrome LDL Target Achievement: A Multi Centre Study

PP20 - Compliance with the Commonly Practiced Clinical Guidelines in the Management of Diabetes Mellitus in Pregnancy and the Neonatal and Maternal Outcomes Among Pregnant Women Attending District General Hospital Vavuniya, Sri Lanka

PP21 - Pattern of Microbial Cultures and Antimicrobial Profile in Surgical Intensive Care Unit at National Hospital Sri Lanka

PP22 - Clinical and Angiographic Pattern of Coronary Artery Disease in a Sri Lankan Population

PP23 - Pattern of Blood Stream Infections at a Tertiary Care Setting in Southern Sri Lanka

PP24 - Prevalence of Respiratory Virus during Post-COVID19 era in Patients in Sri Lanka

PP25 - Meningoencephalitis: Experience of a Single Unit in a Tertiary Care Hospital

PP26 - Neuroleptospirosis among Patients with Primary Central Nervous System Infections: Preliminary Analysis of a Multicentre Study

PP27 - Clinical Characteristics of Onset of Critical Phase in Dengue Hemorrhagic Fever

PP28 - Mapping the Distribution of Cancer Patients Seropositive for Toxoplasma Gondii Antibodies: A Study Conducted at the National Cancer Institute, Maharagama

Oral Presentations

OP 01

EFFICACY OF CARDIOVASCULAR DISEASE RISK PREDICTION USING MACHINE LEARNING COMPARED TO WORLD HEALTH ORGANIZATION RISK CHARTS, BASED ON DATA DERIVED FROM A PROSPECTIVE COHORT OF SRI LANKANS

Mettananda C[1], Solangaarachchige MB[2], Haddela PS[2], Dassanayake AS[1], Kasturiratne A[1], Wickramasinghe AR[1], de Silva HJ[1]

[1] Faculty of Medicine, University of Kelaniya, Sri Lanka, [2] Faculty of Computing, Sri Lanka Institute of Information Technology, Malabe, Sri Lanka

Introduction and objectives

Models derived from non-Sri Lankan cohorts are currently being used for cardiovascular risk stratification of Sri Lankans. Our aim was to develop a CV risk prediction model using machine learning (ML) based on data from a cohort in Sri Lanka followed up for 10 years, and to compare these predictions with World Health Organization (WHO) risk charts.

Methods

Using 10-year follow-up data from 2596 Sri Lankans without CV diseases at baseline, we developed two ML models for predicting 10-year CV risk based on all available variables (n=75) and 6 conventional CV risk variables (age, gender, smoking status, systolic blood pressure, history of diabetes, and total cholesterol level). The ML models were derived using classification algorithms of the supervised learning technique. We compared the predictive performance of our models with WHO risk charts (2019, Southeast Asia) using area under the receiver operating characteristic curves (AUC-ROC).

Results

The baseline cohort consisted of individuals aged 40-64 years, selected by stratified random sampling from a semi-urban health administrative area in Sri Lanka, in 2007. During a 10 year follow up period, 179 incident CV events (CVE) were recorded. The 75-variable and 6-variable models correctly predicted 124 and 125 CVEs respectively using baseline data, while the WHO risk charts predicted only 33 CVEs. Overall, the 75-variable model (AUC: 0.74, CI-0.68-0.80) and 6-variable model (AUC: 0.72, CI-0.66-0.78) improved CV risk prediction compared to WHO risk charts (AUC: 0.55, CI-0.46-0.64).

Conclusions

ML-based models derived from a randomly selected cohort of Sri Lankans improved the accuracy of CV-risk prediction compared to the WHO risk charts.

OP 02

CLINICAL CHARACTERISTICS AND ALLERGEN SENSITIZATION PATTERNS OF ALLERGIC RHINITIS WITHIN A POPULATION IN SRI LANKA

Aberathna IS[1], Ranasinghe T[1], Danasekara S[1], Dissanayake S[2], Malavige GN[1], Jeewandara C[1]

[1] Allergy Immunology and Cell Biology Unit, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka. [2] Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Introduction and objectives

Although there is a significant rise in Allergic Rhinitis (AR) in Sri Lanka, data regarding allergen sensitization patterns and other clinical features of AR are understudied. Therefore, we sought to determine the allergen sensitization patterns in patients with AR in Sri Lanka

Methods

Two hundred and eight patients (103 adults) with AR, referred to our allergy clinic were recruited. The classification of AR was determined using the Allergy Rhinitis Impact on Asthma (ARIA) and sensitization to indoor allergens, (House Dust Mite, Cockroach, Cat, Dog) were tested by Skin Prick Test and ImmunoCap.

Results

The median age of the cohort was 18 years (IQR 1 to 78) and 110/208 were females. 191/208 (91.83%) patients were sensitized to at least one of the tested allergens. The allergen sensitization patterns in patients in order of decreasing frequency were house dust mite 179/208 (91.83%), cockroach 112/208 (53.85%), cat 52/208 (25%), and dog 50/208 (24.04%). Twenty-five (25/208 (12.02%)) were sensitized for all 4 allergens. Eighty-eight (88/208 (42.31%)) had AR daily symptoms, (83/208 (39.9%)) had seasonal AR and 37/208 (17.78%) had symptoms every week. The most prevalent type was moderate severe persistent AR (99/208 (47.56%), followed by moderate severe intermittent AR in 44/208 (21.15%) and mild intermittent AR in 38/208 (18.26%). The least frequent type was mild persistent AR in 27/28 (12.98%).

Conclusion

Sensitization to indoor allergens was seen in most patients with AR. Determining allergen sensitization patterns in patients with AR will help us educate patients regarding environmental modification and further management.

OP 03

MORAL INJURY AMONG MEDICAL OFFICERS PRACTICING IN A TERTIARY HEALTH CARE UNIT IN SRI LANKA

Adikaranayake A M P R[1], Nilaweera A I[1], Perera A N[1], Fernando D R[1], Dissanayake H A[1], Wijayaratne D[1], Katulanda P[1]

[1]Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction and objectives

Provision of quality health care is challenging due to the current economic crisis (EC) in Sri Lanka. Under these circumstances medical officers often suffer from moral injury (MI), the psychological distress resulting from events that are against one's values. The objective of the study was to assess the MI among medical officers who are required to compromise the quality of care due to EC.

Methods

We conducted a descriptive cross-sectional study during August-September 2022. A self-administered questionnaire was used to collect data from medical officers working in general medical wards at the National Hospital of Sri Lanka. Moral injury was assessed by the 10-item Moral Injury Symptom Scale-Healthcare Professionals (MISS-HP) which measures 10 dimensions of MI using a Likert scale ranging from 1 ("strongly disagree") to 10 (strongly agree). A total of ≥36 was considered as clinically significant MI.

Results

Fifty-three medical officers participated: 21(39.6%) intern medical officers (IMOs), 3 (5.7%) non-trainee medical officers (MOs), 27 (50.9%) postgraduate trainees and 2 (3.8%) consultants. Mean MISS-HP score was 47.9% (±13.7), and 43 (81.1%) had a score ≥36 suggesting clinically significant MI. Twenty-five (47.2%) admitted significant distress or impairment of ability to function in relationship, at work, or other areas of life important to them. IMOs more likely to experience distress (66.7%). Guilt (56.6%), shame (45.3%), moral concerns (39.6%) and betrayal were the most affected dimensions.

Conclusions

This study suggests that MI is common among medical officers who have been working in medical wards during the EC. The health system needs to recognize its impacts and take steps to avert MI.

OP 04

EFFECTIVENESS OF OXFORD ASTRAZENECA AND SINOPHARM VACCINES AGAINST CONTRACTING COVID-19 INFECTION, AMONG ADULT POPULATION IN COLOMBO MUNICIPAL COUNCIL (CMC) AREA.

Galappatthy P[1], Assalaarachchi KS[2], Wijayamuni R[1], Arambepola C[2]

[1] Medical Officer of Health, Colombo Municipal Council, Sri Lanka [2] Faculty of Medicine, University of Colombo, Sri Lanka

Introduction

The COVID -19 infection had given rise to a global public health crisis emphasizing the urgent need to develop COVID vaccines to contain the COVID -19 pandemic. Although clinical trials had provided evidence on the efficacy of vaccines that had granted emergency authorization, the vaccine effectiveness for preventing infection in real-life situation in different populations was not well established. The Public Health Department of CMC commenced surveillance for COVID-19 by performing Polymerase Chain Reaction (PCR) in the community to identify infected individuals since the first COVID outbreak in the country. This study was based on these PCR data available at the CMC.

Objectives

To determine the effectiveness of Oxford AstraZeneca (Covishield) and Sinopharm vaccines against contracting COVID-19 infection in the adult population in CMC area.

Methods

A retrospective, test-negative case-control study was conducted using the community PCR data from the 1st of July 2021 to the 31st of December 2021. This study design has the potential to estimate the effectiveness of vaccines against specific diseases and this method has commonly been used in Covid-19 vaccine effectiveness studies. The subjects who tested positive for SARS-Cov-2 virus using real-time PCR were taken as cases and the subjects with negative PCR test results were taken as controls. The odds of contracting the disease according to their vaccine status (unvaccinated/partially vaccinated/fully vaccinated) and the vaccine type (Covishield/Sinopharm) was analyzed using the SPSS software. The vaccine effectiveness was estimated using this formula, Vaccine Effectiveness = 100% (1 – Odds ratio) Data from 8,546 subjects (1,987 cases and 6,559 controls) were included in this study.

Results

Effectiveness after one dose of Sinopharm was 9% (95% CI 5.2-21.2) and Covishield was 26.8% (95% CI 3.2-44.7). Effectiveness after two doses of Sinopharm was 33.1% (95% CI 23.5-41.5) and Covishield was 29.0% (95% CI 16.8-39.3). Those who received Sinopharm had higher PCR positivity, 25.53% (95% CI 24.21-26.89) compared to Covishield, 21.28% (95% CI 19.44-23.21). PCR positivity after a single dose of any vaccine was, 25.02% (95% CI 23.21-26.90) and after two doses was 20.54% (95% CI 19.36-21.76)Highest PCR positivity was in symptomatic sampling, 53.47% (95% CI 46.05-60.79, n=187) compared to contact sampling 26.08% (95%CI 24.65-27.51, n=3,695), and random sampling 19.81% (95% CI 18.68-20.98, n=4,664).

PCR positivity increased with age (p=0.0001) and was higher among females, 28.16% (95% CI 26.17-30.22) than males, 21.80%, (95% CI 20.81-22.82; p=0.0008). Highest PCR positivity was in Colombo 15, 33.13% (95% CI 29.00-37.47) and lowest 2.04% (95% CI 0.05 to 10.85) was in Colombo 9.

Conclusion

Both vaccines demonstrated low effectiveness against contracting the COVID-19 infection in the CMC area. However, this study cannot be used to comment on vaccine effectiveness against symptomatic disease, severe disease, hospitalization or mortality as this was based on results of community PCR sampling done to identify the COVID-19 infected individuals in the CMC population.

OP 05

THE QUALITY OF LIFE AND ASSOCIATED FACTORS OF STROKE PATIENTS FOLLOWED UP AT MEDICAL CLINICS OF COLOMBO SOUTH TEACHING HOSPITAL

Thilakarathna M I[1], Gunasekera N S[1], Kumarasinghe K K R[1], Yoganathan T[1], Jayaweera S D[1], Bandara H M T M[1], Goonewardena C S E[2], Silva F H D S[3]

[1] Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka. [2]Department of Community Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka [3] Department of Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Introduction and objective

The prevalence of stroke is ever-increasing in lower-middle income countries. It is vital to identify the factors associated with post-stroke quality of life. The objective of the study was to describe the quality of life (QOL) and associated factors of patients with stroke followed up at medical clinics of Colombo South Teaching Hospital (CSTH).

Methods

A descriptive cross-sectional study was conducted among 121 patients with stroke. Systematic random sampling was used to select patients and a pretested interviewer-administered questionnaire and stroke specific quality of life (SS-QOL) tool was used for data collection.

Results

Sixty-one percent (n= 74) were male and majority were married (82.8%). Most of them were unemployed (63.9%, n=77) and were from nuclear families (79.3%, n=96). Majority had good family support (90.1%, n=109). Majority were the principal economic providers of the family (43%, n=52). Almost half the participants (51.2%) had a good quality of life. Most had at least one comorbidity (60%, n=72) and there were more than one post stroke complications (40.2%, n=49). Being unemployed, living in a nuclear family, no post stroke complications and a smaller number of previous stroke attacks had better quality of life (p<0.05). Adequate family support and social support were associated factors among participants who led to a good post-stroke quality of life (p<0.05).

Conclusion:

Majority of patients had a good quality of life. Most of the patients had multiple comorbidities. The study also strengthened the phenomenon of good QOL with higher levels of support from home and society.

OP 06

THE CLINICAL AND GENETIC SPECTRUM OF NEUROGENETIC DISEASES IN A COHORT OF PATIENTS IN SRI LANKA

Gunawardena KW[1], Sirisena ND[1], Hettiarachchi D [1], Anandagoda G[1], Liyanage D[2], Chang T[3], Fernando A[4], Senanayake B[4], Dissanayake VHW[1]

[1] Department of Anatomy, Genetics and Biomedical Informatics, Faculty of Medicine, University of Colombo, Sri Lanka. [2] Neurology Unit, Karapitiya Teaching Hospital, Galle, Sri Lanka [3] Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka. [4] Department of Neurology, Institute of Neurology, National Hospital of Sri Lanka

Introduction and objectives

Next-Generation sequencing based whole exome sequencing (WES) has revolutionized the diagnosis and management of neurogenetic diseases. However, data is lacking in under-represented populations. This study describes the clinical and genetic spectrum of neurogenetic diseases in a cohort of patients in Sri Lanka.

Methods

Data of 70 patients above 14 years with clinically suspected neurogenetic diseases who underwent WES between January/2015 and January/2023 was maintained prospectively and analyzed retrospectively. Exome data was generated using Illumina HiSeq platform with target sequencing coverage of 100X(copy number variations and deep intronic variations were not captured). Patients were categorized based on the predominant phenotype according to clinical presentation.

Results

Mean age was 33.8 years. Majority 57.1%(40/70) were males. Genetic variants were detected in 62.9%(44/70) comprising of 81.8%(36/44) pathogenic /likely pathogenic (P/LP) and 18.2%(8/44) variants of uncertain significance. The diagnostic yield was 51.4%(36/70). The predominant phenotypes, associated genes (P/LP variants) and their respective frequencies were: Myopathy 21.4%(15/70)-*CAPN3*(33.3%,5/15), *RYR1*(6.7%,1/15), *TTN*(6.7%,1/15), *GNE*(6.7%,1/15), *DYSF*(6.7%,1/15), *EMD*(6.7%,1/15); Ataxia 11.4%(8/70)-*ATM*(12.5%,1/8), *ATXN*(12.5%,1/8), *ELOVL5*(12.5%,1/8), *PRNP*(12.5%,1/8), *VPS13D*(12.5%,1/8); Tremor 10%(7/70)-*ATP7B*(42.9%,3/7); Cognitive decline 8.6%(6/70)-*PSEN1*(16.7%,1/6), *NPC1*(16.7%,1/6), *C19ORF12*(16.7%,1/6); Peripheral neuropathy 8.6%(6/70)-*MFN2*(16.7%,1/6), *GARS1*(16.7%,1/6); Atypical parkinsonism 7.1%(5/70)-*ATP7B*(20%,1/5), *SPTBN2*(20%,1/5), *PINK1*(20%,1/5); Cerebral vasculopathy 5.7%(4/70)-*NOTCH3*(50%,2/4), *HTRA1*(25%,1/4); Dystonia 4.3%(3/70)-*TOR1A*(33.3%,1/3), *PANK2*(33.3%,1/3); Chorea 4.3%(3/70)-*VPS13A*(33.3%,1/3); Parkinsonism with dystonia 2.9%(2/70)-*PARK7*(50%,1/2); Spastic paraparesis 2.9%(2/70)-*SPG7*(50%,1/2), *SPAST*(50%,1/2); Congenital myasthenic syndrome 1.4%(1/70)-*COLQ*(100%,1/1). P/LP variants were not detected in the following phenotypes: Spinal muscular atrophy variant 2.9%(2/70); Atypical motor neurone disease 2.9%(2/70); Epilepsy 1.4%(1/70); Episodic encephalopathy 1.4%(1/70); Neurocutaneous disease 1.4%(1/70); Chronic progressive external ophthalmoplegia 1.4%(1/70).

Conclusions

The diagnostic yield was 51.4% emphasizing the utility of WES in genetic confirmation of neurogenetic diseases.

OP 07

STABILITY OF MIRNA-16-5P AND MIRNA-425-5P AS ENDOGENOUS REFERENCE GENES IN PLASMA OF PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM) AND NORMOGLYCAEMIC INDIVIDUALS

Palihaderu PADS[1], Mendis BILM[1], Satharasinghe DA[1], Dissanayake AS[2], Karunanayake P[3], Premarathne JMKJK[4], Rajapakse IH[5], Hapugalle AS[3], Karunarathne WRSA[3], Binendra AGYN[3], Kumara KBPP[6], Dias WKRR[6] , Senarath U[7], Yeap SK[8], Ho WY[9] ,

[1] Department of Basic Veterinary Sciences, Faculty of Veterinary Medicine and Animal Science, University of Peradeniya, Sri Lanka [2] Department of Clinical Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka [3] Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka [4] Department of Livestock and Avian Sciences, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka. [5] Department of Psychiatry, Faculty of Medicine, University of Ruhuna, Sri Lanka [6] Department of North Indian Music, Faculty of Music, University of the Visual and Performing Arts, Sri Lanka [7] Department of Community Medicine, Faculty of Medicine, University of Colombo, Sri Lanka [8] China-ASEAN College of Marine Sciences, Xiamen University Malaysia [9] Division of Biomedical Sciences, Faculty of Science and Engineering, University of Nottingham, Malaysia

Introduction

MicroRNA are small noncoding RNAs which post-transcriptionally modulate gene expressions related to onset and progression of diseases. Under or overexpression of some miRNA profiles have been used as non-invasive biomarkers to identify specific diseases. This process requires identification of other miRNAs that are stable, i.e., reference genes. Reference genes are used to normalize the experimental variabilities in miRNA profiling. MiR-16-5p and miR-425-5p were used as reference genes previously for cancer and. Studies on the stability of these genes in T2DM and normoglycemic individuals are scarce. The study explores stability of miR-16-5p and miR-425-5p expressions in the plasma of both patients with T2DM and normoglycemic individuals.

Methodology

Venous blood of patients with T2DM (N=11) and normoglycaemic individuals (N=20) were extracted. RNA was extracted from separated non-hemolyzed plasma. Only plasma with ≤ 0.2 absorbances from Nanodrop 2000 spectrophotometer was selected as non-hemolyzed. In-house designed primers were used for the analysis of miRNA expression in a Real-time PCR. The stability was analyzed using geNorm algorithm in CFX Maestro Software that measure average expression stability value (M-value) (M value<0.5; ideal, 0.5 <M-value>1; acceptable, M-value>1; unstable).

Results

The M values for patients with T2DM and normoglycaemic individuals were both less than one. The mentioned miRNAs were more stable within patients with T2DM (M =0.78) than the normoglycaemic individuals (M=0.91).

Conclusion

The two genes were stable in both populations and more stable in patients with T2DM. Hence these two genes can be used as reference genes by future research to identify genetic biomarkers for onset and progression of T2DM.

Acknowledgment

OP 08

RELATIONSHIP BETWEEN CARDIOVASCULAR ENDURANCE, INFLAMMATORY BIOMARKERS AND METABOLIC BIOMARKERS

Gunasinghe D N[1], Ranasinghe D C[2], Harvie M J A[1] Perera H S L[1], Jayamali J[1], Malavige G N[1], Jeewandara C K[1]

[1] Allergy, Immunology and Cell Biology unit, Department of Immunology and Molecular medicine, University of Sri Jayewardenepura, Sri Lanka. [2] Centre for Sport and Exercise Medicine, Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka.

Introduction and objectives

As higher physical fitness levels are linked to reduced metabolic diseases occurrence, we further sought to understand the association of physical fitness and activity levels, with inflammatory cytokines, and lipid profiles in a Sri Lankan cohort.

Methods

Physical measurements, lipid profiles, adiponectin, IL-1β and IL-6, levels were assessed in 114 individuals (mean age 38±9.8 years). Physical activity levels were measured with international physical activity questionnaire and cardiovascular endurance (VO2 max) was measured using cardiopulmonary exercise testing which is the gold standard method. Based on metabolic profiles, individuals were classified as having metabolic syndrome (MetS) (N=37), healthy (N=26) or if they had one risk factor as intermediate (N=51).

Results

Median physical activity score (MET-minutes) in MetS was 747 (IQR 100-1472), intermediates 1004 (IQR 143.8-1881) and healthy 2192 (IQR 843.8-5275), which was statistically significant (p=0.02). Median VO2 peak (ml/kg/min) in MetS was 29.45 (IQR 26.1-40.4), which was lower than in intermediates, 28.3 (IQR 23.55-35.15) and in healthy 38.2 (IQR 25.6-47.33), although statistically insignificant. Physical activity score positively correlated with HDL (Spearman's R=0.33, P=0.002) and IL-6 (Spearman's R=0.39, p=0.008), while inversely correlating with triglycerides (Spearman's R=-0.22, p=0.049) and total cholesterol/HDL (Spearman's R=-0.25, P=0.02). VO2 peak positively correlated with HDL (Spearman's R=0.61, p= <0.0001) while inversely correlating with total cholesterol/HDL (Spearman's R=-0.3929, p=0.0001) and waist: hip ratio (Spearman's R=-0.2683, p=0.02) and BMI (P=0.0105). IL6 positively correlated with BMI (Spearman's R=0.21, p=0.04).

Conclusion

Physical activity and cardiovascular endurance inversely correlated with metabolic and inflammatory markers, emphasizing their potential role in managing and reducing the metabolic syndrome occurrence.

OP 09

SELECTED OBESITY-RELATED NON-COMMUNICABLE DISEASES (NCD'S) AND KNOWLEDGE ON NCD'S AMONG BUDDHIST MONKS AND LAY PEOPLE IN COLOMBO DISTRICT, SRI LANKA

Abeyratne VS[1], De Zoysa NP[1],Kapuwella I[1],Thrimadura RD[1],Weerasooriya SD[1] ,Senaratna CV[2], Perera PPR[3]

[1] Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.[2] Department of Community Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.[3] Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Introduction and objectives

A cross sectional comparative study to compare the prevalence of selected obesity related NCDs and knowledge on NCDs among Buddhist monks and lay people.

Methods

A sample of 160 laymen and male Buddhist monks aged 18-60, with 80 in each group, was chosen, ensuring age matching within ± 5 years. Data was collected via an interview administered questionnaire. Marks for knowledge were converted to a percentage where <60%=poor. Chi-square was used to analyse the data.

Results

In comparison with Buddhist monks and laypeople, percentages previously known with hypertension, diabetes, coronary heart disease and cerebrovascular disease were 11.3%(n=9): 23.8%(n=19),17.5%(n=14):23.8%(n=19),6.3%(n=5):10%(n=8) and 1.3%(n=1):2.5%(n=2) respectively. Mean ($\pm$SD) knowledge on hypertension, coronary artery disease, cerebrovascular disease and overall knowledge of laypeople [63% ($\pm$20.3), 68.4% ($\pm$20.3), 64% ($\pm$ 23.9) and 68.47% ($\pm$16.10) respectively] was higher than Buddhist monks [53% ($\pm$25.1), 58.8% ($\pm$20.7), 52.5% ($\pm$25.6) and 61.4% ($\pm$16.352) respectively]. Among laypeople who were educated up to advanced level, only 56.3%(n=27) had good knowledge on selected NCDs while 84.4%(n=27) of those educated more than advanced level had good knowledge.

Conclusion

Among selected NCDs, only knowledge of hypertension was notably higher in laypeople than in Buddhist monks (p=0.037). Laypeople exhibited significantly greater awareness of hypertension, coronary artery disease, cerebrovascular disease and overall knowledge compared to Buddhist monks (p=0.007, p=0.003, p=0.004 and p=0.007 respectively). A significant increase in knowledge of selected NCDs was present among laypeople based on their education level (p=0.009).

OP 10

CONTROL OF CARDIOMETABOLIC RISK FACTORS AND THEIR ASSOCIATION WITH CAROTID INTIMA MEDIA THICKNESS AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS

De Zoysa PDWD[1], Weerarathna TP[1], Lekamwasam S[1], Kodikara I[1], Wasana KGP[3], Fonseka L[1]

[1]Department of Medicine, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka
[2] Department of Anatomy, Faculty of Medicine, University of Ruhuna, Galle, [3] Diabetes Centre, Cooperative Hospital, Galle, Sri Lanka

Introduction and objectives
Type 2 diabetes mellitus (T2DM) is closely linked with atherosclerotic cardiovascular diseases (ASCVD). We aimed to describe the degree of ASCVD risk factor control and their association with carotid intima media thickness (CIMT) in T2DM patients.

Methods
We analyzed 300 T2DM patients for CIMT and nonalcoholic steatohepatitis (NASH) ultrasonically. CIMT and its associations with modifiable cardiometabolic risk factors were examined. Recommended optimal targets of risk factors were defined as glycated hemoglobin (HbA$_{1C}$) <7 %, absence of NASH, albumin creatinine ratio (ACR) <30 mg, triglyceride <150 mg/dL, low density lipoprotein cholesterol (LDL-C) <100 mg/dL, high density lipoprotein cholesterol (HDL-C) in men >40 mg/dL and in women >50 mg/dL, systolic blood pressure (SBP) <130 mmHg, and diastolic blood pressure (DBP) <80 mmHg.

Results
SBP, DBP, LDL-C, triglyceride, HDL-C, HbA$_{1C}$, and ACR were optimally controlled in 59.3, 75.0, 46.7, 84.3, 46.0, 33.0, and 18.7% of patients, respectively. Nearly half of the study subjects hadn't NASH. Only three patients (1%) had achieved all therapeutic targets. There were statistically significant differences in CIMT between optimally controlled triglyceride and sub-optimally controlled triglyceride group (p=0.027) and between the groups with and without NASH (p=0.045) when adjusted for age and duration of diabetes. CIMT showed significant and positive associations with LDL-C (p=0.024), triglyceride (p=0.026), and NASH (p=0.005).

Conclusions
The majority of patients have not met the recommended ASCVD risk factor targets and are at high risk of ASCVD. Attempts must be made to identify reasons for not achieving the treatment targets and thereby reduce ASCVD burden by controlling LDL-C, triglyceride, and NASH.

OP 11

DESCRIPTIVE STUDY ON UTILIZATION OF GUIDELINE-DIRECTED MEDICAL THERAPY AMONG PATIENTS WITH HEART FAILURE WITH REDUCED EJECTION FRACTION ON FOLLOW UP AT A TERTIARY CARE HOSPITAL IN SRI LANKA

Wathurapatha W S[1], Matthias A T[2], Indrakumar J I[2]

[1]Colombo South Teaching Hospital, Sri Lanka [2] Department of Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka

Introduction

Guideline-directed medical therapy (GDMT) is recommended as first-line treatment for patients with heart failure with reduced ejection fraction (HFrEF) to reduce mortality and hospitalization. Angiotensin converting enzyme inhibitors (ACEI) or angiotensin receprtor-neprilysin inhibitor (ARNI) or Angiotensin Receptor Blocker (ARB), beta-blockers (BB)-carvedilol/ bisoprolol/ metoprolol succinate, mineralocorticoid receptor antagonist (MRA) and sodium-glucose co-transporter2 inhibitors (SGLT2I) - empagliflozin/ dapagliflozin. GDMT is often underutilized and dosing is suboptimal.

Methods

A descriptive study enrolled 400 HFrEF patients from cardiology and medical clinics at a tertiary care hospital. Utilization of each GDMT drug class, adherence to guideline-recommended doses, and reasons for suboptimal treatment were assessed using patient records.

Results

Mean EF was 34%, with 70% of patients presenting with NYHA class II or III symptoms. Percentages of patients on each GDMT drug class were as follows: ACEI/ARNI (56.6%), ACEI/ARNI/ARB (83.6%), BB (72.5%), MRA (61.8%), and SGLT2I (7.4%). All GDMT drug classes were prescribed to only 4% of patients, and at least three out of four drug classes were prescribed to 43%. Unexplained reasons for not prescribing/withholding medications were seen in 9% for ACEI/ARNI/ARB, 14.5% for BBs, and 33% for MRAs. Among patients not on SGLT2Is (92.6%), only 2.2% had contraindications/intolerance, while 59.8% had not been offered to buy it despite affordability. Guideline-recommended dose achievement was low: ACEI/ARNI (11%), BBs (8%), MRAs (3%), and SGLT2Is (87%), even after ≥ 3 months of diagnosis. At least 50% of recommended dosage was achieved in 43% for ACEI/ARNI, 40% for BBs, 78% for MRAs, and 97% for SGLT2Is. Cardiology clinic patients were more likely to receive GDMT than medical clinic patients ($p < 0.05$).

Conclusions

Underutilization and suboptimal dosing of GDMT were observed in HFrEF patients. Interventions, such as specialized HF clinics, are needed to improve GDMT utilization and dosing, ultimately reducing mortality and morbidity

OP 12

DIVERSITY OF PHARMACOGENOMIC VARIANTS AFFECTING THE EFFICACY, METABOLISM AND TOXICITY OF STATINS IN A SOUTH ASIAN POPULATION FROM SRI LANKA

Ariadurai JN[1], Thuwaragesh V[1], Thilakarathne KMDGS[1], Ranasinghe P[2], Sirisena ND[3], Anandagoda G[3], Dissanayake VHWD[3]

[1] Faculty of Medicine, University of Colombo, Sri Lanka, [2] Department of Pharmacology, Faculty of Medicine, University of Colombo, Sri Lanka, [3] Department of Anatomy, Genetics and Biomedical Informatics, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction and objectives

Statins are lipid-lowering medications used for the prevention of atherosclerotic cardiovascular disease. Pharmacological effects of statins are influenced by genetic variants which contribute to the inter-individual variability in their clinical response. Sri Lankan prescription guidelines are primarily adapted from Western countries, with genetically distinct populations. Therefore, the present study aimed to identify the diversity of pharmacogenetic variants of statins in Sri Lanka.

Methods

Pharmacogenomic data regarding variant-statin pairs (which included atorvastatin, fluvastatin, lovastatin, pitavastatin, pravastatin, rosuvastatin and simvastatin) of genes *SLCO1B1*, *CYP2C9*, *ABCG2*, *APOE* and *KIF6* with clinical annotations labelled as evidence levels 1A to 2B were obtained from the Pharmacogenomics Knowledgebase database. Their frequencies in Sri Lankans were obtained from an anonymized exome database that was derived from 426 Sri Lankans. Minor allele frequencies (MAF) of these variants were calculated and compared with other populations.

Results

MAF of *SLCO1B1*5* (rs4149056) variant was 18.19% (95% CI:14.53-21.85). MAFs of *CYP2C9*2* (rs1799853) and *CYP2C9*3* (rs1057910) variants were 2.25% (95% CI:0.80-3.70) and 10.38% (95% CI:7.50-13.50), respectively. MAFs of *ABCG2* variant rs2231142, *APOE* variant rs7412 and *KIF6* variant rs20455 were 10.68% (95% CI:7.76-13.60), 3.52% (95% CI:1.77-5.27) and 50.7% (95% CI:45.96-55.45), respectively. Compared with Western and other Asian populations, the frequencies of rs20455, *CYP2C9*3* and *SLCO1B1*5* variants were significantly higher in Sri Lankans.

Conclusions

The results suggest that Sri Lankans are more likely to exhibit a favourable clinical response to lower doses of statins (rs20455, *CYP2C9*3*), while simultaneously exposing them to a higher risk of statin induced myotoxicity (*SLCO1B1*5*, *CYP2C9*3*), compared to Western and other Asian populations.

OP 13

IMPACT OF CLNICAL PHARMACY INTERVENTIONS ON MANAGEMENT OUTCOMES IN END-STAGE RENAL DISEASE PATIENTS ON HAEMODIALYSIS WITH CHRONIC KIDNEY DISEASE - A RANDOMISED CONTROL STUDY

Kalpani A.G.S[1,2], Jayamanne S.F[1,2], Hough J.E[2,3], Mohamed F [2,3]

[1] Department of Medicine, Faculty of Medicine, University of Kelaniya, Sri Lanka[2] Collaboration of Australian and Sri Lankans for Pharmacy Practice Education and Research (CASSPER), Brisbane, Australia. [3] Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka

Introduction and objectives

Patients undergoing haemodialysis with chronic kidney disease (CKD) have a heavy medication burden with multiple comorbidities. The appropriateness of medications and medication adherence are crucial aspects in optimising management outcomes for patients undergoing haemodialysis. The study was carried out to evaluate the impact of clinical pharmacy interventions on quality use of medicines and management outcomes in patients undergoing haemodialysis with CKD.

Methodology

A randomised controlled study was conducted at the three outpatient HD Units in North-Central Province. The intervention group (IG) received a comprehensive clinical pharmacy intervention whereas the control group (CG) only received standard clinical care. Appropriateness of prescribing were assessed at post-intervention using the Medication Appropriateness Index. Patient medication adherence was assessed using Brief Medication Questionnaire (BMQ) and biochemical investigations were carried out at recruitment and 12-months after recruitment.

Results

Eligible patients (n=283) were randomised and baseline characteristics were similar between IG (n=143) and CG (n=140). The median number of appropriate medications in IG was significantly higher compared to CG, ($p<0.0001$). IG had significantly better median medication knowledge scores compared to the CG ($p<0.0001$) post-intervention. The median BMQ score in IG is significantly lower compared to the CG ($p<0.0001$) indicating higher medication adherence in IG. Significant improvement in the median serum phosphate ($p<0.0001$), calcium ($p<0.0001$), haemoglobin ($p<0.0001$) and total cholesterol levels ($p=0.0086$) were noted in IG compared to CG at post-intervention.

Conclusions

Comprehensive clinical pharmacy intervention led to improved appropriateness of medications and improved medication knowledge and adherence, and better management outcomes in patients on haemodialysis.

OP 14

ROLE OF SERUM FERRITIN AS AN EARLY PREDICTOR OF DENGUE INFECTION PROGRESSING TO CRITICAL ILLNESS

Mettananda C[1], Perera K[1], Rooshan N[1], Nayanajith M[1], Thewage A[1] Premaratne R[1], Dassanayake A[1], Pathmeswaran A[1], Mettananda S[1]

[1] Faculty of Medicine, University of Kelaniya, Sri Lanka

Background

Early predictors of severe dengue are important for early identification and management of critical illness. We aimed to identify the role of serum ferritin as an early predictor of severe dengue.

Methods

An observational study was conducted using all patients with confirmed dengue infection admitted to three private-sector hospitals in Gampaha district from March 2022 to June 2023. Data on symptoms, signs, and investigations were collected prospectively by pre-intern medical graduates. Patients entering the critical phase and hence dengue haemorrhagic fever (DHF) were defined based on evidence of fluid leakage. Associations of serum ferritin levels collected on day 3 and 4 of illness to the development of DHF was assessed using logistic regression and its prediction to severe illness was determined using receiver operating characteristic (ROC) curves.

Results

A total of 166 patients; adults 103 (male 56.6%, mean age 37.6 SD16.14 years), children 53 (male 53.8%, mean age 6.5 SD3.51 years) were studied. Adults 42 (37.2%) and children 6 (11.3%) progressed to DHF. Rising serum ferritin on day 3 (p=0.019) and day 4(p=0.034) were significantly associated with DHF in both adults and children. Rising alanine aminotransferase above baseline on day 3(p=0.024) or day 4(p=0.019) from baseline was significantly associated with DHF in adults. Serum ferritin >450 ng/mL on day 3 (sensitivity 0.74; Specificity 0.77) or >500 ng/mL on day 4 (Sensitivity 0.84; Specificity 0.53) were predictive of dengue infection progressing to DHF.

Conclusion

Serum ferritin on days 3 or 4 appears to be a reliable predictor of dengue infection progressing to DHF.

Poster Presentations

PP 01

IMPULSIVE CONTROL DISORDER AMONG PARKINSON PATIENTS IN SRI LANKA

Wickramarachchi UI[2], Wijayawardhana KWSM[1], Herath HMTB[3], Chathurika R[4], Senanayake S[3], Senanayake B[3]

[1]Department of Anatomy, Faculty of Medicine, University of Kelaniya, Sri Lanka [2]Accident and Emergency Department, DGH Gampaha, Sri Lanka [3] Neurology Department, National Hospital of Sri Lanka [4] Department of Pathology, School of Medical Sciences, UNSW Sydney, NSW, Australia

Introduction and objectives

Impulsivity is a predisposition to rapid, unplanned reactions to stimuli without any regard to the negative consequences in which a person fails to resist the drive. Impulsive Control Disorders (ICD) occur more commonly among patients with Parkinson disease than in the general public. Dopamine replacement therapies used in treating Parkinson disease have been associated with ICD. We aimed to determine the prevalence of ICD In patients with Parkinson disease in Sri Lanka and to determine the factors affecting ICD.

Methods

This is a descriptive cross-sectional study with an interviewer-administered questionnaire for patients diagnosed with Parkinson disease attending the neurology clinic at NHSL for 1 year duration June 2022 to June 2023. Patients diagnosed with psychiatric illness were excluded.

Results

Of the 192 patients, majority were males (58.3%; n=112). Mean age of the population was 64.09±8.69 years. 92.7 % (n=178) were married. 78.6 % (n=151) had secondary education. 82.3 % (n=158) rated as Parkinson had impact on employment and earning capacity. Mean age of onset of Parkinson disease was 59.5±9.87 years. Mean duration of Parkinson disease was 4.62±4.25 years. Prevalence of ICD was 17.2 % (n=33). ICDs identified were walkabout(10.4%,n=20), eating (8.3%,n=16), hobbyism (4.7%,n=9), buying (4.2%,n=8),gambling and sex (1.6%,n=3), punding (1%,n=2) and compulsive medical usage(0.5%,n=1). Only 1 patient (n=0.5) had was aware of condition called ICD.

Of the patients with ICD, 93.9 % (n=31) were on Syndopa and 60.6% (n=20) were on Ropinirole with mean dose 961±444mg and 1.5±0.5mg respectively. There was no statistically significant correlation with ICD with regard to dose and duration of Syndopa and Ropinirole.

Conclusions

This study provides insights into the prevalence of ICDs among Parkinson disease patients in Sri Lanka and highlights the importance of addressing this in clinical practice.

PP 02

POST-STROKE EPILEPSY IN A TERTIARY CARE CENTRE IN SRI LANKA

Rathugamage H S[1], Pathirana P K C J[1], Priyanimesha L B N[1], Chandrasiri G M J[2], Jayawardena M C K[2], Nandasiri A S D[2], Mettananda K C D[1], Pathmeswaran A[1], Ranawaka U K[1,2]

[1] Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka [2] Colombo North Teaching Hospital, Ragama, Sri Lanka

Introduction and objectives

Post-stroke epilepsy (PSE) is a life-threatening complication of stroke. There is limited data on PSE from South Asia, and no data in patients in Sri Lanka. We sought to evaluate the prevalence and characteristics of PSE in a tertiary care hospital in Sri Lanka.

Methods

Data of a prospective cohort of patients with stroke attending the stroke clinic of a tertiary care center over 9 months (October 2022–June 2023) were analysed. PSE was defined as seizures after 7 days of stroke onset according to international criteria. Data on demographic features, stroke characteristics, seizure characteristics, treatment and functional outcomes were obtained using interviewer-administered questionnaires. Descriptive analysis was performed using IBM SPSS version 22.

Results

Out of 274 patients followed up, 11 patients (4.0%) had PSE [81.8% males; median age 55. Of them, majority had ischemic (81.8%) and cortical (90.9%) strokes. Main aetiological factor was cardio-embolic (66.7%) in ischemic strokes, and 33.3% received intravenous thrombolysis. 36.4% had severe strokes (NIHSS score >14), 9.1% had acute symptomatic seizures, 54.5% had complications and 90.9% severe disability on discharge (mRS 3-5).

Majority (66.7%) had the first seizure >12 months after onset of stroke (median 16 months, range 5-76) 85.5% were started on antiepileptic drugs (AEDs) with first episode, 72.7% are managed with one AED, and phenytoin is the most widely used (50%).

Conclusion

To our knowledge, this is the first data on PSE from Sri Lanka. Prevalence of PSE in our study was similar to published data. Majority had ischaemic strokes, cortical involvement, severe strokes and severe disability.

PP 03

STROKE IN OLD AGE IN A TERTIARY CARE CENTRE

Pathirana PKCJ[1], Rathugamage HS[1], Priyanimesha LBN[1], Dharmasena NPHN[2], Premathilake WNCJ[2], Nandasiri ASD[2], Mettananda KCD[1], Pathmeswaran A[1], Ranawaka UK[1,2]

[1] Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka, [2] Colombo North Teaching Hospital, Ragama, Sri Lanka

Introduction and objectives

Stroke characteristics, risk factors, aetiology and outcomes are different in old age. However, data on stroke in old age is limited, especially from South Asian countries. There is no data on stroke in old age from Sri Lanka. We sought to describe stroke characteristics and outcome in older adults in a Sri Lankan cohort.

Methods

We studied all patients with stroke admitted to a tertiary care centre over 3 years. Data on demographic features, presentation, risk factors, stroke subtypes, treatment received, severity of stroke and functional outcome were obtained using interviewer administered questionnaire.

Results

1014 patients were studied [59.1% males, mean age (SD) 63.2y (12.1), 80.9% ischaemic stroke]. Age distribution- <65y-50.2%; 65-80y-43.9%; >80y-5.9%. The proportion of females increased with age [<65y-34.4%, 65-80y-45.6%, >80y-61.7%]. Atrial fibrillation (p=0.002), smoking (p<0.001), alcohol use (p<0.001), previous TIA (p<0.001), and family history of stroke (p<0.001) were commoner in old age.

Severity of stroke was higher in older patients [admission NIHSS score >14: <65y-19.4%, 65-80y-20.9 %,> 65y-22.5, p=0.032]. Older patients had more functional disability and higher mortality: admission modified Rankin Scale (mRS) 3-5: p<0.001; admission Barthel index (BI): ≤60: 79.8%, p=0.013; discharge mRS 3-5: p<0.001, discharge BI ≤60: p<0.001: in-hospital mortality p<0.001. On multivariate analysis, older age was independently associated with severity of stroke and poor functional outcome.

Conclusion

Older patients had more severe strokes, more disability, and higher mortality. Females were over-represented in older age groups. These are the first data on stroke in old age from Sri Lanka and would be useful in healthcare planning.

PP 04

FACTORS INFLUENCING ACHIEVEMENT OF TARGET BLOOD PRESSURE IN ADULT PATIENTS FOLLOWED UP IN A TERTIARY CARE HOSPITAL IN SRI LANKA

Jayarathna NPMW[2], Kodithuwakku PH[1], Pathirathna ML[3], Ralapanawa U[4], Kariyawasam AP[5]

[1] Department of Parasitology, Faculty of Medicine and Allied Sciences, Rajarata University, Sri Lanka [2] Department of Physiology, Faculty of Medicine, University of Peradeniya, Sri Lanka [3] Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka [4] Department of Medicine, Faculty of Medicine, University of Peradeniya, Sri Lanka [5]Department of Physiology, Faculty of Medicine, University of Peradeniya, Sri Lanka

Introduction and objectives

Poorly controlled blood pressure (BP) leads to high morbidity and mortality, yet the causes are still not well understood. The aim of the study was to evaluate the factors influencing achievement of target BP in adult patients presenting to a tertiary care hospital in Sri Lanka.

Methods

A descriptive cross-sectional study was conducted by recruiting 315 patients from the hypertension clinic, Teaching Hospital, Peradeniya, using systematic sampling. Data was collected through an interviewer administered questionnaire. Univariate and multivariate binary logistic regression tests were performed to determine the associations.

Results

There were 113 (35.9%) males and 202 (64.1%) females. Nearly 48% (151) had poorly controlled BP. Mean systolic and diastolic BP were 141.8 ± 17.6mmHg/ 82 ± 10mmHg respectively. Majority of government workers (57.9%), daily labourers (61.5%), patients having hypertension >10 years (52.7%) and poor adherence to regular follow up (54%) had uncontrolled BP. The most common comorbidity was diabetes mellitus (n=91,28.9%). Nearly 56% did not know the desired BP value. Number of antihypertensive drug classes ($\beta= -0.456$, OR = 0.63, p<0.005), being a private sector employer ($\beta=1.614$, OR=5.02, p=0.032), presence of diabetes mellitus ($\beta= -0.714$, OR=0.49, p=0.015), heart diseases ($\beta=0.757$, OR=0.47, p=0.024) and arthritis ($\beta= -0.705$, OR=0.50, p=0.038), changing their clinic or physician during the previous year ($\beta=-0.676$, OR=0.50, p=0.029) were positively associated with achieving target blood pressure.

Conclusions

In this clinical setting, only 50% of patients achieved target BP. Providing better health education about hypertension, its control, prevention, and medication adherence will help control BP status.

PP 05

PATTERNS OF INTENTIONAL MEDICATION OVERDOSE DURING THE COVID PANDEMIC: A RETROSPECTIVE CROSS SECTIONAL STUDY IN A SINGLE MEDICAL UNIT, NATIONAL HOSPITAL OF SRI LANKA

Ruwanpathirana PS[1], Vidanapathirana MN[1], Ariadurai JN[2], Wijesena VM[2], Gnanathasan CA[1,2]

[1]Professorial Unit in Medicine, National Hospital of Sri Lanka. [2]Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction and objectives

COVID pandemic and the social distancing measures undertaken affected adversely on the mental health of certain parts of the population. However, access to medication and healthcare was concomitantly affected. We studied the patterns of intentional medication overdose during the year 2020, with regards to the socio-demography, background mental health and the medications used.

Methods

Details of all the patients admitted with intentional medication overdose during the year 2020, to the professorial unit in medicine, National Hospital of Sri Lanka was collected from the admission registry. A sample of 50% from the total number were selected, using sequential sampling. The medical records of the patients were accessed and data extracted to a database.

Results

Sixty-four patients have admitted with intentional medication overdose in the year 2020. Of the 33 patients selected, 81.8% (n=27) were females; while the rest were males. The average age of female patients was 22.6 years (range: 15 – 44, (SD) - 7.1) while the male patients had an average age of 43 years (range: 23 – 69, SD- 20.1). Majority were unmarried (n=19, 57.6%). Only 24.2% (n=8) had a diagnosed psychiatric illness and in 81.8% (n=27) the overdoses were impulsive. Sixty-four (n=21) percent had used only a single medication. The commonest medication overdosed was paracetamol (n=19, 38%) followed by psychotropic medicines. Fifteen percent (n=5) developed single organ injury while 3% (n=1) developed multi-organ injury. No mortalities were recorded.

Conclusions

Young females presenting with paracetamol overdose was the commonest pattern of medication overdose observed in 2020, although the medications used varied markedly.

PP 06

PRESENTATION OF ALLERGIES TO LOCAL FRUITS AT AN IMMUNOLOGY CLINIC IN SRI LANKA

Ranasinghe TND[1], Aberathna AMIS[1], Jayamali MPDJ[1], Chathurangika PH[1], Malavige GN[1], Jeewandara JMKC[1].

[1] Allergy, Immunology and Cell Biology Unit, Department of Immunology and Molecular Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka

Introduction and objectives

There is very limited data in Sri Lanka on the most frequent type of fruit allergens that give rise to allergies. Therefore, we sought to investigate the type of fruits leading to allergies in patients at an Immunology referral clinic in Sri Lanka.

Methods

Data was evaluated from 130 patients who presented with a history of allergy to fruits at the Allergy, Immunology and Cell Biology Unit, University of Sri Jayewardenepura clinic. As a part of their management, skin prick testing (SPT) using commercial allergens or fresh fruit itself (prick to prick) was done according to a World Allergy Organization position paper, 2020.

Results

Out of 130 patients with a suspected fruit allergy 79 (60.8%) were female and 84 (64.6%) were adults. 26 (20%) patients reported an episode of anaphylaxis following consumption of the fruit. The most common local fruit varieties suspected to cause allergies were pineapple (79.2%), banana (10%) and mango (9.2%). Of the suspected fruit allergens, 52 (40%) were confirmed by SPT. The most frequent allergens confirmed were, pineapple 32 (61.5%), banana 8 (15.4%), and mango 3 (5.8%). Of these patients 23 presented with suspected multiple fruit allergies, and by SPT 9 (39.1%) were confirmed to have a fruit allergy to one or two fruits.

Conclusions

Local fruit varieties can be causative agents for allergic reactions. Pineapple seems to be the most common allergen. It is important for physicians to be aware of fruit allergy when evaluating patients presenting with food allergies and should refer patients for confirmatory testing and patient education.

PP 07

IMPACT OF ECONOMIC CRISIS ON PROVIDING HEALTH CARE SERVICES AND PATIENT OUTCOMES IN GENERAL MEDICINE UNITS OF NATIONAL HOSPITAL OF SRI LANKA

Nilaweera A I[1], Fernando D R[1] , Adikaranayake A M P R[1], Perera A N[1], Wijesena V M[1], Ariadurai J N[1], Dissanayake H A[1], Wijayaratne D1, Katulanda P[1]

[1] Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka

Objective

We aimed to study the impact of the current economic crisis (EC) on healthcare services in a tertiary care hospital in Colombo.

Methodology

A retrospective study was conducted at the National Hospital Sri Lanka (NHSL), Colombo. Attendance to out-patient department (OPD), new patients in medical clinics, admissions to medical wards, deaths in medical wards, routine laboratory investigations, haemodialysis and coronary angiograms performed, were obtained from hospital records for two times periods: January-May in 2018 and January-May 2022. Median events of interest per month between 2018 and 2022 were compared using Mann-Whitney U test.

Results

Compared to 2018, median monthly attendance to OPD (29067[IQR=2982.5] vs 16022[IQR=5251];p=0.008), new patients on first visit to medical clinics (1463[IQR=253] vs 892[IQR=316];p=0.007), and admissions to medical wards (8077[IQR=1187] vs 6405[IQR=1542]; p=0.028) were reduced in 2022. Number of HbA1c tests (1918[IQR=1416] vs 1247[IQR=311];p=0.007) and total bilirubin tests (16755[IQR=10374] vs 14291[IQR=3381]) tests increased in 2022. Fasting glucose, TSH and Troponin-I did not change and all other routine haematology and biochemistry investigations performed per month in the NHSL decreased in 2022 (p<0.05). Median heamodialysis sessions (1377[IQR=162.5] vs 1062[IQR=161]; p=0.006) and coronary angiograms (852[IQR=355] vs 522[IQR=138]; p=008) performed per month were also reduced. Hospital mortality rates in medical wards were not different (number of deaths per month per 1000 admissions 27.14 in 2018 vs 26.6 in 2022;p=0.54).

Conclusion

After the EC, attendance to medical clinics, OPD and admission to medical wards, number of most laboratory investigations, haemodialysis and coronary angiograms have also reduced at the NHSL. However, in-hospital death rate remained unchanged.

PP 08

PREVALENCE OF MULTIMORBIDITY IN A COMMUNITY SETTING: A DESCRIPTIVE CROSS-SECTIONAL SURVEY IN WESTERN PROVINCE, SRI LANKA

Wijesena V M[1], Ariadurai J N[1], Fernando D R[1], Nilaweera A I[1], Dissanayake H A[1], Wijewickrama E[1], Wickramasinghe P[2], Katulanda P[1]

[1] Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka [2] Department of Paediatrics, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction and objectives

Multimorbidity affects 37% of adults globally. It increases mortality and healthcare expenses. We aimed to determine its prevalence and associations among Sri Lankan adults.

Methods

A descriptive cross-sectional survey was conducted in the Western province of Sri Lanka during 2018-2020. Adults (age > 20 years) were recruited by two-stage stratified random cluster sampling. Data was collected by an interviewer-administered questionnaire, physical examination and laboratory investigations. Multimorbidity was defined as the presence of two or more chronic diseases. Prevalence was estimated after adjusting the weights for the differences in household and cluster-level participation. Univariate logistic regression was used to assess the associations.

Results

Among 1382 of participants (62.8% females, mean age 49.3 [±14.9]), 54.5% had multimorbidity. Two, three and ≥ 4 diseases were prevalent in 23.8%, 16.2% and 15.0% respectively. the commonest chronic diseases were obesity (51.9%), hypertension (39.5%), diabetes (34.9%), dyslipidaemia (26.8%), osteoarthritis (6.7%), ischemic heart disease (4.4%) and depression (3.8%). Prevalence of multimorbidity increased with age (<30 years: 29.9% vs 31-60 years: 53.5% vs >60 years: 72.5%; $p < 0.001$; 31-60 years vs <30 year[OR=4.1,CI:2.5-6.6], >61 years vs <30 years[OR=9.3,CI:5.4-15.8], >61 years vs 31-60 years [OR=2.3,CI:1.5-3.4]), living in urban setting (57.9%) than rural (52.3%) (p =0.028; OR=1.3[CI: 1.02-1.6]) and with lower education level (grade6 up to O/L: 59.9% vs A/L or above: 29.0%; p <0.001). No significant associations with monthly income (<Rs32,000: 35.1% vs Rs32,000-Rs60,000: 30.9% vs >Rs60,000: 34.0%; p=0.377) and sex (male: 36.4%, female: 63.6%; p=0.295)

Conclusions

As far as our knowledge extends, this represents the first community-based study revealing a high prevalence of multimorbidity within the Western province.This emphasizes the need to develop community-level strategies to detect, prevent and manage multi-morbidity.

PP 09

PREVALENCE OF DYSLIPIDAEMIA AND ITS IMPLICATIONS AMONG UNIVERSITY STUDENTS AT THE UNIVERSITY OF PERADENIYA, SRI LANKA

Ralapanawa DMPUK[1], De Silva LANU1, Nandasena HMRK[2], Tennakoon SUB[3], De Silva BR[1], Gamage K[1]

[1] Department of Medicine, Faculty of Medicine, University of Peradeniya, Sri Lanka [2] Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka [3] Faculty of Medicine, University of Peradeniya, Sri Lanka

Introduction

Dyslipidaemia, characterized by abnormal lipid levels, is a significant risk factor for cardiovascular diseases (CVDs). However, limited research has been conducted on the prevalence of dyslipidaemia and its impact on university students in Sri Lanka. This study aimed to assess the prevalence of dyslipidaemia and shed light on its burden among students at the University of Peradeniya.

Objectives

To assess the prevalence and highlight the burden of dyslipidaemia among university students at the University of Peradeniya.

Method

A total of 1371 students were selected using stratified random sampling. Blood samples were obtained to measure lipid levels. The lipid profile was analysed according to the guidelines provided by the American Heart Association (AHA) and the National Cholesterol Education Program (NCEP) guidelines.

Results

The analysis of the lipid profile revealed the following prevalence rates: high triglycerides (14.6%), low levels of high-density lipoprotein (47.7%), high levels of low-density lipoprotein (27.9%) and high total cholesterol levels (21.5%).

Conclusion

The high prevalence of dyslipidaemia among university students emphasizes the need for early detection and intervention in this population. Addressing dyslipidaemia through targeted health promotion strategies, lifestyle modifications, and appropriate medical interventions can help reduce the risk of cardiovascular diseases and related complications. Further research and comprehensive interventions are necessary to effectively manage dyslipidaemia and mitigate the long-term health consequences among university students in Sri Lanka.

PP 10

SOCIO-DEMOGRAPHIC CHARACTERISTICS AND GLYCAEMIC CONTROL OF PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM) ATTENDING THE NATIONAL HOSPITAL OF SRI LANKA

Mendis BILM[1], Palihaderu PADS[1], Dissanayake AS[2], Satharasinghe DA[1], Karunanayake P[3], Premarathne JMKJK[4], Rajapakse IH[5], Hapugalle AS[3], Karunarathne WRSA[3], Binendra AGYN[3], Kumara KBPP[6], Dias WKRR[6] , Senarath U[7], Yeap SK[8], Ho WY[9]

[1] Department of Basic Veterinary Sciences, Faculty of Veterinary Medicine and Animal Science, University of Peradeniya, Peradeniya, Sri Lanka. [2] Department of Clinical Medicine, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka. [3] Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka. [4] Department of Livestock and Avian Sciences, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka, Makandura, Gonawila, Sri Lanka. [5] Department of Psychiatry, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka. [6] Department of North Indian Music, Faculty of Music, University of the Visual and Performing Arts, Colombo, Sri Lanka. [7] Department of Community Medicine, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka [8] China-ASEAN College of Marine Sciences, Xiamen University Malaysia, Sepang, Selangor, Malaysia. [9] Division of Biomedical Sciences, Faculty of Science and Engineering, University of Nottingham Malaysia, Semenyih, Malaysia

Introduction

Type-2 diabetes mellitus (T2DM) is a complex metabolic disease. Deficiencies in drug adherence and healthy lifestyle contribute to sub-optimal care. Hence identification of basic demographic characteristics, lifestyle factors, drug adherence and overall glycaemic control in the current resource-limited context is invaluable for future interventions.

Methods

Consecutive patients diagnosed with T2DM were recruited from the Professorial Medical Unit General Medical Clinic of the National Hospital of Sri Lanka over four months (n=346). HbA1c was assessed using the HPLC technique and medical history was obtained with a structured questionnaire.

Results

Mean age was 59.0 ± 10.1 years, Females were 61%, 96% married, 49% employed, 37% unemployed, 13% retired and 1% clergy. Among the unemployed, 92.2% were housewives. Average duration of T2DM was 9.5 ± 7.8 years and 68.2% had a family history. Symptoms at initial diagnosis were dizziness (9.5%), body weakness (8.0%), weight loss (7.8%), drowsiness (6.9%), continuation of gestational diabetes (2.6%) and incidental detection at medical check-ups (28.6%). Mean HbA1c value was 8.9 ± 0.2 %, 58.1% had a sedentary lifestyle, 35.3% had poor drug adherence missing medication at least once a week. Alcohol users were 37.4% and 24.3% smoked. Hypertension (72.3%) and dyslipidaemia (66.5%) were common comorbidities.

Conclusion

Findings revealed that the control of diabetes was sub-optimal. Sedentary lifestyle, poor drug adherence, concurrent smoking and alcohol consumption compounded the problem.

Hypertension and dyslipidaemia coexisted frequently requiring a multi-pronged approach. Commonest symptoms at diagnosis were not the traditionally accepted polyuria and polydipsia. Medical check-ups was an important source for initial detection.

PP 11

PREVALENCE OF METABOLIC SYNDROME AND DIABETES IN AN URBAN SLUM AREA AND SEMI URBAN AREA, COLOMBO

Danasekara DRSR[1], Jeewandara JMKC[1] ,Jayamali J[1], Chathurangika H[1], Aberathna IS[1], Peranantharajah D[1], Colambage HS[1] , Perera L[1], Randini I[1], Wickramanayake RH[1], Karunananda M[1], Nimasha T[1], Tanussuya S[1], Guruge D[2], Wijayamuni R[2], Jayampathi C[2], Hacker H[3], Ogg GS[4], Malavige GN[1]

[1] Allergy Immunology and Cell Biology Unit, Department of Immunology and Molecular Medicine, University of Sri Jayewardenepura, Sri Lanka [2] Colombo Municipal Council, Colombo, Sri Lanka, [3] Department of Epidemiology, University of Michigan, USA, [4] MRC Human Immunology Unit, MRC Weatherall Institute of Molecular Medicine, University of Oxford, Oxford, United Kingdom.

Introduction

The prevalence of non-communicable diseases is on the rise, leading to cardiovascular disease and stroke, which are the leading causes of death in Sri Lanka. To initiate targeted control programs, it would be important to determine the prevalence of metabolic syndrome (MetS) in urban slum (US) and semi-urban (SU) areas in Colombo.

Methods

1300 participants ages 18 to 80 years were randomly recruited from US (n=694) and SU area (n=606). The fasting blood sugar, lipid profile, blood pressure and anthropometric measurements were taken at the time of recruitment. IDF criteria was used to define metabolic syndrome and diabetes.

Results

The prevalence of MetS was significantly higher (p=0.001) in the US area, 335/694 (48.27%) compared to the SU area, 237/606 (39.11%). 241/606 (39.77%) in the SU and 280/694 (40.34%) in the US area had diabetes, which was not significant (p=0.83). The prevalence of metabolic disease (p <0.001) was significantly higher among females of all age groups compared to males, while there was no difference in the prevalence of diabetes with gender and age (p=0.37). The prevalence of metabolic disease was highest in females aged 51-60 years in US area which was 68/93 (73.11%), and the prevalence of diabetes was highest in females aged 61-70 years, which was 54/73 (73.9%) again in the US area. 146/426 (43.8%) of females in the US were obese (BMI >30) and 283/426 (66.43%) had central obesity.

Conclusion

MetS, diabetes and obesity appears to be a significant problem especially among females in US areas, which requires targeted control programs.

PP 12

RELATIONSHIP BETWEEN MAXIMAL MUSCLE POWER AND VISCERAL ADIPOSE TISSUE IN HEALTHY INDIVIDUALS AND IN THOSE WITH METABOLIC DISEASE

Gunasinghe D N[1], Ranasinghe D C[2], Jayamali J[1], Thashmi H M T[1], Chathurangika P H[1], Malavige G N[1], Jeewandara C K[1]

[1]Allergy, Immunology and Cell Biology unit, Department of Immunology and Molecular medicine, University of Sri Jayewardenepura, Sri Lanka. [2] Centre for Sport and Exercise Medicine, Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka.

Introduction and objectives

Understanding the factors contributing to visceral adipose tissue (VAT) levels provides insights into the prevention of metabolic diseases such as cardiovascular diseases, diabetes, and metabolic syndrome. This study aims to shed light on physical strength and its potential impact on metabolic health.

Methods

Metabolic profiles, anthropometric measures, and apolipoproteins A1 and B, were assessed in 114 individuals (mean age 38 ± 9.8 years). Maximal muscle power (MMP) was assessed using cardiopulmonary exercise testing (CPET) while body composition was assessed by dual-energy x-ray absorptiometry. International Diabetic Federation (IDF) criteria for metabolic syndrome was used to classify those with metabolic syndrome (MetS) (n=37), while those who fulfilled only one or two criteria were classified as intermediate (n=51).

Results

The median values of MMP were significantly lower (p=0.02) in those with MetS 107(IQR 85-153.5), than in healthy 168.5(131.3-217.3) and intermediate 154.5(147-185.8). The VAT was significantly higher (p=<0.0001) in those with MetS compared to intermediate and healthy groups. MMP strongly correlated with apo A1 (Spearman's R=0.43, p=0.001) while inversely correlating with apoB: apoA1 (Spearman's R=-0.39, p=0.02), VAT mass (Spearman's R=-0.3944, p=0.008) and VAT area (Spearman's R=-0.3863, P=0.0096). The lean mass (p=0.0006) was significantly higher in healthy individuals than in MetS and FBS inversely correlated with lean mass (Spearman's R=-0.2, p=0.04) and bone density Z-score (Spearman's R=-0.22, p=0.03).

Conclusion

Higher MMP and lean muscle mass appear to associate with a protective metabolic profile, further contributing to the existing knowledge of the benefit of strength training and physical activity in reducing metabolic disease.

PP 13

PREVALENCE OF HYPOGLYCAEMIA AMONG PATIENTS WITH DIABETES WHO DRIVE AND RIDE

Jayasekera MMPT[1], Senaratne T[2], Lamabadusuriya D[1], Sathischandra H[8], Mattihias AT[3], Jayasekera WMPR[8], HMM Herath[4], De Zoysa PDWD [4], Senaratne G[8], Pathirage M[5], Jayasinghe K[8], Karunaratne S[8], Sudarshan P[8], Sujanitha V[6], Rajaratnam N[8], Wickramasinghe D[8], Umakanth M[7], Ratnayake B[8], Rasnayake L[8], Liyanage R[8], Pushpakumara J[8], Wanigarathne T[8], Siriwardhane P[8], Udayakumara Y[8], Kuruppu KSC[1], Wijesinghe RANK[1]

[1] Faculty of Medicine, General Sir John Kotelawala Defence University, Sri Lanka [2] Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka [3] Faculty of Medicine University of Sri Jayawardenepura, Sri Lanka [4] Faculty of Medicine, University of Ruhuna, Sri Lanka [5] Faculty of Medicine, University of Peradeniya, Sri Lanka [6] Faculty of Medicine, University of Jaffna, Sri Lanka [7] Faculty of Medicine, Eastern University of Sri Lanka. [8] Ministry of Healthcare & Nutrition, Indigenous Medicine, Sri Lanka

Introduction and objectives

Driving and riding are complex processes that require considerable cognitive and physical functions. Hypoglycaemia is a common side effect of insulin and sulfonylurea therapy, impairing many cognitive domains necessary for safe driving and riding. We investigated the prevalence of hypoglycaemia among patients with diabetes mellitus (DM) who drive and ride vehicles.

Methods

A cross-sectional study of patients with DM attending medical clinics in 18 hospitals across Sri Lanka from November 2022 to April 2023 were recruited. Hypoglycaemia was diagnosed by symptoms and capillary blood sugar <70 mg/dL or symptoms alone. Data was collected through an interviewer-administered questionnaire.

Results

There were 485 patients with DM (mean age 56.3+11.8 years (males 85.4%)) who drove and rode. The median duration of their diabetes was 7 (IQR 11) years. There were 217(44.7%) drivers ((light vehicles (162), heavy vehicles (36), three-wheelers (10)) and 268(55.2%) riders (motor bikes 200, pedal cycles 68). A total of 323(66.6%) had experienced at least single episode of hypoglycaemia during the last year. 51(10.5%) of them had experienced hypoglycaemia (14 motor bikers, 9 pedal cyclists, 20 light vehicle drivers, 6 heavy vehicle drivers, and 2 three-wheel drivers) including 14(27.4%) required hospital admissions for hypoglycaemia during driving or riding and all recovered and were discharged within 24-48 hours. The commonest symptoms were dizziness (189(39%)), sweating (226(46.6%)) and blurred vision (154(31.8%)). Majority of them were either on sulphonylurea (285(58.8%)) or insulin (98(20.2%)). Five (1%) had hypoglycaemia following alcohol consumption. None had accidents while driving or riding.

Conclusions

Considerable number (10%) of patients experienced hypoglycaemia while driving and riding. Hypoglycaemia is an important problem that needs to be considered and addressed among drivers and riders with diabetes.

PP 14

PRESCRIBING PATTERNS OF ANTIBIOTICS FOR COMMON INFECTIONS AT A TERTIARY CARE SETTING IN SOUTHERN SRI LANKA

Yasara H W N[1], Jayawardena S D M[1], Wijenayaka D A[1], Piyasiri D L B[2], Jayasekara K[2], Fonseka C L[1], Lekamwasam S[1]

[1]Faculty of Medicine, University of Ruhuna, Sri Lanka [2]Teaching Hospital, Karapitiya, Sri Lanka

Introduction and objectives

Antimicrobial resistance is accelerated by the misuse or overuse of antibiotics. We aimed to study the antibiotic prescribing patterns in hospitalized patients to optimize antibiotic prescriptions.

Methods

Retrospective data were obtained from case notes of patients treated for pneumonia, cellulitis, urinary tract infection (UTI) and sepsis from January 2023 to March 2023, at Teaching Hospital, Karapitiya. The choice of antibiotics and their appropriateness were assessed according to either first or second-line recommendations given in the 'Empirical use of Antimicrobials National Guidelines 2016'.

Results

Mean age (SD) of the patients was 59.7(21.0) years and 60.9% (n=109) were female. Of 179 patients, 22.6% (n=40/179) accounted for cellulitis, 36.3% (n=65/179) for UTI, 35.8% (n=64/179) for pneumonia, and 5.6% (n=10/179) for sepsis. Adherence to recommended empirical antibiotic therapy was seen in 22.5% (n=9/40), 53.8% (n=35/65), 71.9% (n=46/64) and 80% (n=8/10) respectively, for cellulitis, UTI, pneumonia and sepsis. Non-adherence to the recommended empirical choice was due to the use of antibiotic combinations or broader spectrum antibiotics. Non-adherence to the recommended empirical choice was highest among patients with cellulitis. Overall, combinations of empirical antibiotics were used in 61.7% (n=50/81) among non-adherent patients. Escalation to broader spectrum antibiotic therapy was seen in 25% (n=10/40), 6.2% (n=4/65), 26.6% (n=17/64) and 60% (n=6/10) respectively for cellulitis, UTI, pneumonia and sepsis. Among the patients with comorbidities, 23.4% (26/111) required escalation.

Conclusions

Non-adherence to the national guidelines for empirical antibiotic use was observed in nearly half of the patients due to the use of combination or broader spectrum antibiotics. Significant numbers of patients with co-morbidities required escalation of therapy. Antibiotic stewardship, updated guidance towards empirical antibiotic selection and escalation of therapy is a timely need.

PP 15

TEMPORAL PATTERNS OF INTENTIONAL MEDICATION OVERDOSE DURING SOCIOECONOMIC CRISES: A RETROSPECTIVE CROSS SECTIONAL STUDY FROM A SINGLE UNIT AT A TERTIARY CARE CENTRE IN SRI LANKA

Vidanapathirana M N[1], Ruwanpathirana PS[1], Gnanathasan CA[1], Ariadurai JN[1], Wijesena KLGVM[1]

[1] Professorial Medical Unit, National Hospital of Sri Lanka

Background

The incidence of intentional medication overdose (IMO), a form of deliberate self-harm may be affected by the presiding socioeconomic climate. Although global data does not show an impact of the COVID-19 pandemic on rates of IMO, there is insufficient data from low-middle income countries, including Sri Lanka.

Objective

This study aimed to describe the temporal patterns of IMO during three notable socioeconomic periods in Sri Lanka: pre-crises (01.01.2018-31.12.2019), COVID-19 pandemic (01.01.2020-31.12.2021) and economic crisis (01.01.2022-31.12.2022).

Methods

A standard data extraction sheet was used on all patients that presented with IMO to the Professorial Medical Unit of the National Hospital of Sri Lanka from 2018-2022. Patients who had ingested recreational drugs and agrochemicals were excluded. Descriptive statistics were used to calculate annual hospital admission rates of IMO during these periods.

Results

Between 2018- 2022, 365 individuals (60.3% female,) presented to the Professorial Medical Unit with IMO. There were 140 admissions with IMO in the pre-crises era (57.9% females), 163 during the COVID-19 pandemic (67.5% females) and 60 during the economic crisis (55.4% females). Compared to the pre-crises era, there was a 16.42% rise and a 14.2% drop in the annual rates of IMO during the COVID-19 and economic crises, respectively (p=0.2). The rate ratios for male vs female during these periods were 0.72, 0.55 and 0.88 respectively.

Conclusion

There was no significant difference in the rates of hospital admissions with IMO during the periods of socioeconomic crises included in this study. However, a persistent female preponderance was maintained through these periods, an important observation in terms of risk reduction.

PP 16

EFFECT OF CLINICAL PHARMACY INTERVENTION ON THE RESOLUTION OF DRUG RELATED PROBLEMS IN HAEMODIALYSIS PATIENTS IN SRI LANKA

Kalpani A.G.S[1,2], Mohamed F [2,3,] Hough J.E[2,3],Jayamanne S.F[1,2]

[1] Department of Medicine, Faculty of Medicine, University of Kelaniya, Sri Lanka.[2] Collaboration of Australian and Sri Lankans for Pharmacy Practice Education and Research (CASSPER), Brisbane, Australia. [3] Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka

Introduction and objective

Patients undergoing haemodialysis have a high risk of drug-related problems (DRPs). Pharmacists can play a key role in identifying and resolving DRPs. The present study was conducted to assess the effect of intervention of clinical pharmacy on resolution of DRPs in patients with End Stage Renal Disease (ESRD) undergoing haemodialysis in Sri Lanka.

Method

The study was conducted as a part of a randomized-controlled trial at outpatient haemodialysis units of Teaching Hospital Anuradhapura and District General Hospital Polonnaruwa. A total of 283 patients on haemodialysis were randomly recruited and DRPs were identified by a trained clinical pharmacist (CP) by reviewing the clinic records, drug charts and structured interviews with patients or caregivers. The identified DRPs were categorized using the Pharmaceutical Care Network Europe classification system V.08, which includes eight causes related to Prescribing, Dispensing and Usage. The identified DRPs were communicated to resolve with the relevant healthcare professional or patients only for the intervention group (IG). The resolution of DRPs was assessed as recommendations of the CP and were implemented accordingly.

Results

A total of 1350 Drug-Related Problems (DRPs) were identified in 283 individuals across both groups, with an average of 4.77 DRPs per case. A total number of 767 DRPs were identified in the IG (n=143), with a total of 874 causes for those DRPs comprising mainly, 'prescriber-related' (53.1%) 'patient-related' (25.8%), and 'dispensing-related" (17.1%). The resolution rate for 'prescriber-related' was 77.3%, 'patient-related' was 84.4%, and 'dispensing-related' DRPs was 93%. In addition, 84.1% of communicated DRPs received prescriber feedback either verbally or in writing.

Conclusions

Significant opportunities exist for pharmacists' input to optimise drug therapy in patients with ESRD undergoing haemodialysis. The input of clinical pharmacists resulted in a high level of resolution of DRPs in patients with ESRD undergoing haemodialysis in the Sri Lankan government hospital setting. This demonstrates the importance of integrating the clinical pharmacist to the multidisciplinary team.

PP 17

AN AUDIT OF PRESCRIPTIONS OF PRE-INTERN MEDICAL GRADUATES OF SRI LANKA

Chamila Mettananda[1], Mahawattage S[1], Mettananda S[1]

[1] Faculty of Medicine, University of Kelaniya, Sri Lanka

Introduction and objectives

A good prescription reduces medication errors. We aimed to audit prescriptions of pre-intern medical graduates (PIMG) of Sri Lanka.

Method

We conducted an audit of prescriptions of PIMG who the attended the "Pre-intern training program" (n=406) on 19th May 2023 and completed the audit cycle with a re-audit of prescriptions of all PIMG in 3 steps. Data was collected using Google Forms. Step-1; We invited all who attended the training to prescribe one drug for a given case history. Step-2; We delivered a lecture on "Basics of prescription" and taught them the basic 7 components needed in a prescription and later invited them to write a prescription for the same case history. Step-3; Invited all PIMG in to write a prescription for a different case history a week later. We audited all prescriptions against the seven essential information of a prescription (patient-identification, date, dose, route, frequency, duration, and prescriber-identification) and four essential information of a medicine (dose, route, frequency, duration). Prescriptions were considered complete when all seven components were correctly mentioned.

Results

156 PIMG participated in stage-1. Of the prescriptions, 57(36.5%) were complete with all seven essential information while 84(79.8%) had all four essential information of the medicine but missing the rest.

35 PIMG participated in step-2. Of the prescriptions, 19(54.3%) were complete and 27(77.1%) had essentials of the medicine documented.

50 PIMG participated in step-3. Of the prescriptions, 4(8.0%) were complete and 18(36.0%) had essentials of the medicine.

Conclusions

One-third prescriptions of PIMG who attended the training were complete with all essential information of a prescription and this increased to one-half following a lecture on prescription basics. However, less than one-tenth of prescriptions were complete when re-audited in one week.

PP 18

AUDIT AND RE-AUDIT OF KNOWLEDGE, ATTITUDES AND PRACTICES OF MEDICAL OFFICERS IN MONITIORING FOR TOXICITY OF DISEASE MODIFYING ANTI RHEUMATOID DRUGS (DMARDs) IN THE CLINIC SET UP IN A TERTIARY CARE HOSPITAL IN SRI LANKA

De Silva LANU[1], Dandeniya CL[1] Sun S[1], Premathilake T[1]

[1] Department of Medicine, Faculty of Medicine, University of Peradeniya

Introduction

DMARDs are used for the treatment of inflammatory arthritides and related conditions. Adequate monitoring is crucial to detect and manage potential side effects. Updated knowledge, attitudes and practices of doctors involved in caring for patients with rheumatological conditions on safe use of DMARDs is essential.

Objectives

To assess the knowledge, attitudes, and practices (KAP) of medical officers in a tertiary care hospital in Sri Lanka regarding the monitoring of toxicity of DMARDs in a clinic setting and assess the impact of a structured Continuous Medical Education (CME) programme to fill the gaps.

Methods

A clinical audit was conducted using a self-completed online questionnaire distributed among 12 medical officers in the rheumatology clinic at Teaching Hospital, Peradeniya. Based on the findings, a monthly CME program was conducted for three months. This consisted of two case-based discussions and one workshop with an overall duration of 4.5 hours. A follow-up questionnaire assessed changes one month after the third program.

Results

The audit revealed average knowledge (55.6%) and practice (50%) levels, with attitudes scoring below average (0%). Following the CME program, although attitudes improved, knowledge and practice gaps persisted, but all changes were non-significant when analysed using Wilcoxon signed rank test ($p > 0.05$). On analysing individual questions, the practice of DMARD use in pregnancy showed significant improvement ($p = 0.005$).

Conclusion

The study highlights the alarming level of deficiency in medical officers' baseline KAP concerning DMARD use and safety monitoring. The utilized CME programme was not successful in achieving a significant improvement in these aspects. Change in the CME structure and persistence with regular sessions need to be tried in the future. Future studies also need to explore the study question among medical officers across a wider population to identify deficiencies, for overall better patient outcomes.

PP 19

AUDIT ON POST-ACUTE CORONARY SYNDROME LDL TARGET ACHIEVEMENT: A MULTI CENTRE STUDY

Matthias A T[1] ,Grero K L W[1], Kapuwella K G I[1], Beneragama D M[1], Jayasekera M M P T[2] , Kuruppu K S C[2]

[1] Department of Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka
[2] Department of Medicine, Faculty of Medicine, General Sir John Kotelawala Defence University, Sri Lanka

Introduction and objectives

Optimum control of LDL after an Acute Coronary Syndrome (ACS) is crucial. As is noted in studies elsewhere, guideline-recommended LDL-C target achievement post-ACS is poor. This study aimed to assess the achievement of target lipid levels in patients with post-ACS in Sri Lanka.

Methods

This is an ongoing cross-sectional study conducted using systematic sampling on patients with ACS followed up at medical clinics six months after discharge from Colombo South Teaching Hospital and University Hospital, Kotelawala Defence University. The audit standard for LDL was set at <55 mg/dL, in accordance with the dyslipidaemia guidelines of Sri Lanka and the European Society of Cardiology in 2019.

Results

Only 55% (n=165) of individuals had their lipids tested post-ACS during follow-up. Among those tested, only 25.5% (n=42) achieved their lipid targets. Patients with diabetes and a prior history of ACS had significantly lower target achievement rates, with 67.3% of patients with diabetes (p =0.018) and 89.4% of patients with prior ACS (p=0.016) not reaching target levels. Duration following MI did not show significant differences in achieving lipid targets.

The unavailability of lipid profiles was attributed to infrequent testing at the hospital or by the patient (n=59, 44.7%), irregular clinic attendance, profiles requested but not conducted (n=61, 46.2%) and profiles not being requested (clinical inertia) (n=28, 21.2%).

Conclusions

The attainment of LDL-C targets following ACS remained unsatisfactory.

PP 20

COMPLIANCE WITH THE COMMONLY PRACTICED CLINICAL GUIDELINES IN THE MANAGEMENT OF DIABETES MELLITUS IN PREGNANCY AND THE NEONATAL AND MATERNAL OUTCOMES AMONG PREGNANT WOMEN ATTENDING DISTRICT GENERAL HOSPITAL VAVUNIYA, SRI LANKA

Maheshi Amarawardena[1], Mahanama LPKSM[2], Neomal De Silva[3], Lalindra Weerasena[2], Kanapathipillai Jeyashree[2], Thamara Udesh[1], Kaviesha Selvaratnam[4], Padmaka Silva[5]

[1] Diabetes and Endocrinology Unit, District General Hospital Vavuniya, Sri Lanka. [2] Obstetrics and Gynaecology Unit, District General Hospital Vavuniya, Sri Lanka. [3] University Medical unit, National Hospital of Sri Lanka. [4] Internal Medicine Unit, District General Hospital Vavuniya, Sri Lanka. [5] Family Health Bureau, Ministry of Health, Sri Lanka.

Background

The prevalence of hyperglycaemia in pregnancy is showing a startling up-rising trend. This results in many maternal and foetal/neonatal complications.

Objectives

To describe the screening practices, management, and maternal and neonatal outcomes of hyperglycaemia in pregnancy, and to describe compliance with clinical guidelines.

Methods

A cross-sectional study with analytical components was performed using secondary data from mothers with gestational or pre-existing diabetes, who had singleton pregnancies at Vavuniya district general hospital. The sample of 324, was selected through consecutive sampling. Medical officers collected data using validated questionnaires and data-extraction sheets. Statistical Package for Social Sciences version 25 was used to analyse the data, employing Chi-square and Fisher's exact tests to uncover associations, with a significance level of 5%.

Results

In this study with 324 participants (mean 29.98 years), 88.8% (n=285) used post-prandial blood glucose for screening. Thirteen percent (n=44) had pre-existing diabetes. Over half (n=170, 52.5%) managed their condition with medical nutrition therapy alone, while 37.7% (n=122) required the addition of metformin, and 9.2% (n=32) needed both metformin and insulin. There were no maternal or intra-uterine deaths. Operative delivery was done for 46.3% (n=150). Twelve percent (n=40) of newborns weighed>3.5kg, and 5.2% (n=17) had low birth weight. Thirty-three (10.19%) neonates had recognized complications while post-partum complications were shown in 2.16% (n=07) of mothers. Neonatal complications ($p<0.05$ OR=5.56 CI=2.50-12.35), maternal complications ($p<0.05$ OR=17.24 CI=3.23-91.96), and low birth weight ($p<0.05$ OR=56 CI=14.8-211.3) were significantly associated with pre-existing diabetes status. Forty-nine (15.12%) mothers missed postpartum blood sugar testing.

Conclusions

Most mothers are followed up according to national guidelines for screening and management of diabetes. Maternal, and neonatal complications were commoner among mothers with pre-existing diabetes. A significant number of mothers missed post-partum blood sugar testing which is an area that could be improved.

PP 21

PATTERN OF MICROBIAL CULTURES AND ANTIMICROBIAL PROFILE IN SURGICAL INTENSIVE CARE UNIT AT THE NATIONAL HOSPITAL SRI LANKA

Senavirathne LUS[1], Wijayawardhana KWSM[2], Wickramarachchi UI[3], Bandaranayake C[1]

[1] Surgical intensive care unit, National Hospital of Sri Lanka [2] Department of Anatomy, Faculty of Medicine, University of Kelaniya, Sri Lanka [3] Accident and Emergency department, DGH Gampaha, Sri Lanka

Introduction and objectives

Sepsis is a leading cause of mortality and morbidity among patients in surgical intensive care units (SICU) worldwide. Antimicrobial misuse is a major cause of the emergence of multidrug-resistant nosocomial organisms. This study aimed to explore microbial culture patterns and antimicrobial usage trends in SICU setup.

Methods

Institution based retrospective cohort study; conducted at SICU, NHSL Colombo, by extracting data from patient case records on culture reports and drug issuing.

Results

Of the 92 samples, majority were males (57.6%, n=53). Mean age was 55.65±16.2 years. Mean ICU stay was 10.9±12.47 days. Considering microbiological specimens, almost half (53.3%, n=49) were blood cultures. Urine cultures accounted for 31.5% (n=29), sputum 8.7% (n=8), tissue cultures 4.3% (n=4) and wound swabs 2.2% (n=2).

The majority of cultures (57.6%, n=53) revealed no growth. The commonest isolated organism was Candida accounting for 12% (n=11). Among patients who underwent genito-urinary surgeries (34.8%, n=32), 12.5% (n=4) were positive for Candida, 6.25% (n=2) each were positive for Klebsiella and Acinetobacter. In abdominal surgeries (31.5%, n=29), 13.8% (n=4) were Candida positive and 10.3% (n=3) were Coliform positive. Meropenem was the commonest antibiotic used accounting for 59.8% (n=55) followed by Piperacillin-tazobactam (16.3%, n=15) and third generation Cephalosporin (9.8%, n=9). Fluconazole was used for 6.5% (n=6). All patients (100%, n=92) were prescribed at least one antibiotic. Of the population, 27.2% (n=25) were deceased. Among the deceased individuals, 56% (n=14) had positive cultures.

Conclusion

Despite more than half of the samples having no growth, all patients were prescribed with at least one antibiotic, majority being broad spectrum antibiotics. Further studies aimed to explore the reasons behind this discrepancy would aid in ensuring rational use of antibiotics.

PP 22

CLINICAL AND ANGIOGRAPHIC PATTERN OF CORONARY ARTERY DISEASE IN A SRI LANKAN POPULATION

Faslur Rahuman M.B[1,2], Paramanayakam A[3], Dushanth T[3], <u>Nawaratna A[1]</u>, De Silva A. P[4]

[1] Institute of Cardiology, National Hospital Sri Lanka, [2] Lanka Hospitals, Colombo, Sri Lanka
[3] Colombo South Teaching Hospital, Sri Lanka.. [4] Ministry of Health, Sri Lanka

Introduction and objectives

Coronary artery disease (CAD) is a leading cause of mortality worldwide. This study was conducted to describe the clinical and angiographic pattern of CAD in a population in Sri Lanka.

Methods

We studied consecutive patients of all ages who underwent coronary angiograms by a single operator in a leading private hospital in Colombo. This study was a retrospective descriptive study conducted among 352 patients who underwent angiogram from May 2013 to December 2016.

Results

The population with CAD was predominantly male and age was ≥ 41 years. Acute Coronary Syndrome (ACS) was the most common clinical presentation. Triple Vessel Disease (TVD) was most prevalent 136 (38.6%) with the multiplicity of synergistic risk factors. In Single Vessel Disease (SVD), the distribution of disease in LAD, RCA and LCX were 44%, 15% and 8% respectively. Higher rate of ectasia was found in RCA. Diabetes Mellitus (DM) was present in 49% of our patients which was the second commonest risk factor next to dyslipidaemia (DL) 55% and was significantly associated with TVD.

Conclusion

ST-Elevation Myocardial Infarction (STEMI) was the commonest ACS type in the study group. TVD was more common in the old age group whereas SVD is the common pattern in the younger population. LAD is the predominantly and severely affected artery among both ACS and non – ACS groups. DL is the commonest risk factor. DM is commonly associated with TVD which is related to multiple risk factors.

PP 23

PATTERN OF BLOOD STREAM INFECTIONS AT A TERTIARY CARE SETTING IN SOUTHERN SRI LANKA

Wijenayaka D A[1], Piyasiri D L B[2], Jayawardena S D M[1], Yasara H W N[1], Jayanath I K A[2], Jayasekara K[2], Fonseka C L[1], Lekamwasam S[1]

[1] Faculty of Medicine, University of Ruhuna, Sri Lanka [2] Teaching Hospital, Karapitiya, Sri Lanka

Introduction and objectives

Emergence of antimicrobial resistance is a major public health concern. We aimed to explore the local patterns of blood stream infections to optimise antibiotic usage and recommend preventive measures.

Methods

Retrospective data from January to March 2023 were extracted from the Microbiology department of Teaching Hospital, Karapitiya. Data on causative organisms, source of infection, co-morbidities and mortality were analysed.

Results

Mean (SD) age was 50.4 (23.1) years and 57.3% (118/206) were male. Out of total, 21.4% (44/206) had diabetes. Of the 206 positive blood cultures, Staphylococcus aureus bacteraemia (SAB) accounted for 33.0% (68/206), while Escherichia coli bacteraemia (ECB) accounted for 25.2% (52/206), Pseudomonas spp. for 10.7% (22/206) and Klebsiella spp. for 8.7% (18/206). The sources of SAB were; central line–associated bloodstream infection (CLABSI) 46.9% (32/68), skin and soft tissue infections 10.2% (7/68), immunocompromised state in 8.8% (6/68) and 20.6% (14/68) from unclear sources. In ECB, the source was unclear in 25% (13/52) while 34.6% (18/52) were due to urinary tract infections, 11.5% (6/52) hospital acquired pneumonia (HAP), 5.7% (3/52) intra-abdominal source , 9.6% (5/52) CLABSI and immunocompromised state in 3.8% (2/52). Of the total, 74.3% (153/206) were hospital acquired infections (HAI), and the rest were likely to be community acquired (25.7%, 53/206). Nearly 15.7% (24/153) of the HAIs were detected while in intensive care units. Most common source of HAI was CLABSI accounting for 33.3% (51/153). Mortality among SAB and ECB were, 7.3% (5/68) and 21.2% (11/52), respectively.

Conclusions

SAB and ECB were the most prevalent causes of bacteraemia among positive blood cultures in the study centre. HAI such as CLABSI, VAP and HAP were high highlighting the importance of infection control measures when using central lines and preventing cross infections.

PP 24

PREVALENCE OF RESPIRATORY VIRUS DURING POST COVID-19 ERA IN PATIENTS IN SRI LANKA

<u>Jayadas TTP</u>[1], Jeewandara CJ [1], Rivindu W [1], Harshini C [1], Kuruppu H [1], Maheli D 1, Nimasha T[1], Farha B[1], Gamage M[2], Perera N [3], Wijewickrama A[4], Ogg GS[5], Malavige N [1].

[1]Allergy Immunology and Cell Biology Unit, University of Sri Jayewardenepura, Sri Lanka [2] Department of Paediatrics, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka [3] Department of Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka [4] National Institute of Infectious Disease, Sri Lanka [5] MRC Human Immunology Unit, University of Oxford, United Kingdom

Introduction and objectives

As the world moves towards the post-COVID-19 era, respiratory viruses remain a major cause of morbidity and mortality worldwide. This study aimed to find the aetiology of respiratory infections in the Western Province, Sri Lanka.

Methods

A total of 176 nasopharyngeal and oropharyngeal swabs were collected from paediatric and adult patients presenting with fever and respiratory symptoms in National Institute of Infectious Diseases and Colombo South Teaching Hospital from December 2022 to June 2023. qRT-PCR was used to detect the presence of influenza A, influenza B, RSV, SARS CoV-2 and human coronaviruses (OC-43, CoV-229, NL63, and HKU18). Multiplex PCR was carried out in samples positive for influenza A to identify the subtypes; H1N1, H3N2, H5N1 and H7N9.

Results

Influenza A was identified in 34 (19.3 %) and influenza B in 17 (9.6 %) patients. SARS-CoV-2 was detected in 21 (11.9%), RSV in 13 (7.3 %), and OC43 in 3 (1.7 %). Two patients were found to be co-infected with Influenza A and B. H1N1 was the dominant subtype (n=16, 94.1%) in influenza A positive samples from December to February. From early March onwards, H3N2 emerged as the dominant influenza A subtype, detected in 14 (82%) patients. A viral aetiology could not be identified in 90 (51.1%) patients.

Conclusion

Findings from this study indicate a decline in SARS-CoV-2 infections, alongside a high prevalence of influenza and co-circulation of other respiratory viruses, emphasizing the importance of robust monitoring and control strategies to address this ongoing public health challenge.

PP 25

MENINGOENCEPHALITIS: EXPERIENCE OF A SINGLE UNIT IN A TERTIARY CARE HOSPITAL

Ruwanpathirana PS[2], Aravinthan M[1,2], Kariyawasam KHKC[1], Liyanage JVW[1] Karunanayake P[1,2]

[1]Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka [2] Professorial Medicine Unit, National Hospital of Sri Lanka

Introduction and objectives

Meningoencephalitis is an uncommon but serious community-acquired infection. The aim of this study is to describe the characteristics of these cases with meningoencephalitis treated at the Professorial Unit in Medicine, National Hospital of Sri Lanka.

Methods

A retrospective study was done in the above-mentioned setting. All patients who were clinically diagnosed with meningoencephalitis during the period from 2022/12/06 to 2023/04/13 were included. Patients were identified using the in-ward patient registry.

Results

Twenty patients were suspected but only 12 were confirmed. Records of only ten were available. The mean age was 47.63(SD=19.86); 6 were male; 6 of them were from Colombo 8 area, of whom 5 were inmates of the Welikada Prison. Symptoms included fever and confusion (n=7); drowsiness (n=4), musculoskeletal symptoms (n=6); headache (n=8), focal neurological signs (n=5); seizures (n=2) and vomiting (n=3). Only 2 patients had neck stiffness. Five patients had bacterial meningitis, 3 had viral meningitis and 2 had partially treated bacterial meningitis. CSF polymorph count ranged from 78 -3500/µl in bacterial meningitis. CSF protein ranged from 60.1 – 506 mg/dl. All CSF cultures were negative. NCCT brain was normal in all patients. All patients were treated with antibiotics; ceftriaxone being the most used drug (n=9). Seven patients were treated with acyclovir. Out of all 12 cases, 1 died; 1 had residual neurological deficits on discharge.

Conclusion

Meningoencephalitis occurs as clusters in prison inmates. The clinical characteristics vary markedly. A high degree of clinical suspicion is required for diagnosis.

PP 26

NEUROLEPTOSPIROSIS AMONG PATIENTS WITH PRIMARY CENTRAL NERVOUS SYSTEM INFECTIONS: PRELIMINARY ANALYSIS OF A MULTICENTRE STUDY

Perera N[1], Abeyratne MDVS[1], Gunawardena C[2], Semina T[3], Uluwattage W[4], Karunanayake L[5], Ranawaka UK[6]

[1] Department of Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.[2] Neurology unit, Teaching hospital, Ratnapura, Sri Lanka [3]Professorial Medical unit, Colombo South Teaching Hospital, Sri Lanka [4] Medical unit, Teaching Hospital, Karapitiya, Sri Lanka [5] Department of Bacteriology, Medical Research Institute, Colombo, Sri Lanka [6] Department of Medicine, Faculty of Medicine, University of Kelaniya, Sri Lanka

Introduction and objectives

Leptospirosis is well-known to cause neurological involvement, but occurrence of laboratory-confirmed neuroleptospirosis in Sri Lanka is unknown.

Methods

An observational study was conducted in Colombo South Teaching Hospital (CSTH) and Teaching Hospital Ratnapura (THR), between October 2021 and June 2023. Patients with a primary diagnosis of meningitis, meningoencephalitis or encephalitis (with compatible cerebrospinal fluid (CSF)) were recruited. Blood and CSF were tested for pathogenic *Leptospira* DNA by real-time PCR and serology by microscopic agglutination test (MAT) on admission and after 10-14 days. A confirmed case was defined as a patient with meningitis/meningoencephalitis/encephalitis with; positive CSF or blood PCR or 4-fold rise/single titre ≥1:320 in MAT.

Results

There were 46 patients with a mean age of 50.6 (SD 15.6) years and 23 (50%) males. Neurological diagnoses were meningitis (n=41, 89%), meningoencephalitis (n=2,4.3%), encephalitis (n=3,6.5%). Six (13%) patients were laboratory-confirmed as neuroleptospirosis; meningitis (n=5), encephalitis (n=1). One patient had positive blood *Leptospira* DNA, two had high initial MAT titres and three had 4-fold rise in MAT. Neurological manifestations were; seizures (n=2), confusion (n=4), photophobia (n=2), neck stiffness (n=2). Majority (66.7%) had lymphocytic predominance in CSF. One patient needed intensive care and all made a complete recovery.

Conclusion

Leptospirosis is an important cause of primary CNS infections. We report the first case series of laboratory-confirmed neuroleptospirosis in Sri Lanka.

PP 27

CLINICAL CHARACTERISTICS OF ONSET OF CRITICAL PHASE IN DENGUE HAEMORRHAGIC FEVER

Wijegunaratne C.J[1], Fernanado A.H.N[2], Liyanarachchi G.G[2]

[1] District General Hospital-Hambanthota, Sri Lanka [2] National Hospital of Sri Lanka

Objectives

To describe the clinical characteristics of the onset of critical phase in dengue haemorrhagic fever (DHF) among the patients who were managed as DHF, including the day of onset of critical phase in relation to the onset of fever, temperature status at the onset of critical phase, and trend of fluctuation of white blood cells at the time of onset of the critical phase.

Methods

A descriptive cross-sectional study was carried out among 206 patients selected randomly who were managed as critical phase of DHF at the National Hospital Colombo from 1st July 2019 to 31st December 2019. Data was collected from the case notes.

Results

82% of the male study population was below 40 years old, whereas only 53% of the female study population was below 40 years old. Only 35.4% had dengue serology. Majority (73.3%) were afebrile at the onset of the critical phase.

The mean day of onset of critical phase is fever day 5 (SD ±0.967).

White blood cell (WBC) counts were dropping and started rising just prior to the onset of the onset of critical phase in the majority of patients.(50.8%)

Conclusion

DHF commonly affects males who are under 40 years old, which might cause a severe economic burden for the country. Fluid leakage of DHF commences 4-6 days after the illness. There is a statistically significant association between temperature status at the onset of the critical phase and the WBC trend. Further up to-date research might be needed about the changing clinical picture, and national dengue guidelines need to be updated.

PP 28

MAPPING THE DISTRIBUTION OF CANCER PATIENTS SEROPOSITIVE FOR TOXOPLASMA GONDII ANTIBODIES: A STUDY CONDUCTED AT THE NATIONAL CANCER INSTITUTE MAHARAGAMA

Banneheke H[1], <u>Weerasooriya GPC[1]</u>, Manamperi A[2]

[1]Department of Parasitology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka. [2] Molecular Medicine Unit, Faculty of Medicine, University of Kelaniya, Sri Lanka.

Introduction

Toxoplasmosis causes no symptoms in otherwise healthy persons but leads to life-threatening outcomes in immunocompromised.

Objective

The aim was to map the distribution of seropositive toxoplasmosis among a group of adult cancer patients treated at the National Cancer Institute, Maharagama (NCIM).

Method

A group of patients treated at NCIM from November to March 2022 was screened for *Toxoplasma gondii* IgG and IgM antibodies with an ELISA using a single sample of blood. The socio-demographic data were obtained using an interviewer-administrated questionnaire.

Results

Among the total 321 patients, 50% were males and 50% were females. The mean age was ($\pm$53.4) with 45 (14%) in the 18-30 age group, 72 (22%) in the 31-50 age group, and 204 (64%) in above 50 years category. Furthermore, 191(60%) had haematological malignancies and 130(40%) had solid organ cancers.

There were 167(52%) with serological evidence of acute (IgM and IgG positive) or chronic infection (IgG positive). The number of seropositive cases against the total patients from each province is as follows; Western-103/185 (56%), Southern-20/32 (63%), Sabaragamuwa-13/29 (45%), North-Western-11/28 (39%), Uva-8/17 (47%), Central-5/11 (45%), Eastern-3/6 (50%), Northern-2/5 (40%), and North-Central-2/8 (25%). Districts with more than 5 cases included Colombo-60, Gampha-32, Kalutara-11, Galle-9, Rathnapura-8, Puttlam-7, and Matara-6 districts.

Conclusion

The majority were from the Colombo district and Western Province possibly due to the location of NCIM. As the sample distribution of patients with cancer is unequal, this data cannot be extrapolated to determine the geographical distribution in the country.