

LIST OF ORAL PRESENTATIONS

NON-COMMUNICABLE DISEASES

OP-01: External breast prosthesis use, its influencing factors, and the association with quality of life among postmastectomy patients in Sri Lanka

Perera C¹, Perera D¹, Pitigala U¹, Arambepola C²

¹Faculty of Medicine, University of Colombo

²Department of Community Medicine, Faculty of Medicine, University of Colombo

OP-02: The ability of Waist -Triglyceride Index to Identify Metabolic Syndrome among Adults from Jaffna

Paramanathan T¹, Kumanan T¹, Arasaratnam V²

¹Department of Biochemistry, Faculty of Medicine, University of Jaffna

²Department of Medicine, Faculty of Medicine, University of Jaffna

OP-03: Factors associated with Gastroesophageal Reflux Disease by comparison of diagnosed patients and healthy controls

Wickramasinghe N¹, Devanarayana N², Wickramasinghe D³, Thuraisingham A⁴, Jayalath A⁴, Samarasekara N³, Yazaki E⁵

¹Department of Physiology, Faculty of Medicine, University of Colombo

²Department of Physiology, Faculty of Medicine, University of Kelaniya

³Department of Surgery, Faculty of Medicine, University of Colombo

⁴Ministry of Health, Sri Lanka

⁵Gastrointestinal Physiology Unit, Barts and The London School of Medicine, United Kingdom

OP-04: The association between gastroesophageal reflux disease and stress: A countrywide study of Sri Lanka

Wickramasinghe N¹, Thuraisingham A², Jayalath A², Wickramasinghe D³, Samarasekara N³, Yazaki E⁴, Devanarayana N⁵

¹Department of Physiology, Faculty of Medicine, University of Colombo, Sri Lanka

²Ministry of Health, Sri Lanka

³Department of Surgery, Faculty of Medicine, University of Colombo, Sri Lanka

⁴Gastrointestinal Physiology Unit, Barts and The London School of Medicine, United Kingdom

⁵Department of Physiology, Faculty of Medicine, University of Kelaniya, Sri Lanka

OP-05: Prevalence of maternal overweight/obesity at booking visit and associated maternal and neonatal complications among mothers attending Child Welfare Clinics in Pitakotte MOH area

Jayawardhana T¹, Jayawardana S¹, Jayasekara D¹, Samaranayake D²

¹Faculty of Medicine, University of Colombo

²Department of Community Medicine, Faculty of Medicine, University of Colombo

OP-06: Effect of oral nutritional supplement (ONS) on frailty and barthel index in institutionalised older adults with malnutrition: a randomized controlled trial

Dalpatadu C¹, Wickramawardhane P², Hills A P³, Ranasinghe P^{4,5}, Jayawardana R¹

¹ Department of Physiology, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka.

² Health and Wellness Unit, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka.

³ School of Health Sciences, College of Health and Medicine, University of Tasmania, Launceston, Tasmania, Australia.

⁴ Department of Pharmacology, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka.

⁵ University/British Heart Foundation Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom.

DOI: <http://doi.org/10.4038/cjms.v60i4.5055>



This is an open-access article distributed under the terms of the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution and reproduction in any medium provided the original author and source are credited.

OP-07: Comparison of Level of Physical Activity and Quality of Life among Middle-aged and Elderly People with Type 2 Diabetes Mellitus

Noordeen F¹, Wettasinghe A¹

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

OP-08: Physical activity level, fear of falling, circumstances and consequences of falls in older adults with type 2 diabetes mellitus attending to selected hospitals in Colombo District

Sandeepani WA¹, Wettasinghe A¹

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

PHYSIOTHERAPY AND OCCUPATIONAL HEALTH

OP-09: The associations of knowledge and practice of computer work-related posture and ergonomics with musculoskeletal pain among engineering undergraduates of University of Moratuwa

Pathirana J R V¹, Perera R S¹

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

OP-10: Prevalence of ergonomic factors related to sitting postures in home and office work setups among bank officers in selected banks in Colombo district

Widyapathige T O¹, Pathmanathan C¹, Chadrathilaka K R M¹

¹ Faculty of Medicine, University of Colombo

OP-11: Body mass index and its relationship with static and dynamic balance in the older adults residing in elders' homes in Ambalangoda, Galle district

Gimhan S M Y M¹, Dalpatadu C¹

¹ Faculty of Medicine, University of Colombo

OP-12: Relationship between musculoskeletal pain and health related quality of life among nurses in a selected government teaching hospital

Purage N S L¹, Atapattu P M²

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

² Department of Physiology, Faculty of Medicine, University of Colombo

OP-13: Biomechanics of foot, ankle and knee between patients with mechanical low back pain and age-matched volunteers without low back pain attending District General Hospital Matale

Karunathilake D¹, Ranasinghe C¹, Thilakarathne A²

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

² District General Hospital, Matale

OP-14: Factors leading to febrile convulsions in children presenting with fever: A case control study from a children's hospital, Colombo, Sri Lanka

Somasekara S¹, Sivapalan K¹, Siyambalapitiya N¹, Walpita Y²

¹ Faculty of Medicine, University of Colombo

² Department of Community Medicine, Faculty of Medicine, University of Colombo

OP-15: Knowledge regarding hearing aid use and factors associated with it among elders diagnosed with age-related sensorineural hearing loss attending Ear, Nose, Throat (ENT) clinics at National Hospital Sri Lanka (NHSL)

Muhunthan K¹, Milinda S¹, Siriwardene Y¹

¹ Faculty of Medicine, University of Colombo

² Department of Community Medicine, Faculty of Medicine, University of Colombo

OP-16: Relationships of physical activity with depression and sleep quality among patients with Parkinson disease

Kawmadi P P D¹, Dahanayake D M A²

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

² Faculty of Medicine, University of Colombo

OP-17: Knowledge Regarding Stroke and Caregiving Among Caregivers of Stroke Patients

Lakshitha K H Y S¹, Anthony D J¹

¹ Faculty of Medicine, University of Colombo

OP-18: The Impact of the Foveal Avascular Zone on Visual Acuity Outcomes in Anisometric Amblyopia Management with Binocular Vision

Therapy

Chandrasekera A¹, Pathirana H¹, Wijerathne G²,
Goyal A³

¹ Vision Care Academy, Sri Lanka

² Mout Lotus Hospital, Sri Lanka

³ Sankara Academy of Vision, India

OP-19: Effects of a meditation based protocol on seizure frequency on patients with drug resistant epilepsy: A randomized controlled trial

Vithanage K¹, Dissanayake D¹, Chang T¹

¹ Faculty of Medicine, University of Colombo

GENETICS & HAEMATOLOGY

OP-20: Knowledge and Attitudes on Thalassemia and Practice of Pre-Marital Thalassemia Screening among Newly-Married Couples in Kurunegala Medical Officer of Health area

Gallage N¹, Galhena T¹, Gamage D¹, Senerath U²

¹ Faculty of Medicine, University of Colombo, Sri Lanka

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

OP-21: Quality of life and factors associated with it among paediatric haemophilia patients attending a tertiary care children's hospital in Sri Lanka

Siriwardena H¹, Siriwardena R¹, Siriwardene D¹,
Walpita Y¹

¹ Faculty of Medicine, University of Colombo

OP-22: A study on genetic variants associated with Retinoblastoma in a cohort of Sri Lankan populations

Athige R S G¹, Wettasinghe K¹, Dissanayake M¹

¹ Faculty of Medicine, University of Colombo

OP-35: Diversity of pharmacogenomic variants affecting the efficacy, metabolism and toxicity of anti-cancer drugs in a South Asian population from Sri Lanka

Thuwaragesh V¹, Ariadurai JN¹, Thilakarathne KMDGS¹,
Ranasinghe P², Sirisena ND³, Anandagoda G³,
Dissanayake VHWD³

¹ Faculty of Medicine, University of Colombo, Colombo

8, Sri Lanka

² Department of Pharmacology, Faculty of Medicine, University of Colombo, Colombo 8, Sri Lanka

³ Department of Anatomy, Genetics and Biomedical Informatics, Faculty of Medicine, University of Colombo, Colombo 8, Sri Lanka

PUBLIC HEALTH

OP-23: The quality of life and associated factors of Leprosy patients attending the Leprosy clinic and dermatology clinics at the National Hospital of Sri Lanka

Arudchelvam U¹, Pulendran T¹, Sirimanne M¹,
Pabasara S¹, Kahavita P², Chandraratne N³

¹ Faculty of Medicine, University of Colombo

² Anti-Leprosy Campaign, National Hospital of Sri Lanka

³ Department of Community Medicine, Faculty of Medicine, University of Colombo

OP-24: The stigma and associated factors of Leprosy patients attending the Leprosy clinic and dermatology clinics at the National Hospital of Sri Lanka

Arudchelvam U¹, Pulendran T¹, Sirimanne M¹,
Pabasara S¹, Kahavita P², Chandraratne N³

¹ Faculty of Medicine, University of Colombo

² Anti-Leprosy Campaign, National Hospital of Sri Lanka

³ Department of Community Medicine, Faculty of Medicine, University of Colombo

OP-25: Implications of the economic crisis in Sri Lanka on the management of patients with kidney failure undergoing haemodialysis

Dias M I¹, Sudusinghe P¹, Karunaratne H T¹,
Wijewickrama E²

¹ Faculty of Medicine, University of Colombo, Sri Lanka.

² Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka

OP-26: The assessment of asymptomatic cutaneous leishmaniasis in Sri Lanka using serological methods

Karunathilake C¹, Alles N¹, Piyasiri S B¹,
Weerasinghe L¹, Chandrasiri N¹, Devasurendra R¹,
Karunaweera N¹

¹ Department of Parasitology, Faculty of Medicine,

University of Colombo

OP-27: Prevalence of Musculoskeletal and Respiratory complications in post-COVID- 19 patients in selected MOH areas in Galle district, Sri Lanka

Udara S¹, Jayalath L¹

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

OP-28: Factors associated with high rates of unspecified diagnosis in eIMMR

Sahabandu M P W¹, Hewapathirana R H²

¹ Postgraduate Institute of Medicine, University of Colombo

² Faculty of Medicine, University of Colombo

MENTAL HEALTH AND SPORTS MEDICINE

OP-29: Factors affecting Home Based Intervention for children with Autism Spectrum Disorder attending tertiary care centers of Western Province
Pathirage A I¹, Parindya N M¹, Pahanage P A R V¹, Gallage A², Dahanayake D M A³, Ranawaka P R D⁴

¹ Faculty of Medicine, University of Colombo

² Department of Community Medicine, Faculty of Medicine, University of Colombo

³ Department of Psychiatry, Faculty of Medicine, University of Colombo

⁴ Department of Paediatrics, Faculty of Medicine, University of Colombo

OP-30: Prevalence and Patterns of Sports injuries among senior School Cricketers after prolonged training restrictions of COVID 19 pandemic in Jaffna district Sri Lanka

Thanapalasingam S¹, Chandrathilake K R M², Gobchanger T³, Srigrishna P³

¹ Post Graduate Diploma in Health Development, Faculty of Medicine, University of Colombo

² Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

³ Teaching Hospital Jaffna

OP-31: Academic Procrastination, Problematic Internet Usage and Factors Associated with Academic Procrastination among 3rd Year Engineering Undergraduates of a Selected University in Sri Lanka

Samaranayake M¹, Samarakoon S¹, Sandalika D¹, Jayawardena D²

¹ Faculty of Medicine, University of Colombo

² Department of Community Medicine, Faculty of Medicine, University of Colombo

OP-32: Perceptions of the importance of sports nutrition knowledge: a qualitative study among athletic stakeholders in Sri Lanka

Jayawardena R^{1,2}, Weerasinghe K³, Madhujith T⁴, Hills A P⁵, Kalupahana N²

¹ Department of Physiology, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka,

² Department of Physiology, Faculty of Medicine, University of Peradeniya, Peradeniya, Sri Lanka,

³ Health and Wellness Unit, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka,

⁴ Department of Food Science and Technology, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka,

⁵ School of Health Sciences, College of Health and Medicine, University of Tasmania, Newnham Drive, Launceston, Tasmania, Australia.

OP-33: Development of a sports nutrition knowledge questionnaire for Sri Lankan athletes

Jayawardena R^{1,2}, Weerasinghe K³, Trakman G⁶, Madhujith T⁴, Hills A P⁵, Kalupahana N²

¹ Department of Physiology, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka,

² Department of Physiology, Faculty of Medicine, University of Peradeniya, Peradeniya, Sri Lanka,

³ Health and Wellness Unit, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka,

⁴ Department of Food Science and Technology, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka,

⁵ School of Health Sciences, College of Health and Medicine, University of Tasmania, Newnham Drive, Launceston, Tasmania, Australia

⁶ Department of Sport, Exercise and Nutrition Sciences, La Trobe University, Melbourne

OP-34: Association between meditation practices with mindfulness skills of observing and non-reactivity to inner experiences: A correlational analysis from Sri Lanka

Outschoorn NO¹, Jeevani HM², Herath C², Amarasuriya SD³

¹ Research Promotion and Facilitation Centre, Faculty of Medicine, University of Colombo

² Department of Social Science Education, Faculty of Education, University of Colombo

³ Department of Medical Humanities, Faculty of Medicine, University of Colombo

LIST OF POSTER PRESENTATIONS

NONCOMMUNICABLE DISEASES – 1

PP-01: Prevalence of pain, fatigue, and activity limitation among lung cancer survivors attending the National Cancer Institute, Maharagama
Munasinghe D¹, Jayalath L¹

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

PP-02: Uncommon Presentations of a Common Haematological Malignancy – A Case Series
Prasanni WDD¹, Nissanka WATDTN¹, Costa W¹J, Dissanayake T¹, Premaratne KPD², Williams HAS²

¹Department of Haematology, Colombo North Teaching Hospital

²Department of Pathology, Faculty of Medicine, University of Kelaniya, Ragama

PP-03: Clinical and genetic spectrum of hereditary colorectal cancer in a Sri Lankan cohort diagnosed through whole exome sequencing
Fernando K¹, Priyan H¹, Nirmala Sirisena N¹, Dissanayake VHW¹

¹Department of Anatomy, Genetics & Biomedical Informatics, Faculty of Medicine, University of Colombo, Sri Lanka

PP-04: Unveiling Infantile Onset – Inflammatory Bowel Disease : Insights from the first Reported Cohort from Sri Lanka – A Case series
Thiruchelvanathan S¹, Hathagoda W², Rajindrajith S²

¹Faculty of Medicine, University of Colombo

²Department of Paediatrics, Faculty of Medicine, University of Colombo

NONCOMMUNICABLE DISEASES – 2

PP-06: Prevalence of Frailty and Sarcopenia, and Exercise Adherence among people with Type two Diabetes Mellitus in Sri Lanka: A Study protocol
Liyanage JVW¹, Kariyawasam K¹, Katulanda P¹, Wettasinghe A²

¹Department of Clinical Medicine, Faculty of Medicine, University of Colombo

² Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

PP-07: A study on diabetic patients in relation to Diabetic Peripheral Neuropathy in Gampaha District

Maheepala T¹, Yasapura M¹, Karunaratne A¹, Dissanayake T¹, Peterson C¹

¹International Institute of Health Sciences

PP-08: Cumulative risk assessment of atherosclerotic cardiovascular diseases: Impact of social determinants, psychological stress and allostatic load

Eugene EJ¹, Constantine G¹, Jayasinghe S²

¹ University of Colombo, Sri Lanka

² Sabaragamuwa University, Sri Lanka

PP-09: Effects of mindfulness meditation on balance, cognitive function, quality of life, and risk of falls in Parkinson's disease: a systematic review protocol

Bogahawatta P¹, Wijekoon A², Harini T², Wettasinghe A²

¹Falls and Balance Research Centre, Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

PP-10: Habitual physical activity in patients with Parkinson's disease in comparison with healthy seniors – A case-control study

Jamaldeen N¹, Kalyani HHN¹

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

PP-11: Assessment of falls, fall risk factors, and gait changes in people with Parkinson's disease in Sri Lanka: a study protocol

Bogahawatta P¹, Wettasinghe A^{1,2}

¹Falls and Balance Research Centre, Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

²Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

PP-12: Bickerstaff brainstem encephalitis: A case report

Senavirathne U¹, Bandaranayake C², Wijayawardhana S², Wickramarachchi S³

¹*Surgical Intensive Care Unit, National Hospital of Sri Lanka, Colombo*

²*Department of Anatomy, Faculty of Medicine, University of Kelaniya*

³*Accident and Emergency department, DGH Gampaha*

PUBLIC HEALTH

PP-13: Driving digital transformation in healthcare: A case study of implementing a Hospital Health Information Management System using Kotter's Change Model

Sugathadasa PK¹, Rodrigo A², Hapudeniya M³

¹*Postgraduate Institute of Medicine*

²*Teaching Hospital Ratnapura*

³*Ministry of Health, Sri Lanka*

PP-14: Prevalence of digital eye strain, associated factors, awareness and utilization of preventive measures amongst G.C.E A/L students of Colombo district

Drieberg M¹, Dodangoda B¹, Droston D¹, Abayadeera A²

¹*Faculty of Medicine University of Colombo*

² *Professor in Anaesthesiology, Department of Anaesthesiology and critical care, Faculty of Medicine University of Colombo*

PP-15: A left shift of weight, height and BMI of 5-15 year old Sri Lanka children compared to WHO data

Wijayawardhana S¹, Jayawardena D², Chandraratne N³, Wickramasinghe P⁴

¹*Department of Anatomy, Faculty of Medicine, University of Kelaniya*

² *School of public health, Department of biostatistics, Rutgers University*

³ *Department of Community Medicine, Faculty of Medicine, University of Colombo*

⁴ *Department of Paediatrics, Faculty of Medicine, University of Colombo*

PP-16: National growth charts for 10-15 year old paediatric population of Sri Lanka

Wijayawardhana S¹, Jayawardena D², Chandraratne N³, Wickramasinghe P⁴

¹*Department of Anatomy, Faculty of Medicine, University of Kelaniya*

² *School of public health, Department of biostatistics,*

Rutgers University

³ *Department of Community Medicine, Faculty of Medicine, University of Colombo*

⁴ *Department of Paediatrics, Faculty of Medicine, University of Colombo*

PP-17: Demographic characterization of human cases confirmed with *Dirofilaria repens* infection

Senarathne S¹, Gunathilake H², Dayananda S², Rathnayake T², Gunawardene S²

¹*Department of Parasitology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.*

²*Department of Parasitology, Faculty of Medicine, University of Colombo, Sri Lanka*

GENETICS AND DIAGNOSTICS

PP-18: A Sanger Sequencing approach to sequence the hotspot regions of the human mitochondrial genome

Nissanka S¹, Somasunderam P¹, Noordeen N¹, Wettasinghe K¹, Dissanayake VHW¹

¹*Faculty of Medicine, University of Colombo*

PP-47: Sun Avoidance Measures and Factors Associated with Low Outdoor Time among Healthcare Undergraduate Students, University of Jaffna

Paramanathan T¹, Arasaratinam V¹, Sivayokan B¹

¹*University of Jaffna*

PP-19: A study on *BTNL2* gene and *HLA-DQB1* gene Variants that are associated with Sarcoidosis in the Sri Lankan population

Nawagamuwalage WISN¹, Wettasinghe K¹, Rajapakse YN¹, Somasunderam P¹

¹*Human Genetics Unit, Department of Anatomy, Genetics and Biomedical Informatics, Faculty of Medicine, University of Colombo, Sri Lanka.*

PP-20: Study on protein modelling and familial segregation of a variant of uncertain significance in the ATM gene identified in two unrelated families with hereditary breast cancer

Senasinghe K¹, Anandagoda G¹, Gunawardena K¹, Sirisena N¹

¹*Department of Anatomy, Genetics & Biomedical Informatics, Faculty of Medicine, University of Colombo*

PP-21: Genotype correlations of CALR type 1 and type 2 mutations and JAK2V617F mutation in primary myelofibrosis and post-polycythemia-vera myelofibrosis in a Sri Lankan cohort.

Daniel CR¹, Noordeen N¹, Ishak C¹, Somasundaram P¹, Goonasekera HW¹

¹Human Genetics Unit, Department of Anatomy, Genetics and Biomedical Informatics, Faculty of Medicine, University of Colombo, Sri Lanka.

PP-22: Study of patient's satisfaction and perception of care during Obstetrics ultrasound scan (USS) in a tertiary care hospital in Sri Lanka

Wijayapala MHWMN¹, Amarasinghe WDMG¹, Wanigasiri IDUK², Rajapakse RKJS²

¹Postgraduate Institute of Medicine, Colombo Sri Lanka

²Ministry of Health, Sri Lanka

PP-23: Exploration of characteristics of the samples received at the Polio Regional Reference Laboratory Sri Lanka, in the era of polio eradication

Fernando MAY¹, Weerasinghe N², Rangana C², Madarasinghe NS², Abeynayake JP²

¹Department of Medical Microbiology and Immunology, Faculty of Medicine, University of Colombo

²Department of Virology, Medical Research Institute, Colombo

PP-24: In vitro-antimicrobial properties of selected medicinal plants against uropathogenic *Pseudomonas aeruginosa*

Ilangage JIMK¹, Ilangakoon IACS¹, Dissanayake DMMK¹, Rajapaksha NPD¹, Fernando KMK¹, Walpola LH¹, Hettiarachchi D²

¹Department of Biomedical Science, Faculty of Health Science, KIU

²Department of Anatomy, Genetics and Biomedical Informatics, Faculty of medicine, University of Colombo

METAL HEALTH

PP-25: Knowledge and Attitude Towards Psychological Counselling among Healthcare Students in Gampaha District

Maheepala T¹, Perera S¹

¹International Institute of Health Sciences

PP-26: Self-reported emotional and behavioural status and its association with online usage pattern among adolescent students aged 14 years in selected schools in Colombo city

Perera AANN¹, Pavithra MD¹, Peiris LKBC¹, Arambepola C²

¹ Faculty of Medicine, University of Colombo

² Department of Community Medicine, Faculty of Medicine, University of Colombo

PP-27: Relationship between Screen Time and Sleep Quality among Advanced-Level Students in a National school in Colombo district

Gunawardena D¹, Jayawardena R²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Physiology, Faculty of Medicine, University of Colombo

PP-28: Conduct disorders in children and adolescents: Presentations and management at a specialized psychiatry unit in Sri Lanka

Haluge RST¹, Dahanayake D¹, Kannangara PP²

¹Faculty of Medicine, University of Colombo

²Ministry of Health

PP-29: Health knowledge and attitudes on cannabis and associated factors among young adults

Nallahewa P¹, Muthumala N¹, Nagodawithana J¹, Liyanaarachchi H²

¹Faculty of Medicine University of Colombo

²University of Colombo

MEDICAL EDUCATION

PP-30: The relationship between screen time exposure and migraine and non-migraine headaches among undergraduates of Faculty of Medicine, University of Colombo; A cross-sectional study.

Bandara GI¹, Seneviratne SN²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Pediatrics, Faculty of Medicine, University of Colombo

PP-31: Were the Sudden Changes in Learning Due to the COVID-19 Pandemic Influenced the

First-year Medical Students to Improve English and IT Skills?

Dias NWGLTL¹, Kumaradasa PP¹, Randiligama B¹, Rodrigo B¹, Ponnampereuma G¹

¹Department of Medical Education, Faculty of Medicine, University of Colombo

PP-32: Design and Implementation of an online Learning Management System for system training in low resource settings

Fernando P¹, Pallewatta N², Gunewardena PVAI¹, Liyanage P³, Hewapathirana R⁴, Abeysekera AWADSN⁵

¹Postgraduate Institute of Medicine, University of Colombo

²National Programme for Tuberculosis Control and Chest Diseases

³Ministry of Health, Sri Lanka

⁴Faculty of Medicine, University of Colombo

⁵National Programme for Tuberculosis Control and Chest Diseases

PP-33: Designing and conducting an interactive learning module based on ICT and gamification methods for tutors in a medical education course

Fernando P¹, Dilan NMNS², Wijeyaratne AKJM², Ranwala RADLMK³, Hewapathirana R⁴

¹Postgraduate Institute of Medicine, University of Colombo

²Ministry of Health, Sri Lanka

³University of South Australia

⁴Faculty of Medicine, University of Colombo

PP-34: Learning style and academic performance in physiotherapy students

Sigera C¹, Wettasinghe A¹, Thakshila S¹

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

PP-35: Computer Vision Syndrome and its association with ergonomic practices among the undergraduates of Faculty of Medicine, University of Colombo

Faizer F¹, Jayalath L¹

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

MUSCULOSKELETAL DISORDERS – 1

PP-36: Testing the validity and reliability of a questionnaire to determine the incidence of musculoskeletal pain and associated factors among postpartum women in Sri Lanka

Wijesiriwardana AWBWS¹, Thakshila YS¹, Rajasinghe U¹, Pathmanathan C¹

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

PP-37: Association between shoulder joint mobility and glycemic control in patients with type 2 diabetes mellitus of National Hospital of Sri Lanka

Isurika MLT¹, Siridewa K²

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

²Department of Biochemistry and Molecular Biology, Faculty of Medicine, University of Colombo

PP-38: Comparison of patients' satisfaction among rheumatoid arthritis patients treated by Western and Ayurvedic treatments

Hewage KPH¹, Ediriweera MK²

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

²Department of Biochemistry and Molecular Biology, Faculty of Medicine, University of Colombo

PP-39: Case control study of large joint mobility of adult haemophilia patients receiving regular prophylactic therapy with age-matched healthy group and assess the factors of non-compliance with physiotherapy

de Silva A¹, Ratnamalala V², Goonasekera H³

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

²Department of Haematology, National Hospital of Sri Lanka

³Department of Anatomy, Genetics and Biomedical informatics, Faculty of Medicine, University of Colombo

MUSCULOSKELETAL DISORDERS – 2

PP-40: The influence of shoe heel height on lower limb joint pain and functional disabilities among female office workers in selected office settings in Colombo district

Masinghe Y¹, de Silva C², Jayalath L¹

¹ Department of Allied Health Sciences, Faculty of Medicines, University of Colombo.

² Department of Pathology, Faculty of Medicines, University of Colombo

PP-41: Relationship between smartphone usage and subjective musculoskeletal symptoms in the low back region among a cohort of Sri Lankan university undergraduates

De Silva SMNSS¹, Sirisena ND²

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

²Department of Anatomy, Genetics and Biomedical informatics, Faculty of Medicine, University of Colombo

PP-42: The relationship between quality of sleep and musculoskeletal pain among a cohort of undergraduates in Computer Science Engineering in University of Moratuwa

Gamage SRMB¹, Perera RS¹

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

PP-43: Prevalence and associated factors of neck and back pain in information technology sector workers in Sri Lanka

Senanayake B¹, Senevirathne S¹, Ameer S¹, Atukorala I¹

¹Faculty of Medicine, University of Colombo

PP-44: Effects of sedentary time, time spent in family activities and physical activity level on health related quality of life among adolescents

Gamlath R¹, Karunathilake I²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Medical Education, Faculty of Medicine, University of Colombo

PP-45: The relationship between work related stress and musculoskeletal pain among professional computer operators in selected settings in Colombo district

Perera Y¹, Fernando D²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

²Department of Biochemistry & Molecular Biology, Faculty of Medicine, University of Colombo, Sri Lanka

PP-46: Relationships among musculoskeletal pain, physical activity level and stress level of secondary school teachers in Matara district

Dahanayake MSW¹, Pathmanathan C¹, Chadratilaka KRM¹

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

Non-Communicable Diseases

OP-01: External breast prosthesis use, its influencing factors, and the association with quality of life among postmastectomy patients in Sri Lanka

Perera C¹, Perera D¹, Pitigala U¹, Arambepola C²

¹Faculty of Medicine, University of Colombo

²Department of Community Medicine, Faculty of Medicine, University of Colombo

Introduction: Breast cancer diagnoses in Sri Lanka often occur at stage III or below, leading to mastectomy as a common treatment. External breast prostheses (EBP) have shown potential to enhance post-mastectomy quality of life (QOL) in other countries. However, research on EBP usage and impact is limited in Sri Lanka. This study aimed to explore EBP usage, influencing factors, and its association with QOL among Sri Lankan cancer patients.

Methods: A cross-sectional study was conducted among non-metastasized biopsy-proven breast cancer patients who underwent mastectomy at least six months ago. Participants were systematically recruited from post-mastectomy follow-up clinics. An interviewer-administered questionnaire collected data on socio-demographic characteristics, EBP use, and QOL assessment across various domains using a validated tool. Influencing factors were analysed with the Chi-squared test ($p < 0.05$).

Results: Current EBP usage was moderate at 64.5%, with most patients satisfied with its use. EBP was less used during early morning, late at night, sleeping, and family chores, but more during walking, sitting, shopping, and social occasions. The primary reason for EBP use was to mimic the natural breast, while barriers included poor awareness, limited accessibility, and stigma. Socio-demographic factors had a non-significant association with EBP usage ($p < 0.05$). Current EBP users reported higher satisfaction with overall QOL and individual domains compared to non-users ($p < 0.01$).

Conclusions: To enhance the QOL of postmastectomy patients, it is essential to integrate knowledge of EBP and ensure uninterrupted EBP supply in rehabilitation programs. Incorporate formal

EBP supply channels into the programs and regularly provide patients with multilingual leaflets detailing EBP availability and accessibility, soon after mastectomy. Field staff involvement with non-government organizations can help raise awareness about EBP, and forming post-mastectomy patient groups can address the stigma associated with its use.

Keywords: Quality of life, External breast prostheses, Breast cancer

OP-02: The ability of Waist -Triglyceride Index to Identify Metabolic Syndrome among Adults from Jaffna

Paramanathan T¹, Kumanan T¹, Arasaratnam V²

¹Department of Biochemistry, Faculty of Medicine, University of Jaffna

²Department of Medicine, Faculty of Medicine, University of Jaffna

Introduction: Metabolic syndrome (MetS) criteria include Waist Circumference (WC) and Triglycerides (TG). A combination of TG with WC may be useful to detect MetS instead of considering either TG or WC alone. This study was carried out to evaluate the ability of Waist -Triglyceride Index (WTI) to identify MetS, to compare with TG and WC, and to determine WTI cut-off values to predict MetS in adults from the Jaffna.

Methods: A total of 540 adults aged 18-65 years were recruited by random cluster sampling from four areas of the Jaffna peninsula. MetS was defined using the International Diabetes Federation (IDF) criteria. The WTI was calculated as $\text{Ln}(\text{TG}(\text{mg/dl}) \text{WC}[\text{cm}]/2)$. The area under the curve (AUC) of the receiver operating characteristic (ROC) curve was used to assess the ability of WTI in screening for MetS.

Results: A total of 540 individuals were enrolled in this study, with a mean age of $42.18 (\pm 13.89)$ years for males ($n = 175$) and $43.80 (\pm 12.56)$ years for females ($n = 365$). The number of subjects who had MetS among the males was 57 and females was 147. The mean WTI of the total study population was $8.55 (\pm 0.50)$. The mean WTI was significantly different between subjects with MetS (8.96 ± 0.35) and without MetS (8.30 ± 0.40) according to IDF criteria ($p < 0.001$). The AUC of ROC revealed values of 0.889 [95% confidence interval (CI): 0.856, 0.923] for females with a cut-off value of 8.62, 0.912 [95% CI: 0.869, 0.955] for males with a cut-off of value

8.68, and 0.893 [95% CI: 0.866, 0.921] for the total study population with a cut-off value of 8.64 (sensitivity: 82.80% and specificity: 80.00%). The discriminative power of TG and WC to identify individuals with MetS was 0.874 (95% CI: 0.844, 0.904) and 0.747 [95% CI: 0.706, 0.788] respectively.

Conclusion: WTI had an excellent discriminative ability to identify MetS when compared with TG or WC alone. Individuals with higher WTI had a significantly higher risk of having MetS when compared with that of lower WTI.

Keywords: Metabolic syndrome, waist-triglyceride index, triglycerides, waist circumference, discriminative ability

OP-03 Factors associated with Gastroesophageal Reflux Disease by comparison of diagnosed patients and healthy controls

Wickramasinghe N¹, Devanarayana N², Wickramasinghe D³, Thuraisingham A⁴, Jayalath A⁴, Samarasekara N³, Yazaki E⁵

¹Department of Physiology, Faculty of Medicine, University of Colombo

²Department of Physiology, Faculty of Medicine, University of Kelaniya

³Department of Surgery, Faculty of Medicine, University of Colombo

⁴Ministry of Health, Sri Lanka

⁵Gastrointestinal Physiology Unit, Barts and The London School of Medicine, United Kingdom

Introduction: Associated factors related to objectively diagnosed GERD (gastroesophageal reflux disease), compared to healthy controls have not been studied in Sri Lanka.

Methods: Sixty-nine patients from, the National Hospital of Sri Lanka who were diagnosed with GERD by endoscopy or pH-metry were compared with 69 age and sex-matched healthy controls recruited randomly from the Western province. Controls were identified as those who did not have symptoms of GERD such as heartburn, regurgitation, chest pain, bloating, dysphagia, cough, or belching within the last month. An interviewer-administered questionnaire consisting of validated tools was used to assess habits, perceived stress, diet, and physical activity. Anthropometric values were measured.

Results: Of the patients, 52.2% were males. The mean age was 42.2 years [SD 12.9]. When comparing

GERD to controls, lower family income (<50 000 Rs in 75.4% vs. 52.2%), asthma (11.6% vs. 1.4%), consuming a midnight snack (18.8% vs. 2.9%), inadequate sleep (56.5% vs 27.5%), moderate to high stress (59.4% vs 30.4%), and inadequate recommended physical activity (50.7% vs 18.8%) were found to be significantly associated with GERD. ($p < 0.05$). GERD patients were thinner than controls, (underweight or normal BMI 63.8% vs 43.5%), and while daily calorie intake (kcal) [mean (SD), 2154.7 (506.0) vs 2423.3 (491.9)] was less in them.

Conclusions: Socio-economic status, asthma, dietary habits, stress, and reduced physical activity are significantly associated with GERD in Sri Lankan adult population. Diet changes due to symptoms could cause reduced food intake and reduced obesity in patients.

Keywords: Reflux, Heartburn, Controls, Gastroesophageal reflux disease, Prevalence, Sri Lanka

OP-04: The association between gastroesophageal reflux disease and stress: A countrywide study of Sri Lanka

Wickramasinghe N¹, Thuraisingham A², Jayalath A², Wickramasinghe D³, Samarasekara N³, Yazaki E⁴, Devanarayana N⁵

¹Department of Physiology, Faculty of Medicine, University of Colombo, Sri Lanka

²Ministry of Health, Sri Lanka

³Department of Surgery, Faculty of Medicine, University of Colombo, Sri Lanka

⁴Gastrointestinal Physiology Unit, Barts and The London School of Medicine, United Kingdom

⁵Department of Physiology, Faculty of Medicine, University of Kelaniya, Sri Lanka

Introduction: Stress is a known associated factor for gastroesophageal reflux disease (GERD). However, the dynamics between stress and GERD is not fully studied, especially in Sri Lanka. Our objective was to find out the association between those with GERD symptoms and mental stress in Sri Lanka, using validated screening tools.

Methods: For this cross-sectional descriptive study, 1200 individuals (age ranged 18-70 years, mean 42.7 years [SD 14.4 years], 46.1% males), were recruited using stratified random cluster sampling from all 25 districts of Sri Lanka. An interviewer-administered questionnaire which included a country-validated

GERD screening tool, and the Perceived Stress Scale (PSS) was used to assess GERD symptoms and stress. GERD was defined as those having heartburn and/ or regurgitation at least once per week which is on par with globally accepted criteria. Those who did not fulfill these criteria were considered controls.

Results: PSS score was higher in those with GERD (mean 13.75 [standard deviation (SD) 6.87]) than in controls (mean 10.93 [SD 6.80]), ($p < 0.001$, Mann-Whitney U test). The adjusted odds ratio for GERD symptoms was 1.96 times higher (95% confidence interval 1.50-2.55) between moderate to high-stress level and low-stress level participants. PSS score correlated significantly with the GERD screening tool score ($R = 0.242$, $p < 0.001$). Heartburn, regurgitation, chest pain, cough, and burping were significantly frequent in those with moderate to high-stress levels ($p < 0.001$). Those with higher stress scores were more likely to use acid-lowering drugs ($p = 0.006$).

Conclusions: Individuals exposed to higher levels of stress are more likely to have GERD symptoms. Therefore, stress reduction should be an important part of GERD management.

Keywords: Stress, Heartburn, Reflux, Sri Lanka, Gastroesophageal reflux disease

OP-05: Prevalence of maternal overweight/obesity at booking visit and associated maternal and neonatal complications among mothers attending Child Welfare Clinics in Pitakotte MOH area

Jayawardhana T¹, Jayawardana S¹, Jayasekara D¹, Samaranayake D²

¹Faculty of Medicine, University of Colombo

²Department of Community Medicine, Faculty of Medicine, University of Colombo

Introduction: Overweight/obesity has been linked to an increased risk of maternal and neonatal complications. According to the WHO classification BMI between 25-29.9 kg/m² and over 30 kg/m² are considered as overweight and obese respectively.

Objectives: To determine the prevalence of maternal overweight/obesity at booking visit and associated maternal and neonatal complications among mothers with children aged up to one year attending child welfare clinics in Pitakotte MOH area.

Methods: Descriptive cross-sectional study with an

analytical component was carried among 106 consecutively sampled pregnant mothers and their infants aged up to one year attending the child welfare clinics in Pitakotte MOH area. The data were collected using interviewer-administered questionnaire which contained socio-demographic details, BMI at the booking visit, maternal and neonatal complications and confirmed using pregnancy records and the child health development record. Prevalence of BMI categories (<18.5 kg/m²-Underweight, 18.5-24.9 kg/m²-Normal weight, 25.0-29.9 kg/m²-Overweight, ≥30kg/m²-Obese) were presented as percentages with 95% confidence intervals. Maternal and neonatal complications between underweight/normal weight and overweight/obese mothers were compared using chi-square test and Fisher's exact test. Associations with p -value<0.05 were considered as significant.

Results: Out of the 106 mothers, 32(30.2%) were overweight and 10(9.4%) were obese. Out of the maternal complications, gestational diabetes mellitus (33.3% vs 7.8%, $p=0.001$), pregnancy induced hypertension (9.5% vs 0%, $p=0.023$) and joint pains (50.0% vs 28.1%, $p=0.022$) showed significant positive associations with maternal overweight/obesity. Caesarean section was conducted in 78.6%($n=33$) of overweight/obese mothers compared to 50.0%($n=32$) underweight/normal weight mothers, which was a statistically significant difference ($p=0.003$). Out of the neonatal complications, prematurity (19.0% vs 4.7%, $p=0.041$) showed a significant positive association with maternal overweight/obesity.

Conclusions: There is a higher prevalence of maternal overweight/obesity at booking visit and it was significantly associated with maternal complications (gestational diabetes mellitus, pregnancy induced hypertension, joint pains), neonatal complications (prematurity) and Caesarean delivery.

Keywords: Maternal, Overweight, Obesity, Neonatal, Complications

OP-06: Effect of oral nutritional supplement (ONS) on frailty and barthel index in institutionalised older adults with malnutrition: a randomized controlled trial

Dalpatadu C¹, Wickramawardhane P², Hills A P³, Ranasinghe P^{4,5}, Jayawardana R¹

¹ Department of Physiology, Faculty of Medicine,

University of Colombo, Colombo, Sri Lanka.

² Health and Wellness Unit, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka.

³ School of Health Sciences, College of Health and Medicine, University of Tasmania, Launceston, Tasmania, Australia.

⁴ Department of Pharmacology, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka.

⁵ University/British Heart Foundation Centre for Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom

Introduction: Malnutrition contributes to poor functionality, frailty, and sarcopenia in the elderly. Although the potential benefits of ONS for mitigating frailty and enhancing quality of life have been discussed, there remains a lack of clarity regarding their effectiveness.

Objectives: The study aimed to evaluate the efficacy of ONS on frailty and barthel index in malnourished older adults.

Methods: This was an open-label, randomized-controlled, parallel-group, single-centered study. Inclusion criteria were age ≥ 60 years, and mini nutrition assessment (MNA) score ≤ 11 . Participants with oral feeding difficulties, lactose intolerance, and bedridden were excluded. A total of 50 participants were randomly assigned to the intervention (IG) and control (CG) groups (1:1 ratio). The IG received the ONS [57 g/day (247 kcal/serving, 12 g protein)] before bedtime for 12 weeks, while the CG received a glass of water. Frailty was assessed using the five-fried model indicator, and the ability for independent living was measured using the Barthel Index at the beginning and after 12 weeks.

Results: A sample of 42 older adults completed the study, with 5 from the IG and 3 from the CG dropped out due to fractures, hospitalization, and illnesses. The mean age of the IG was 75.38 ± 6.05 years, and the CG was 74.84 ± 5.22 years ($p=0.732$). In the IG there was a significant increase in body mass index (BMI) (0.74 ± 0.52 vs. -0.21 ± 0.44 kgm^{-2} ; $p < 0.001$), gait speed (0.11 ± 0.11 vs. -0.10 ± 0.18 ms^{-1} ; $p < 0.001$), hand grip strength (1.14 ± 1.44 vs. -1.01 ± 2.50 kg; $p=0.002$) and the overall five-fried model indicator score (-0.95 ± 0.22 vs. 0.05 ± 0.49 ; $p < 0.001$). Furthermore, a significant increase in the Barthel Index was observed in the IG (0.30 ± 0.47 vs. -0.18 ± 0.66 ; $p < 0.001$).

Conclusions: IG experienced significant improvements in BMI, frailty score, and Barthel Index, demonstrating ONS effectiveness in reducing

frailty and enhancing the quality of life in malnourished older adults

Keywords: Barthel index, Malnutrition, older adults, ONS, oral nutritional supplement, frailty

OP-07: Comparison of Level of Physical Activity and Quality of Life among Middle-aged and Elderly People with Type 2 Diabetes Mellitus

Noordeen F¹, Wettasinghe A¹

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

Introduction: The number of people with type 2 diabetes mellitus (T2DM) is rapidly growing. Middle age is a critical life stage where the risk of developing T2DM increases significantly. Understanding how physical activity (PA) affects the quality of life (QoL) can provide valuable insights into the potential health benefits of exercise. Therefore, the aim of this study was to evaluate the association between PA and QoL among middle-aged and elderly with T2DM.

Methods: Sixty middle-aged and sixty elderly with T2DM for more than five years were recruited from diabetes clinics, National Hospital, Sri Lanka. Data on demographics and diabetes-related medical indicators were obtained. "International Physical Activity Questionnaire (IPAQ)" and "36-Item Short Form Survey (SF 36)", were used to assess the PA and QoL respectively.

Results: Study sample consisted of 120 middle-aged ($n=60$) and elderly ($n=60$) people with T2DM. Mean age of the study sample was 62.9 ± 11.0 years. Mean PA level of middle-aged (3338.5 ± 2689.8 MET-min/week) was significantly increased compared to elderly (1886.3 ± 1388.1 MET-min/week, $p < 0.001$). In middle-aged, 8.3% ($n=5$) were inactive, 5.0% ($n=30$) were moderately active, and 41.7% ($n=25$) were highly active. In elderly, 15.0% ($n=9$) were inactive, 66.7% ($n=40$) were moderately active, and 18.3% ($n=11$) were highly active. Mean QoL scores were 70.8 ± 14.6 and 69.6 ± 16.3 in middle-aged and elderly respectively ($p=0.655$). There was no significant relationship between PA and QoL in both middle-aged ($p=0.053$) and elderly ($p=0.997$). There was a significant relationship between PA with physical functioning component ($p=0.016$) and fatigue component of QoL ($p=0.036$) in middle-aged. There was a significant relationship between PA and social functioning component of QoL in elderly ($p=0.024$).

Conclusions: Physical activity level was significantly higher in middle-aged compared to elderly. Engaging in adequate PA would help in improving physical functioning and fatigue components of QoL in middle-aged T2DM people. Social functioning in elderly can be significantly improved with PA. Therefore, it is recommended for patients with T2DM to engage in adequate levels of PA in order to enhance their QoL.

Keywords: Physical activity, quality of life, type 2 diabetes mellitus

OP-08: Physical activity level, fear of falling, circumstances and consequences of falls in older adults with type 2 diabetes mellitus attending to selected hospitals in Colombo District

Sandeepani WA¹, Wettasinghe A¹

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction: Older adults with type 2 diabetes mellitus (T2DM) are at increased risk of falling. Fear of falling (FOF) is an important falls-related symptom that has received little attention in studies of falls risk in older adults with T2DM. Physical activity (PA) has a high impact on glycemic control and managing diabetes-related complications. This study aimed to assess PA, FOF, circumstances and consequences of falls in older adults with T2DM attending to selected hospitals in Colombo District.

Methods: In this cross-sectional study, 180 participants with T2DM aged 60 years and above were recruited using convenience sampling from endocrinology clinic of National Hospital of Sri Lanka and Medicine clinic of Colombo East Base Hospital. Diabetes patients who fulfilled the eligibility criteria were recruited until the sample size was achieved. Demographic data and retrospective falls were assessed through an interviewer administered questionnaire. International Physical Activity Questionnaire- Short form (IPAQ-SF) and Ichnographical Falls Efficacy Scale (Icon-FES) were used to assess PA and FOF respectively. Descriptive statistics and spearman correlation test were used for data analysis.

Results: Among 180 T2DM participants (mean age=66.61±5.35 years), 38.3%(n=69) were males and 61.7%(n=111) were females. Mean FOF score was 18.63(±7.32). Mean weekly total energy expenditure was 1567.78(±1216.99)MET-minutes/week. Of the study subjects, 20%(n=36) were physically inactive

while 68.9%(n=124) were moderately active and 11.1%(n=20) were highly active. Approximately, 22% of T2DM participants experienced falls during previous 12 months and 59.2% of falls resulted in injuries. Majority of falls occurred in the morning (51.0%), in forward direction (51.0%), inside the home (46.9%) while walking (59.2%) due to slips (46.9%). There was a significant negative relationship between PA with FOF (p=0.001) and falls (p=0.021). Significant positive relationship was found between FOF and falls (p=0.001).

Conclusions: Engage in PA is associated with decrease in FOF and falls in older adults with T2DM. Therefore, older adults with T2DM should be encouraged to engage in recommended level of PA and should be educated on the circumstances and consequences of falls in order to take preventive measures.

Keywords: Type 2 diabetes mellitus, physical activity, fear of falling, falls

PHYSIOTHERAPY AND OCCUPATIONAL HEALTH

OP-09: The associations of knowledge and practice of computer work-related posture and ergonomics with musculoskeletal pain among engineering undergraduates of University of Moratuwa

Pathirana J R V¹, Perera R S¹

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

Introduction: This study aimed to determine the associations of knowledge and practice of computer work-related posture and ergonomics with musculoskeletal (MSK) pain among engineering undergraduates of the University of Moratuwa.

Methods: A descriptive cross-sectional study recruited undergraduates in the Department of Computer Science & Engineering and Department of Electronic & Telecommunication Engineering, University of Moratuwa. Knowledge and practice of computer work-related posture and ergonomics were collected using a self-administered questionnaire and assessed using a scoring system (0 - 26). The prevalence of MSK pain in last 7 days and 12 months was determined by Nordic MSK questionnaire. Independent sample T- tests were applied to

determine the association between knowledge and practice with MSK pain and reported using mean difference (MD) and 95% confidence interval (CI).

Results: There were 121 undergraduates and mean age was 24 years (SD=1.36), 57.0% were females. Mean knowledge and practice scores were 16.07 (SD=6.40) and 13.87 (SD= 4.59) respectively. Majority complained of neck pain during last 7 days (53.7%) and last 12 months (64.5%). The mean knowledge score was significantly lower among undergraduates having lower back pain during last 7 days (MD=-3.08; 95% CI -5.36 to -0.80) and last 12 months (MD=-2.88; 95% CI -5.18 to -0.58). The mean practice score was significantly lower in undergraduates with neck pain (MD=-1.98; 95% CI -3.59 to -0.36), upper back pain (MD=-1.86; 95% CI -3.47 to -0.23) and lower back pain (MD=-3.35; 95% CI -4.92 to -1.78) during last 7 days; with neck pain (MD=-1.97; 95% CI -3.67 to -0.28), upper back pain (MD=-1.77; 95% CI -3.40 to -0.15) and lower back pain (MD=-1.78; 95% CI -3.43 to -0.13) during last 12 months.

Conclusions: MSK pain is common among Engineering undergraduates and associated with poor knowledge and practice of computer work-related posture and ergonomics.

Keywords: Knowledge, Practice, Computer ergonomics, Musculoskeletal pain, Engineering undergraduates

OP-10: Prevalence of ergonomic factors related to sitting postures in home and office work setups among bank officers in selected banks in Colombo district

Widyapathige T O¹, Pathmanathan C¹, Chadrathilaka K R M¹

¹Faculty of Medicine, University of Colombo

Introduction: The routine work posture of bank officers involves prolonged seated positions with minimal variation. The Covid pandemic led to work-from-home measures in Sri Lanka, posing challenges in maintaining healthy work postures at home. Existing studies highlight the lack of comprehensive knowledge about ergonomic sitting positions in both settings. Thus, this research aims to determine the prevalence of ergonomic factors related to sitting postures among bank officers in home and office setups.

Methods: This descriptive cross-sectional study was

conducted in selected branches of nine private banks in Colombo District. 212 Bank officers, aged 18 to 60, experienced in work-from-home and office setups, were recruited using multi-stage random sampling. Excluded were those with less than 1 month of home setup work experience. Data was collected using the Occupational Safety and Health Administration, Visual-Display-Terminal workstation (OSHA, VDT) checklist. Ethics approval was obtained from the Ethics Review Committee, Faculty of Medicine, University of Colombo.

Results: The study consisted of 136(64.2%) males and 76(35.8%) females. Majority of bank officers aged 18-30 (48.1%) and worked 8+ hours (73.4%). The study compared OSHA scores in office (19.14±5) and home setups (10.95±7). Office setups had significantly higher scores. In offices, the majority had parallel forearms (n=191,90.1%), stable chairs (n=160,75.5%), and cushioned seats (n=178,84.0%). Home setups mostly had stable keyboards (n=114,53.8%), adjacent mice (n=106,50.0%), and adjustable screens for spectacle users (n=105,49.5%). The lowest prevalence in both settings was in head and neck alignment and vertical trunk position (n=103,48.6% each). Home setups exhibited proper head and neck alignment (n=48,22.6%), height-adjustable backrests (n=28,13.2%), and screen reflection avoidance (n=38,17.9%). No users in either setting had feet supported by footrests, rounded pads on sharp edges were lacking, but all could adjust screen brightness and contrast.

Conclusions: Both office and home setups need ergonomic improvements. Which can be used to enhance comfort, productivity, and well-being for healthier work environments.

Keywords: Ergonomic factors, Sitting posture, Office workers, Work from home

OP-11: Body mass index and its relationship with static and dynamic balance in the older adults residing in elders' homes in Ambalangoda, Galle district

Gimhan S M Y M¹, Dalpatadu C¹

¹Faculty of Medicine, University of Colombo

Introduction: Approximately 13% of people worldwide are aged 60 years and above This number is expected to increase up to 21% in 2050. Aging is associated with poor balance. Nearly 75% of people over 70 years old with poor balance suffer from

functional decline and falls. Thus, our study aimed to investigate the relationship between body mass index (BMI) and balance performance among older adults residing in elder's homes in Ambalangoda, Galle district. The objective was to assess both static and dynamic balance and examine the impact of BMI on these measurements

Methods: Eighty participants from four registered elder's homes were included in the study. Static balance was evaluated using four-stage balance assessment, dynamic balance was assessed using the Timed Up and Go (TUG) test and the Five Times Sit to Stand (FTSTS) tests. BMI was calculated based on weight and height measurements.

Results: The FTSTS test demonstrated a significant correlation between BMI and dynamic balance ($p < 0.05$). Higher BMI was associated with slower performance on FTSTS, indicating compromised dynamic balance among older adults with higher BMI. There was no significant correlation between BMI and dynamic balance as assessed by the TUG test ($p > 0.05$). However, Additionally, the four-stage balance assessment revealed a significant relationship between BMI and static balance ($p < 0.05$), suggesting that higher BMI was associated with decreased static balance in older adults.

Conclusions: Both the FTSTS test and the four-stage balance assessment revealed significant associations between BMI which indicates that higher BMI has a negative impact on dynamic and static balance in older adults residing in elder's homes. These findings highlight the importance of BMI and balance and the need to maintain a healthy BMI. Further studies are needed to assess the efficacy of interventions addressing balance improvement in older adults with higher BMI to improve balance and reduce the risk of falls.

Keywords: Body mass index, Static balance, Dynamic balance, Older adults

OP-12: Relationship between musculoskeletal pain and health related quality of life among nurses in a selected government teaching hospital

Purage N S L¹, Atapattu P M²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Physiology, Faculty of Medicine, University of Colombo

Introduction: Musculoskeletal pain (MSP) is a

common medical problem among nurses, who often experience a heavy workload for long hours which may contribute to MSP. This study was to determine the relationship between MSP and health related quality of life (HRQOL) among nurses in a selected government teaching hospital.

Methods: An analytical cross-sectional study, using a web-based self-administered questionnaires was carried out on 120 nurses with work experience >1 year after obtaining ethics approval. Sampling method was convenience sampling method. To evaluate MSP and HRQOL, Standard Nordic Musculoskeletal Questionnaire and Short Form Health Survey were used respectively. Relationship between MSP and HRQOL was analyzed using t-test.

Results: Mean age and working hours were 34.76±9.80 years and 47±26.66 hours respectively. Majority (80.83%) experienced MSP with most common sites affected in past year being lower back(45%), neck(44.2%) and ankles/feet(30.8%). There were high scores for all domains of HRQOL (dHRQOL): physical functioning(PF) [77.17(±19.89)], role-limitation due to physical health(RL_PH) [66.88(±37.26)], role-limitation due to emotional problems(RL_EP) [67.22(±40.76)], energy/fatigue(EF) [51.08(±13.13)], emotional wellbeing(EW) [55.73(±13.41)], social functioning(SF) [66.77(±19.88)], bodily pain(BP) [62.98(±18.53)], and general health(GH) [60.00(±18.53)]. Significant associations ($p < 0.05$) were most common with pain in lower back (affecting 7 dHRQOL), upper back (affecting 5 dHRQOL) and neck and shoulders (affecting 4 dHRQOL). BP and PF were the most affected dHRQOL, each significantly associated with pain in 5 regions.

Conclusions: Though the HRQOL scores are high, a significant association was observed between regional MSP and multiple dHRQOL. Preventing and treating pain is likely to improve HRQOL in this population.

Keywords: Musculoskeletal pain, Quality of life, Nurses

OP-13: Biomechanics of foot, ankle and knee between patients with mechanical low back pain and age-matched volunteers without low back pain attending District General Hospital Matale

Karunathilake D¹, Ranasinghe C¹, Thilakarathne A²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²District General Hospital, Matale

Introduction: Mechanical low back pain (MLBP) is caused by many reasons and the biomechanical changes in the lower extremity such as flatfoot, pronated foot, increased quadriceps angle and hallux valgus.

Objectives: This study aimed to describe and compare the biomechanical parameters of foot, ankle and knee among patients who are diagnosed with MLBP by consultant and age matched volunteers without low back pain.

Methods: A cross-sectional study was conducted in rheumatology and medical clinics of District General Hospital, Matale involving 60 subjects with only MLBP and 60 subjects without MLBP between the ages of 18 and 60 years. Age and gender distribution were matched among two groups. Pathological low back pain, rheumatological conditions, tumors, obese individuals, musculoskeletal pathologies in the ankle, knee or hip, neurological deficits, any previous surgeries in the lower extremity were exclusion criteria. Convenience sampling method was used. Foot arch type was categorized as normal, low arch or high arch. The flatfoot was measured by using the Arch Index and Calcaneal Eversion test. Foot hyperpronation was assessed by the Navicular Drop test. The Q angle and Hallux valgus were measured. Chi-square test, independent sample t-test and independent sample Mann Whitney U tests were used for data analysis.

Results: The mean age of MLBP group was 53.93 (± 10.98) years and without MLBP was 52.92 (± 10.91) years. Among the MLBP group, females (83.3%) were higher than the males (16.7%). The low foot arch, calcaneal eversion and higher Q angle were significantly associated in patients with MLBP ($p < 0.05$). There was no association found between Navicular drop and Hallux valgus with MLBP ($p > 0.05$).

Conclusions: Low foot arch, calcaneal eversion and higher Q angle were significantly associated in patients with MLBP. There was no association found between Navicular drop and MLBP. There was no association found between the Hallux valgus and MLBP.

Keywords: Mechanical Low Back Pain, Flatfoot, Foot pronation, Q angle, Hallux valgus

OP-14: Factors leading to febrile convulsions in children presenting with fever: A case control

study from a children's hospital, Colombo, Sri Lanka

Somasekara S¹, Sivapalan K¹, Siyambalapitiya N¹, Walpita Y²

¹ Faculty of Medicine, University of Colombo

² Department of Community Medicine, Faculty of Medicine, University of Colombo

Introduction: Febrile seizures are the commonest form of convulsions in children. Although the long-lasting effects are rare, they produce extreme parental concern. Not all children with fever develop convulsions. The aim of this study is to determine the factors leading to convulsions in children with fever.

Methods: A hospital-based case-control study (ratio 37:74) conducted among children aged 5 months-5 years. Cases were 'children admitted to any medical ward in Lady Ridgeway Hospital Colombo with febrile convulsion/s'. Controls were 'children admitted to same ward, with fever (documented $> 38^{\circ}\text{C}$) but without convulsions. An interviewer administered questionnaire collected data on socio-demographics and environmental factors, clinical details of the patient as per mothers report and BHT, self-reported antenatal parameters including GDM, PIH status and anemia. The current growth parameters were extracted from hospital notes and analysed using charts in CHDR. Above factors were compared between the two groups using Odds ratio and independent sample T test.

Results: The cases had more males (70.2% Vs 52.7%) and lower mean age (33.03 vs 39.47 months) compared to controls, but these differences were not statistically significant ($p > 0.05$). Interestingly, the peak temperature level also had no association with development of convulsions. However, a Hb value less than 11g/dl in the child (Vs 11g/dl or more), maternal GDM, maternal PIH, anaemia during pregnancy and positive family history increased the risk of febrile convulsions. ($p < 0.05$). Having a normal weight for age, normal height for age and born via normal vaginal delivery were significant protective factors against developing convulsions ($p < 0.05$).

Conclusions: The study, concluded that the nutritional status (mainly by means of macronutrients) of the child, maternal morbidities, delivery mode and positive family history too have a significant bearing on the development of febrile convulsions. Hence, preventive actions to be targeted accordingly.

Keywords: Children, Convulsion, Factors, Family,

Febrile

OP-15: Knowledge regarding hearing aid use and factors associated with it among elders diagnosed with age-related sensorineural hearing loss attending Ear, Nose, Throat (ENT) clinics at National Hospital Sri Lanka (NHSL)

Muhunthan K¹, Milinda S¹, Siriwardene Y¹

¹ Faculty of Medicine, University of Colombo

² Department of Community Medicine, Faculty of Medicine, University of Colombo

Introduction: Age-related sensorineural hearing loss (ArSNHL) is the primary cause of hearing loss among elderly Sri Lankans. While ArSNHL cannot be reversed, consistent use of hearing aids can minimize its negative implications. Behind-The-Ear (BTE) type hearing aids are distributed freely among most government hospitals of Sri Lanka. Lack of local resources on knowledge and factors associated with hearing aid use presents challenges in providing advice upon hearing aid acquisition and follow-up visits.

Methods: A cross-sectional study with an analytical component was conducted among patients with ArSNHL diagnosed using pure tone audiometry studies, who have been using BTE type hearing aids for at least 2 weeks duration. Participants were recruited systematically from ENT clinics of NHSL. An interviewer-administered questionnaire developed by investigators was used to obtain data on sociodemographic characteristics, problems related to hearing aid use and knowledge regarding hearing aids. Factors associated with hearing aid usage were assessed using the Chi-square test at 0.05 significance.

Results: From the sample (N=152) 75% of study participants had good technical knowledge which had a statistically significant association with higher number of clinic follow-up visits ($p < 0.05$). More than 60% of the study participants cited background noise as the main problem with regular hearing aid use. Despite 90% being positively impacted by hearing aids, only 50% were willing to replace them if broken or misplaced. 52% of the study participants claimed they did not want to replace hearing aids due to high cost.

Conclusions: Patient education and awareness should be centered around benefits and limitations of hearing aids, while highlighting common problems

likely to be encountered when using hearing aids and how they can be managed.

Keywords: Knowledge, hearing aid, problems

OP-16: Relationships of physical activity with depression and sleep quality among patients with Parkinson disease

Kawmadi P P D¹, Dahanayake D M A²

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

² Faculty of Medicine, University of Colombo

Introduction: Parkinson's disease (PD) is a neurodegenerative disorder characterized by motor and non-motor symptoms. Non-motor symptoms, specifically poor sleep quality and depression, are considered major complications in PD. Physical inactivity are prevalent in PD. These factors have a negative impact on the quality of life. This study aims to describe the level of physical activity, depression, and sleep quality and to identify the relationships between the levels of physical activity, depression, and sleep quality of patients with Parkinson's disease in a Sri Lankan setting.

Methods: This descriptive cross-sectional study recruited 111 PD patients with a mean age of 67.36 years attending neurology clinics, National Hospital of Sri Lanka. Culturally validated Sinhala versions of the Short-Form International Physical Activity Questionnaire, Pittsburgh Sleep Quality Index, and 15-item Geriatric Depression Rating Scale were used to assess physical activity, sleep quality, and depression, respectively. Descriptive statistics and Pearson's correlation were used for analysis.

Results: The study found that 38.7% of participants were physically inactive, with 41.4% moderately active. Despite majority describing sleep quality as 'fairly good' 83.8 % were found with poor sleep quality with a mean value of 11.34 (± 5.64) in global PSQI. Sleep duration component being the highest mean score. 51.3% exhibited depressive symptoms, while the majority exhibited mild depressive symptoms. A positive correlation was observed ($r = 0.843$) between poor sleep quality and depression severity. Negative correlations were found between physical activity and depression severity ($r = -0.799$) and between physical activity and poor sleep quality ($r = -0.674$).

Conclusions: A greater level of physical activity in PD is associated with good sleep quality and reduced

depression. Hence, patients should be encouraged to achieve the recommended daily level of physical activity. The author suggests engaging Parkinson patients in a structured rehabilitation program that can be applied in a Sri Lankan setting.

Keywords: Parkinson, Physical activity, Depression, Sleep quality

OP-17: Knowledge Regarding Stroke and Caregiving Among Caregivers of Stroke Patients

Lakshitha K H Y S¹, Anthony D J¹

¹Faculty of Medicine, University of Colombo

Introduction: Stroke is a significant health problem, requiring actions to mitigate secondary complications and assistance in daily living. Poorly developed resources for caregivers that offer minimal information and advice can not only add to caregivers' distress but also impede the stroke survivors' recovery process. Hence, this study aimed to fill the gap in literature in Sri Lanka on knowledge about stroke and caregiving among caregivers of stroke patients.

Methods: A descriptive cross-sectional study, was carried out on 100 stroke patient caregivers who were selected from convenient sampling method at Stroke Units in National Hospital and Ragama Rehabilitation Hospital, Sri Lanka. A self-administered questionnaire incorporating two questionnaires developed by the previous researches was given excluding caregivers who were health professionals. The data analysis was done through SPSS version 23.0.

Results: Mean age of the participants was 39.64±12.64 years. The majority were relatives of the patient(76%), while 24% were paid caregivers. Their highest educational levels exhibited variation: with the majority not having any higher education (89%). While 73% knew the effects of rehabilitation, only 36% were knowledgeable about the warning signs of transient ischemic attack. Caregivers with higher education provided accurate responses at a rate of 75.66%, whereas those with education below grade 10 achieved a correct answer rate of only 37.5%. Similarly, knowledge regarding the proper positioning/transferring of stroke patients showed similar pattern with correct answer rate of 60.09% from participants with higher education. Nurses were the primary source of information concerning stroke and caregiving skills for caregivers, accounting for 37% of the respondents. The majority of caregivers expressed willingness to undergo proper training for the caregiving of stroke patients (55%).

Conclusions: These findings suggest the necessity for tailored educational and training program and workshop initiatives to improve caregivers' knowledge regarding stroke and caregiving skills, taking into consideration their educational backgrounds.

Keywords: Stroke, Caregiver, Knowledge, Signs, Risk factors

Genetics and Molecular Methods

OP-18: The Impact of the Foveal Avascular Zone on Visual Acuity Outcomes in Anisometropic Amblyopia Management with Binocular Vision Therapy

Chandrasekera A¹, Pathirana H¹, Wijerathne G², Goyal A³

¹ Vision Care Academy, Sri Lanka

² Mout Lotus Hospital, Sri Lanka

³ Sankara Academy of Vision, India

Introduction: Amblyopia, a neurodevelopmental disorder, limits visual functions, impacting binocular vision and sensory development. The definitive anatomical causes and factors contributing to amblyopia are under ongoing study. Binocular Vision Therapy (VT) aims to improve patient performance and enhance motor skills compromised by amblyopia.

The fovea forms by lateral retinal layer displacement, creating a pit, with a central avascular zone. Optical coherence tomography angiography facilitates non-invasive quantitative analysis of this Foveal Avascular Zone (FAZ).

Objective: To investigate the correlation between the size of FAZ and the visual acuity (VA) outcomes observed in individuals with anisometropic amblyopia, who have undergone binocular vision therapy.

Methods: A prospective observational study was conducted at a primary optometric center from 2021 April- 2023 March enrolling 70 subjects with unilateral non-strabismic anisometropic amblyopia from both genders between the age of 8-20 years. Over the course of VT application FAZ parameters, VA, and related measurements were obtained in three consecutive visits.

Results: The size of the foveal avascular zone and the visual acuity outcome after amblyopia therapy were

found to be strongly correlated $r(70) = 0.73, p < .001$. The eyes with a larger FAZ area exhibited higher VA outcomes post-therapy, and the degree of VA improvement was found to be proportional to the FAZ size.

Conclusions: This study demonstrates a positive correlation between the size of the FAZ and the extent of VA improvement in amblyopic eyes, highlighting a stronger improvement in VA in relation to a larger FAZ size.

Keywords: Amblyopia, Foveal avascular zone, Vision therapy, Visual acuity

OP-19: Effects of a meditation based protocol on seizure frequency on patients with drug resistant epilepsy: A randomized controlled trial

Vithanage K¹, Dissanayake D¹, Chang T¹

¹Faculty of Medicine, University of Colombo

Introduction: Epilepsy is a neurological condition characterized by recurrent unprovoked seizures. Epilepsy is commonly treated by anti-seizure medications. Nevertheless drug-resistant epilepsy (DRE) affects 25% of all epileptic patients. These patients are likely to require epilepsy surgery to control their seizures. However, epilepsy surgery is not commonly available in most of the resource poor settings. Therefore we explored the possibility of meditation based protocol as a therapeutic intervention in the management of drug resistant epilepsy.

Methods: Forty-five patients with DRE were recruited from neurology outpatient clinics at National Hospital of Sri Lanka. They were randomized into two arms as interventional group (IG) and usual care groups (UC). Meditation based therapeutic intervention was implemented on the interventional group daily for 40 minutes for a period of eight weeks. They were requested to maintain their seizure diaries. Data collection occurred at pre, mid and post intervention stages. Trial was registered at Sri Lanka clinical trial registry under Registration No: SLCTR/2022/014.

Results: IG was consisted of 12 males and 11 females (mean age 40.9 years (SD 14.5)) while UC had 13 males and 9 females (mean age 41.3 years (SD 9.9)). Two from IG and three from UC were lost to follow up. Mean seizure frequencies per month among IG and UC at preintervention were 10.1 (SD 3.7) and 8.2 (SD 4.4) ($p = 0.24$) while mid-intervention were 8.1

(SD 4.5) and 7.4 (SD 3.1) and postintervention were 7.15 (SD 4.2) and 7.9 (SD 2.6) respectively. Mean reduction in the seizure frequency in the IG at the end of 8 weeks was statistically significant ($p < 0.001$).

Conclusions: Meditation based intervention could be considered as an important adjunct in the management of drug resistant epilepsy.

Keywords: Epilepsy, Meditation, Seizures

GENETICS & HAEMATOLOGY

OP-20: Knowledge and Attitudes on Thalassemia and Practice of Pre-Marital Thalassemia Screening among Newly-Married Couples in Kurunegala Medical Officer of Health area

Gallage N¹, Galhena T¹, Gamage D¹, Senerath U²

¹ Faculty of Medicine, University of Colombo, Sri Lanka

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

Introduction: Thalassemia is a burdensome inherited disease for the health sector of Sri Lanka and the patient's families. Prevention of thalassaemic births is the best way to minimize its burden. This study aimed to describe the factors associated with knowledge and attitudes on general aspects of thalassaemia and services available as well as practice of pre-marital screening among newly-married couples in Kurunegala Medical Officer of Health (MOH) area.

Methods: A cross-sectional descriptive study was conducted recruiting 216 participants (108 couples) from Kurunegala MOH area who have registered their marriage between April - October 2022 using multi-stage random sampling. An interviewer-based questionnaire was administered to both husband and wife separately. The scores obtained for knowledge and attitudes by them were analyzed statistically corresponding to their pre-marital screening status and factors associated using independent sample t-test and chi-square test.

Results: Out of the participants 55.1% (n=119) have undergone pre-marital screening. A significantly poor level of knowledge among those who haven't undergone screening was elicited ($p < 0.05$). Risk factors elucidating a significant inadequacy of knowledge ($p < 0.05$) were age < 21 years, ethnicity

Tamil, religion Hinduism, education level below passing A/Ls and economic status <Rs. 30,000 of monthly income. Significantly higher probabilities to get screened ($p < 0.05$) were shown by those having a positive family history of thalassemia (85.7%, n=12 out of 14) and those having a positive ancestral background around Kurunegala (61.9%, n=91 out of 147). About attitude, majority (85.7%, n=185) believed in the importance of pre-marital screening. Most (62.9%, n=136) showed a positive attitude towards alternative options available for a high-risk couple to have children. However, 25.0% (n=54) showed a certain stigma towards thalassemia.

Conclusions: Although Kurunegala is a highly prevalent area for thalassemia, practice of pre-marital screening remains unsatisfactory. Risk groups with poor knowledge leading to poor practice of screening were identified. Thus, launching awareness programme especially targeting those risk groups is recommended.

Keywords: Community genetics, Thalassemia, Pre-marital thalassemia screening, Kurunegala

OP-21: Quality of life and factors associated with it among paediatric haemophilia patients attending a tertiary care children's hospital in Sri Lanka

Siriwardena H¹, Siriwardena R¹, Siriwardene D¹, Walpita Y¹

¹Faculty of Medicine, University of Colombo

Introduction: Haemophilia is an X linked recessive bleeding disorder which manifests in childhood. This study aimed to find the Quality of Life (QoL) of paediatric patients suffering from this chronic disease along five domains including, physical activities, mood and feelings, family and free time, friends and company and school/preschool learning experience. It also explored factors associated with QoL.

Methods: A cross sectional study was conducted among consecutively sampled 100 haemophilia patients aged 4 years and above, at haemophilia clinic of Lady Ridgeway hospital, Colombo during September 2022. KIDSCREEN-27 QoL questionnaire was administered to parent-child pairs to assess the QoL. The translated Sinhala and Tamil versions were subjected to face and content validation and cultural adaptation. This was complimented with investigator developed questionnaire assessing the factors associated. The descriptive parameters were described using mean (SD) and percentages and

associations with chi square test. A modified scoring system was developed with expert consensus to determine the levels of QoL.

Results: All patients participated in the study (n=100) were males and, majority (92%) had Haemophilia A. Of all study recruits, 77% were diagnosed of severe disease and 49% had chronic arthropathy. The QoL scoring system ranged from 30-135 and the mean score obtained by the participants in this study was 107.6 (SD 10.2). Patients who scored below the mean (51%) were categorised as having poor QoL. High disease severity, presence of chronic hemophilic arthropathy, requirement of physiotherapy or orthopaedic therapy, attending school, low parental education and poor awareness of the disease among parents were significantly associated with the poor QoL ($p < 0.05$).

Conclusions: The management plans for haemophilia patients' needs emphasis on improving QoL. Advising children to attend clinics without defaulting treatment to control disease severity and flare-ups, prevent any joint injuries and bleeding as much as possible to prevent possibility of arthropathy, counselling families and children to improve awareness of the disease are also important recommendations.

Keywords: Haemophilia, Quality of life, Children

OP-22: A study on genetic variants associated with Retinoblastoma in a cohort of Sri Lankan populations

Athige R S G¹, Wettasinghe K¹, Dissanayake M¹

¹Faculty of Medicine, University of Colombo

Introduction: Retinoblastoma (RB) is the most common intraocular cancer of infancy & childhood with 8000 – 9000 cases detected every year. The mean age of diagnosis is 18 months. The symptoms include leucocoria, poor vision, glaucoma & proptosis. Different genes such as *KIF14*, *MYCN* & *CDH11* are related with RB, but the tumor suppressor *RBI* gene shows the most significant association. It's located at chromosome 13q14.2 locus and is consisted of 27 exons & 27 introns. The late RB diagnosis causes increased mortality in developing countries. This study aims to determine the genetic variants associated with RB in Sri Lanka to develop genetic screening & to reduce the mortality rate with early diagnosis.

Methods: Two *RBI* genetic variants were selected

(rs121913300 & rs1131690863) after analysing the allele frequency in the Asian population. A T-ARMS PCR protocol was optimized for the selected variants using newly designed primers. The 59 gDNA samples provided by Human Genetics Unit, Faculty of Medicine, University of Colombo, Sri Lanka were genotyped and validated by Sanger Sequencing.

Results: Out of 34 female and 25 male patients, 63% showed unilateral RB while 37% showed bilateral RB. A minority of 6.78% had a family history of RB. All were homozygous for the ancestral allele for both *RBI* variants rs121913300 & rs1131690863. The minor allele frequencies determined that both variants were rare in the Sri Lankan population. The genotypic distributions of both variants were in Hardy-Weinberg Equilibrium. Furthermore, gender and stage of retinoblastoma had no significant relationship in the patient cohort.

Conclusions: Both rs121913300 & rs1131690863 *RBI* genetic variants are rare in the Sri Lankan population. The genotype distribution is in Hardy-Weinberg Equilibrium, hence will continue the constant across generations. Accordingly, it's not advised to employ these 02 variants in developing RB screening tests for Sri Lankan community.

Keywords: Retinoblastoma, T-ARMS PCR, Incidence, Genetic assay, *RBI* gene

OP-35: Diversity of pharmacogenomic variants affecting the efficacy, metabolism and toxicity of anti-cancer drugs in a South Asian population from Sri Lanka

Thuwaragesh V¹, Ariadurai JN¹, Thilakarathne KMDGS¹, Ranasinghe P², Sirisena ND³, Anandagoda G³, Dissanayake VHWD³

¹Faculty of Medicine, University of Colombo, Colombo 8, Sri Lanka

²Department of Pharmacology, Faculty of Medicine, University of Colombo, Colombo 8, Sri Lanka

³Department of Anatomy, Genetics and Biomedical Informatics, Faculty of Medicine, University of Colombo, Colombo 8, Sri Lanka

Introduction: The effectiveness and safety of anti-cancer drugs vary significantly among individuals due to genetic factors influencing the efficacy and

toxicity, due to altered metabolism. Data on the pharmacogenomic variations in Sri Lankans related to anti-cancer therapy is sparse. This study aimed to explore the diversity of pharmacogenomic variants of anti-cancer drugs in Sri Lankans.

Materials and Methods: The study focused on drug-gene pairs relevant to anti-cancer drugs with Pharmacogenomics Knowledgebase (pharmGKB) database evidence levels 1A-2B. Their frequencies in Sri Lankans were obtained from an anonymized database that was derived from 427 Sri Lankans who were referred to the Human Genetics Unit, Faculty of Medicine, University of Colombo for exome sequencing. Variants that were not present in Sri Lankans and those with 'Normal function' alleles as assigned by the Clinical Pharmacogenetics Implementation Consortium were excluded, leaving DPYD, NUDT15, EPAS1, and XRCC1 gene variants for analysis. Variations in DPYD, NUDT15, and EPAS1 genes are related to increased toxicity to fluoropyrimidines, mercaptopurines, and sorafenib respectively. Variations in XRCC1 gene is related to increased efficacy of platinum compounds. Minor allele frequencies (MAFs) of these variants were calculated and compared with other populations.

Results: Mean age of the study population was 25.4±20.3 years, with a male: female ratio of 1:1.3. Predominant ethnicity was Sinhalese (81.03%). MAFs of rs56038477:c.1236G>A(DPYD), rs7557402:c.1035-7C>G(EPAS1), rs116855232:c.415C>T(NUDT15*3), and rs25487:c.1196A>C(XRCC1) were: 2.22% [95%CI:0.82-3.61], 38.29% [95%CI:33.68-42.9], 8.67% [95%CI:6-11.34], and 62.65% [95%CI:58.06-67.24], respectively. MAFs of rs7557402:c.1035-7C>G(EPAS1), and rs25487:c.1196A>C(XRCC1) were significantly lower in Sri Lankans, while MAFs of rs116855232:c.415C>T(NUDT15*3) and rs56038477:c.1236G>A(DPYD) were significantly higher in Sri Lankans when compared to some Western and Asian populations.

Conclusion: Sri Lankans are likely to show lower toxicity risk with sorafenib (rs7557402:c.1035-7C>G) and, higher toxicity risk with fluoropyrimidines (rs56038477:c.1236G>A) and mercaptopurine (rs116855232:c.415C>T), and reduced effectiveness with platinum compounds (rs25487:c.1196A>C). These findings highlight the potential contribution of these genetic variations to inter-individual variability in anti-

cancer dosage requirements among Sri Lankans.

Keywords: anti-cancer, oncology, pharmacogenomics, Sri Lanka, South Asia

PUBLIC HEALTH

OP-23: The quality of life and associated factors of Leprosy patients attending the Leprosy clinic and dermatology clinics at the National Hospital of Sri Lanka

Arudchelvam U¹, Pulendran T¹, Sirimanne M¹, Pabasara S¹, Kahavita I², Chandraratne N³

¹ Faculty of Medicine, University of Colombo

² Anti-Leprosy Campaign, National Hospital of Sri Lanka

³ Department of Community Medicine, Faculty of Medicine, University of Colombo

Introduction: Leprosy continues to be a significant public health concern in many regions of Sri Lanka. Leprosy, being a debilitating disease, greatly affects one's quality of life. This study evaluates the dermatology-related quality of life and its associated factors of leprosy patients undergoing treatment.

Methods: A descriptive cross-sectional study was conducted among 109 leprosy patients attending the leprosy and dermatology clinics of NHSL through a consecutive sampling method. Data was collected via an interviewer-based questionnaire. The quality of life (QoL) was evaluated using the Dermatological Life Quality Index (DLQI) and then amalgamated into two categories. A DLQI score of 0-1 being 'QoL not affected' and a DLQI score of 2-30 being 'QoL affected'. Associations were determined using Chi-square tests and Mann-Whitney U tests at 0.05 significance.

Results: The data were non-normally distributed with a right skew. The mean DLQI score was 1.14 (SD=2.63). The majority belonged to the 'QoL not affected' category (n=88; 80.7%). A significantly higher proportion of the population who were Sinhalese (n=75; 88.2%) and married (n=73; 84.9%) had no effect on their quality of life when compared to those who were of non-Sinhalese ethnicity and not married respectively (p<0.05). Patients with an education of grade eleven or higher (n=72; 87.8%) had significantly better quality of life when compared to those who had an education below grade eleven (p=0.01). Similarly, a significantly larger proportion

of participants who could independently perform their activities of daily living (n=87; 82.9%), had no disabilities (n=63; 87.5%), and had no Leprosy reactions (n=76; 88.4%) were found to have no effect on their quality of life when compared to their relevant counterparts.

Conclusions: The quality of life of most leprosy patients undergoing treatment is unaffected. Prompt identification and treatment, along with prevention of disability and Leprosy reactions indicate a better quality of life.

Keywords: Leprosy, quality of life, Dermatological Life Quality Index, National Hospital of Sri Lanka

OP-24: The stigma and associated factors of Leprosy patients attending the Leprosy clinic and dermatology clinics at the National Hospital of Sri Lanka

Arudchelvam U¹, Pulendran T¹, Sirimanne M¹, Pabasara S¹, Kahavita I², Chandraratne N³

¹ Faculty of Medicine, University of Colombo

² Anti-Leprosy Campaign, National Hospital of Sri Lanka

³ Department of Community Medicine, Faculty of Medicine, University of Colombo

Introduction: Leprosy continues to be a significant public health concern in many regions of Sri Lanka. Historically, Leprosy has always been subjected to stigmatization. This study evaluates the stigma and associated factors of leprosy patients undergoing treatments to gain the maximum outcome of the teaching.

Methods: A descriptive cross-sectional study was conducted among 109 leprosy patients attending the leprosy and dermatology clinics of NHSL through a consecutive sampling method. Data were collected via an interviewer-based questionnaire. Stigma was assessed using a validated, modified Stigma Assessment and Reduction of Impact (SARI) tool, which was described in relation to four domains; 'experienced stigma' (ES), 'disclosure concerns' (DC), 'internalized stigma' (IS), and 'anticipated stigma' (AS). Associations were determined using Spearman's correlation tests and Mann-Whitney U tests at 0.05 significance.

Results: The data were non-normally distributed with a right skew. The mean total SARI score was 9.82 (SD=10.23; range = 0-51). DC (rs=-2.66; p=0.005)

showed a weak, negative correlation and AS ($r_s = -3.6$; $p < 0.001$) showed a moderate, negative correlation with the duration since diagnosis. Conversely, the correlation between time since diagnosis and ES ($r_s = 0.22$; $p = 0.022$) was positive and weak. Patients who had completed their treatment regimen exhibited lower scores for AS ($p = 0.03$), DC ($p = 0.049$), and IS ($p = 0.02$) compared to those who hadn't completed their treatment. Participants without disabilities showed significantly lower scores for DC ($p = 0.049$), IS ($p = 0.01$), and AS ($p = 0.01$) compared to those with disabilities. Patients who didn't contract any Leprosy reactions displayed significantly lower scores across all SARI domains as well as the total SARI score ($p < 0.05$) when compared to those with reactions.

Conclusion: The results suggest that stigma experiences may evolve time, with patients gradually becoming less apprehensive about disclosure while possibly encountering a slight increase in experienced stigma. Disability status and Leprosy reactions significantly impact stigma.

Keywords: Leprosy, stigma, Stigma Assessment and Reduction of Impact, SARI, National Hospital of Sri Lanka

OP-25: Implications of the economic crisis in Sri Lanka on the management of patients with kidney failure undergoing haemodialysis

Dias M I¹, Sudusinghe I¹, Karunaratne H T¹, Wijewickrama E²

¹Faculty of Medicine, University of Colombo, Sri Lanka.

²Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction: Chronic kidney disease (CKD) affects >10% of the global population. Kidney failure (KF) requires kidney replacement therapy (KRT) which is a burden in low and middle-income countries. Sri Lanka's ongoing economic crisis further challenges managing KF patients. This study aims to assess the impact of economic crisis on haemodialysis adherence, medications, fluid restrictions, and diet among patients with KF.

Methods: A descriptive cross-sectional study was conducted among adults with KF undergoing haemodialysis at the National Institute for Nephrology, Dialysis, and Transplantation, Maligawatta. Patients were selected using a

probability-based sampling method. Data on socio-demographics, medications, investigations, diet, transportation and dialysis were collected through an interviewer-administered questionnaire. Dialysis compliance was measured using the End-Stage Renal Disease Adherence Questionnaire (ESRD-AQ). Data was analysed using Mann-Whitney u test and Chi-square test.

Results: The study included 126 patients, with 68% being males, and a median age of 42 years (18 to 80). Median distance to the dialysis centre was 25km. Majority is unemployed (60.30%). The cost of one dialysis session in the private sector (6500 to 8200) and monthly medications (1000 to 2500) increased. The economic crisis showed a statistically significant association with completely missing dialysis treatment ($p < 0.5$), missing prescribed medicines ($p < 0.5$), relying on the private sector for investigations ($p < 0.5$), and affordability of special supplements ($p < 0.5$) and high protein/calorie milk ($p < 0.5$). Reasons for postponing dialysis included increased private sector treatment costs and transportation expenses. However, the overall treatment compliance was not significantly affected according to ESRD-AQ.

Conclusions: The study highlights the impact of the economic crisis on haemodialysis treatment in Sri Lanka. Nevertheless, patients have adhered to the KF treatment regimen. Support systems must be developed to assist KF patients to overcome the challenges posed by the economic crisis.

Keywords: Chronic Kidney Disease, Economic Crisis, ESRD-AQ, Haemodialysis, Support System

OP-26: The assessment of asymptomatic cutaneous leishmaniasis in Sri Lanka using serological methods

Karunathilake C¹, Alles N¹, Piyasiri S B¹, Weerasinghe L¹, Chandrasiri N¹, Devasurendra R¹, Karunaweera N¹

¹Department of Parasitology, Faculty of Medicine, University of Colombo

Introduction: Cutaneous leishmaniasis (CL) is a parasitic disease caused by *Leishmania donovani* and transmitted by sand flies. The disease is presented as a papule, nodule, ulcer or plaque. It is usually believed that 20%-60% of the cases from endemic areas are asymptomatic. Therefore, it is important to assess the percentage of asymptomatic cases from endemic settings in order to plan disease control

measures. This study was designed to detect asymptomatic CL infections by assessing the presence of anti-leishmania antibodies in healthy population from endemic areas.

Methods: Three (rK39, KMP11, crude parasite extract) validated Enzyme Linked Immunosorbant Assays (ELISAs) were conducted for serum samples (n=414) collected from individuals with no history of confirmed CL and live within a distance of 1500 m to a confirmed CL patient. The study covered all 09 provinces. The correlation between ELISA positivity and case burden (Epidemiology Unit, 2018) was assessed by performing Spearman and Pearson correlation tests using SPSS v26.0.

Results: From the participants, 96.9% (n=401/414) were positive for rK39 ELISA (Sensitivity=71.2%, Specificity=64%) while 83.8% (n=263/314) tested positive for KMP11 ELISA (Sensitivity=79.2%, Specificity=71.4%). Only 20.9% (n=58/277) individuals tested positive for crude antigen ELISA (Sensitivity=82.4%, Specificity=85.7%). A correlation was observed between the seropositivity of all 03 ELISAs (rK39: p=0.037, KMP11: p=0.007, CrudeAg: p=0.000) with provincial case incidences.

Conclusions: The results imply that a higher percentage of individuals in endemic settings have exposed to leishmaniasis. These serological tests may provide an accurate estimate of disease burden as well as transmission intensity, and these findings will be important in designing control strategies for leishmaniasis in Sri Lanka.

Keywords: Leishmaniasis, Serology, Asymptomatic, Disease burden

OP-27: Prevalence of Musculoskeletal and Respiratory complications in post-COVID-19 patients in selected MOH areas in Galle district, Sri Lanka

Udara S¹, Jayalath L¹

¹ Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

Introduction: Respiratory and musculoskeletal complications pose challenges in post-COVID-19 patients, affecting their well-being. This study investigated the percentage of these complications in a selected cohort of post-COVID-19 patients from selected MOH areas in Galle district, Sri Lanka.

Methods: A descriptive cross-sectional study with

110 post-COVID participants from Welivitiya, Divithura, and Elpitiya MOH areas. Participants were selected conveniently from the MOH database. Data collection included interviewer-administered questionnaires and validated assessment tools such as the Nordic Musculoskeletal Questionnaire and Clinical COPD Questionnaire. SPSS version 25.0 analyzed data using descriptive statistics, chi-square test, independent samples t-test, and one-way ANOVA.

Results: The result indicates that 52.7% and 30.0% of participants reported musculoskeletal problems in the past 12 months and past 7 days respectively. Furthermore, 44.5% reported limitations in their daily activities due to these complications. In relation to respiratory complications, 65.4% of participants reported experiencing SOB during physical activities. Additionally, limitations in strenuous physical activities were reported by 67.3% of participants. Age was significantly associated with both complications.

Conclusions: Post-COVID-19 patients experienced both respiratory and musculoskeletal complications even 6 to 18 months after testing positive for COVID-19. Older age was found to be strongly associated with both types of complications, and male gender showed an association with respiratory complications.

Keywords: Post-COVID-19, Respiratory complications, Musculoskeletal complications, Prevalence

OP-28: Factors associated with high rates of unspecified diagnosis in eIMMR

Sahabandu M P W¹, Hewapathirana R H²

¹ Postgraduate Institute of Medicine, University of Colombo

² Faculty of Medicine, University of Colombo

Introduction: The health status of any country is reflected by its morbidity and mortality rates. In Sri Lanka, hospital admission details were collected via the electronic Mortality and Morbidity Return (eIMMR). In-patients receives a Bed Head Ticket (BHT) with their diagnosis recorded upon discharge. These BHTs were then sent to medical record room of the hospital for coding using ICD – 10 where this information subsequently entered into eIMMR. In ICD – 10, R69 is the code used for unspecified diagnosis. This study investigated the reasons for unspecified diagnoses among the records entered in

eIMMR and preventive strategies to reduce R69 unspecified diagnoses through process improvements in the eIMMR Community of Practice.

Methods: The study took place in eight hospitals in the Western Province of Sri Lanka, encompassing five hospitals with a high R69 count and three with a low count. Self-administered questionnaires were used in data collection from medical officers who used to document mortality and morbidity at wards and Medical Record Room officers who convert morbidity and mortality to ICD – 10 codes.

Results: The findings highlighted several factors contributing to a high count of unspecified diagnoses (R69 code). As per medical record officers, the leading causes include, receiving undiagnosed or poorly diagnosed BHTs to the Medical Record Room, diagnosis on BHT being incompatible with CID – 10 and not having training opportunities to Medical Record Officers to on ICD – 10 coding. As per the Medical Officers, the possible reasons were, lack of knowledge on writing the diagnosis properly, and lack of awareness of the importance of writing correct diagnosis compatible with ICD 10 coding system.

Conclusions: Even though multiple factors influenced the incidence of unspecified diagnoses in the eIMMR system, awareness on the importance of the proper medical coding and training on ICD – 10 were key among them.

Keywords: eIMMR, ICD-10, R69

MENTAL HEALTH AND SPORTS MEDICINE

OP-29: Factors affecting Home Based Intervention for children with Autism Spectrum Disorder attending tertiary care centers of Western Province

Pathirage A I¹, Parindya N M¹, Pahanage P A R V¹, Gallage A², Dahanayake D M A³, Ranawaka P R D⁴

¹ Faculty of Medicine, University of Colombo

² Department of Community Medicine, Faculty of Medicine, University of Colombo

³ Department of Psychiatry, Faculty of Medicine, University of Colombo

⁴ Department of Paediatrics, Faculty of Medicine, University of Colombo

Introduction: Home Based Intervention (HBI) for Autism Spectrum Disorder (ASD) is a feasible and

efficacious method of intervention in low resource settings. This study analyzes factors affecting HBI under five subdomains; Patient, Family, Living environment, Provision of information and Interpersonal relationships with the service provider.

Methods: A descriptive cross sectional study was conducted among 103 primary caregivers of children under 6 years, diagnosed with ASD, attending outpatient clinics in three tertiary care hospitals in Western Province. An interviewer administered questionnaire designed and expert validated was utilized. Student's t test at a 95% confidence interval was used for associations.

Results: According to the frequency distribution of the perception, extended family support (n=102; 99.02%), parent training programs (n=101;98.05%) and prior demonstration of activities to be carried out (n=102; 99.02%) were identified as the most significant facilitators. Suffering from comorbidities (n=69; 66.99%) and the distance from residence to clinic (n=71; 68.93%) were the most significant barriers. Use of public transport (n=40; 38.84%) and having other children (n=30; 29.12%) did not have a significant impact. Significant associations were observed between population characteristics and perceptions such as education level and perception of parental training (p=0.01), extended family support and perception on full time job (p=0.05) and distance to clinic and perception on extended family support (p=0.12). Emotional, social, or financial aid was the least offered service (n=48;46.60%) despite being considered a facilitator by the majority (n=102;99.02%).

Conclusions: The results emphasize the need for timely strategies for a family centered approach to intervention in Sri Lanka. Formal and informal support routes for caregivers need to be integrated into intervention programs. Cohesion between key stakeholders are needed to successfully address the barriers faced by caregivers.

Keywords: Autism Spectrum Disorder, Home Based Intervention, Facilitators, Barriers, Sri Lanka

OP-30: Prevalence and Patterns of Sports injuries among senior School Cricketers after prolonged training restrictions of COVID 19 pandemic in Jaffna district Sri Lanka

Thanapalasingam S¹, Chandrathilake K R M², Gobchanger T³, Srigrishna P³

¹Post Graduate Diploma in Health Development.
Faculty of Medicine. University of Colombo

²Department of Allied Health Sciences, Faculty of
Medicine. University of Colombo

³Teaching Hospital Jaffna

Introduction: Cricket is a non-contact team sport. In cricket there is a high chance to get injuries in muscles, joints, tendons and ligaments. During, COVID-19 pandemic lockdown restrictions had caused interruptions in sports training. Absence of regular training causes injuries. This study aimed at determining the prevalence of injuries and describe the patterns and mechanism of injuries among senior school cricketers in Jaffna district after returning to play following prolonged training restrictions of the Pandemic.

Methods: This cross sectional study included 212 under 19 active school cricket players in 2022 season. Those who missed the matches due to disciplinary actions were excluded. Participants were selected by nonprobability consecutive sampling method. A modified self-administered Australian ‘Juniors Enjoying Cricket Safely’ injury risk perception questionnaire was used to gather data. Descriptive and inferential statistics were used to analyse data through SPSS 23.0.

Results: Of the participants, 180 players were reported with a total of 425 injuries in 180 matches. Injury incidence was 30.59% and 15.74 injuries/100 match-player days which was relatively high compared to International teams (3.7/100). Match injury prevalence of was 6.22 injuries per 100 match-player days. The majority of the injuries were at thigh (14.5%,n=61), were either muscle strain or tendon stretch (32.8%,n=139), were overuse injuries (50.9%,n=216). About 38.9 % (n=165) were injured at the time of bowling while 26%(n=110) have received treatment from the coach and 19.4%(n=82) from team physiotherapist. Higher the injuries significantly associated (p=0.045) with higher the age. Higher the overuse injuries and bowling injuries significantly associated with higher the matches played.

Conclusions: There is a high prevalence of sports injuries among under 19 school cricketers. While their match injury incidence was high. Thigh region is more prone to get injured due to overuse injuries. Bowlers were injured mostly. Overuse injuries were positively associated with number of matches.

Keywords: prevalence, pattern, cricket, injuries, COVID-19

OP-31: Academic Procrastination, Problematic Internet Usage and Factors Associated with Academic Procrastination among 3rd Year Engineering Undergraduates of a Selected University in Sri Lanka

Samaranayake M¹, Samarakoon S¹, Sandalika D¹, Jayawardena D²

¹Faculty of Medicine, University of Colombo

²Department of Community Medicine, Faculty of Medicine, University of Colombo

Introduction: Academic procrastination is widely prevalent among undergraduates. With rapid digitization internet usage has increased greatly leading to problematic internet behavior among young adults which could aggravate academic procrastination. Hence, this study was carried out to describe academic procrastination, problematic internet usage and factors associated with academic procrastination among third year engineering undergraduates in a selected university in Sri Lanka.

Methods: A descriptive cross sectional study with an analytical component was carried out among 339 third year engineering undergraduates selected using systematic sampling from each department of the faculty following the proportional allocation of the sample to these departments. Academic procrastination was assessed using the Procrastination Assessment Scale – Students. Problematic internet usage and factors associated were assessed using a self-administered questionnaire regarding characteristics of internet usage and problematic internet behaviours. Questionnaires were prepared in English since the academic medium of the study population was English. Chi Square test was used to assess the significance of the associations.

Results: The response rate was 91.62%. Prevalence of academic procrastination was 22.1%. Majority of the students (51.0%) were found to be internet over users. Majority of the students (67.6%) visited adults sites. Of the study sample, 27.4% had initiated online romantic relationships. The internet has been used by 13.9% of the study sample to attack individuals or groups. Majority of students (54.1%) felt that the internet should be regulated by a central authority. A statistically significant association was found between academic procrastination and the number of family members (p=0.003), religion (p=0.043), the number of hours spent on internet, (p=0.022.) and the money spent on internet services, (p=0.002).

Conclusions: The prevalence of academic procrastination among the study population was moderate. Majority of them were over using the Internet. The study identified factors that could be modified through interventions to improve academic procrastination.

Keywords: Internet overuse, Academic procrastination, Young adults

OP-32: Perceptions of the importance of sports nutrition knowledge: a qualitative study among athletic stakeholders in Sri Lanka

Jayawardena R^{1,2}, Weerasinghe K³, Madhujith T⁴, Hills A P⁵, Kalupahana N²

¹ Department of Physiology, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka

² Department of Physiology, Faculty of Medicine, University of Peradeniya, Peradeniya, Sri Lanka

³ Health and Wellness Unit, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka

⁴ Department of Food Science and Technology, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka

⁵ School of Health Sciences, College of Health and Medicine, University of Tasmania, Newnham Drive, Launceston, Tasmania, Australia

Introduction: Integrating the core aspects of sports nutrition knowledge (SNK) into the multidisciplinary team is critical to improving an athlete's performance and well-being. Conducting in-depth interviews with members of the sports-related team is a comprehensive method of gathering information on various aspects of SNK. This qualitative study aimed to examine the opinions and beliefs of stakeholders in athletics regarding the importance of SNK.

Methods: A total of fifteen professional track and field athletes (n=4) and stakeholders (n=11) were recruited through purposive sampling technique. To ensure the validity and robustness of the data, in-depth interviews were conducted on four key themes: opinions on food habits associated with training, intake of sports supplements, hydration, other habits like consumption of alcohol and smoking, and reasons for unhealthy dietary practices. Directed content analysis was performed using NVIVO v10.0.

Results: All participants were mindful of the importance of proper food habits for overall athletic outcomes and reported different opinions on meal timing and composition. The view of supplements

indicated a considerable disparity since only a few claimed positive effects. Beliefs regarding hydration demonstrated that the cohort was well aware of the significance of adequate hydration plus the signs and consequences of dehydration with many reporting experiences of the negative consequences of dehydration. All respondents reported that both alcohol and smoking may have an impact on recovery and performance.

Conclusions: All the participants emphasized the significance of SNK. They reported that insufficient nutrition knowledge, practical challenges such as sourcing appropriate foods before or after training, and the recent economic crisis in the country could potentially contribute to unhealthy dietary behaviors among Sri Lankan athletes.

Keywords: Athletic, knowledge, perception, sports nutrition, track and field

OP-33: Development of a sports nutrition knowledge questionnaire for Sri Lankan athletes

Jayawardena R^{1,2}, Weerasinghe K³, Trakman G⁶, Madhujith T⁴, Hills A P⁵, Kalupahana N²

¹ Department of Physiology, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka

² Department of Physiology, Faculty of Medicine, University of Peradeniya, Peradeniya, Sri Lanka

³ Health and Wellness Unit, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka

⁴ Department of Food Science and Technology, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka

⁵ School of Health Sciences, College of Health and Medicine, University of Tasmania, Newnham Drive, Launceston, Tasmania, Australia

⁶ Department of Sport, Exercise and Nutrition Sciences, La Trobe University, Melbourne

Introduction: Satisfactory nutrition knowledge among athletes is important to encourage proper dietary habits to overcome deficiencies and enhance sports performance. Identifying knowledge gaps in sports nutrition is essential for improving athletes' understanding, ideally through a contemporary tool that evaluates both general nutrition knowledge (GNK) and sports nutrition knowledge (SNK). This study aims to develop the Athletic Sports Nutrition Knowledge Questionnaire (A-SNKQ) specifically for Sri Lankan track and field athletes.

Methods: The development of the A-SNKQ followed

an extensive step-wise approach. Firstly, a systematic literature review was conducted on existing SNK questionnaires for athletes. Secondly, sports nutrition guidelines were incorporated into the questionnaire. Thirdly, information from local literature was gathered to ensure contextual relevance. Lastly, a qualitative study involving key athletic stakeholders was conducted to gain cultural insights. Additional processes were implemented to format and translate the tool.

Results: The final version of the questionnaire consists of 32 questions in 12 sub-sections under two main sections: GNK (n = 15) and SNK (n = 17). The GNK section covers topics: macronutrients, micronutrients, energy balance, hydration, and weight management. The SNK section addresses specific areas related to sporting performance: carbohydrate loading, pre-training meals, meals during training, post-training meals, sports supplements, supplement label reading, alcohol consumption, isotonic drinks, doping, and relative energy deficiency syndrome in sports. The questionnaire utilizes two question formats: single-best-response questions and multiple-choice questions.

Conclusions: The GNK section of the A-SNKQ addresses the fundamental nutritional concepts. Conversely, the SNK focuses on the knowledge associated with sporting performance among track and field athletes.

Keywords: Dietary assessment, Knowledge, Questionnaire, Sports nutrition, Survey

OP-34: Association between meditation practices with mindfulness skills of observing and non-reactivity to inner experiences: A correlational analysis from Sri Lanka

Outschoorn N O¹, Jeevani HM², Herath C², Amarasuriya S D³

¹ Research Promotion and Facilitation Centre, Faculty of Medicine, University of Colombo

² Department of Social Science Education, Faculty of Education, University of Colombo

³ Department of Medical Humanities, Faculty of Medicine, University of Colombo

Introduction: Non-reactivity to inner experiences (i.e., allowing emotions and thoughts to come and go without being affected by them) and observing of internal thought processes are crucial mindfulness

skills that are often cultivated through meditative practices and may foster mental states of calmness, concentration and awareness. This study explored the associations between the aforementioned skills and meditation experience of skilled meditators.

Methods: Upon providing informed consent, a purposive sample of skilled meditators (n=54); 1) between the ages of 18-65 years, 2) practicing meditation for more than three years, 3) following meditation practices taught in Sri Lankan Buddhist meditation centers/temples/monasteries, and 4) identified through The University of Colombo Intake Interview to identify Skilled Meditators for scientific research (UoC-IISM) developed by the research group, completed a demographic details questionnaire and the judgmentally validated and internally consistent Sinhala Five Facet Mindfulness Questionnaire (FFMQ-39-SIN - quantifies total mindfulness and its five facets; describing, observing, acting with awareness, non-judging of inner experiences and non-reactivity to inner experiences). Individuals with a psychiatric/psychological history and those who practiced other relaxation methods (e.g., yoga, chi-gong) were excluded. All data were analyzed at $\alpha = 0.05$ and Pearson's correlation coefficient (r) was found to explore associations between variables. The Ethics Review Committee of the Faculty of Medicine, University of Colombo has approved this study (EC-19-095).

Results: The skilled meditators' age ranged from 27-59 (M=41.09, SD=9.01) years and they reported 2-25 (M=8.96, SD=5.96) hours of meditation per week and 3-21 (M=7.89, SD=4.35) years of meditation practice. Correlational analyses; the number of years of meditation ($r=.330$, $p=.015$) and meditation hours per week ($r=.340$, $p=.012$) showed a positive association with non-reactivity to inner experiences while the number of years of meditation ($r=.276$, $p=.044$) showed a positive association with observing. Skills of describing, acting with awareness, and non-judging of inner experiences did not show associations with any practice-related variables.

Conclusions: Increased years of meditation practice and practice hours per week are associated with increased non-reactivity to inner experiences and increased years of meditation practice is associated with increased observing in skilled meditators who follow meditation as practiced in the Sri Lankan context.

NONCOMMUNICABLE DISEASES – 1

PP-01: Prevalence of pain, fatigue, and activity limitation among lung cancer survivors attending the National Cancer Institute, Maharagama

Munasinghe D¹, Jayalath L¹

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

Introduction: Lung cancer is one of the most prevalent cancers with various distressing symptoms such as pain and fatigue, which leads to limitation of daily activities. This study aims to determine the prevalence of pain, fatigue, and activity limitation among lung cancer survivors attending the National Cancer Institute, Maharagama with a confirmed diagnosis of lung cancer.

Methods: A descriptive cross-sectional study was conducted in a sample of eighty (male=46, female=34). The convenience sampling method was used to select participants. Demographic data and cancer-related variables were gathered using a semi-structured questionnaire to assess the associated factors for lung cancer. Data collection included pre-tested questionnaires with Brief Pain Inventory (BPI), Brief Fatigue Inventory (BFI), and 12-item Short Form Survey (SF-12) which have been validated in previous studies. Descriptive statistics, Pearson's chi-square and one-way ANOVA were used as statistical analyses.

Results: The mean age of the participants was 53.63 years (SD±9.77). In this study, a high prevalence of pain (66.3%) and fatigue (86.3%) was detected in the sample. Disease duration was significantly associated with the severity of pain(p=0.000) and fatigue(p=0.000) among the study participants. Gender was significantly associated with the severity of pain(p=0.004) and fatigue(p=0.022). SF-12 identified a high prevalence of activity limitation (72.5%) and was significantly associated with disease duration(p=0.009). Findings focus on that the increased number of disease years, decrease the pain, fatigue, and activity limitation among the lung cancer survivors.

Conclusions: A high prevalence of pain, fatigue, and activity limitation was seen in lung cancer patients.

Keywords: Lung Cancer, Pain, Fatigue, Activity Limitation, BPI, BFI

PP-02: Uncommon Presentations of a Common Haematological Malignancy – A Case Series

Prasanni WDD¹, Nissanka WATDTN¹, Costa W¹J, Dissanayake T¹, Premaratne KPD², Williams HAS²

¹Department of Haematology, Colombo North Teaching Hospital

²Department of Pathology, Faculty of Medicine, University of Kelaniya, Ragama

Introduction: Chronic myeloid leukaemia (CML) is a clonal myeloproliferative neoplasm. Most patients are diagnosed during chronic phase of CML (CML-CP) and are asymptomatic or present with constitutional symptoms and splenomegaly. However, there are various atypical clinical presentations. We report 4 cases of uncommon CML presentations.

Case 01

A 38-year-old male with constitutional symptoms, and generalized lymphadenopathy, was diagnosed as CML-CP (high risk category). Despite the initial response to treatment, 3 months later transformed into a B-acute lymphoblastic leukaemia indicating poor prognosis of this presentation.

Case 02

A 48-year-old male with a spontaneous-onset large thigh haematoma diagnosed with CML-CP. He had positive clot solubility test indicating factor 13 deficiency. He was managed with . Haematoma evacuation and cryoprecipitate. Repeated clot solubility test was negative after achieving haematological response with treatment.

Case 03

A 25-year-old male with multiple joint pains. FBC revealed leukocytosis with a severe eosinophilia. Bone marrow showed a marked increase of eosinophil precursors without typical CML morphology. He showed poor response to Diethylcarbamazine, antihelminthics and prednisolone. His MPN panel and PDGFRA were

negative. BCR- ABL1 analysis detected a p210 mutation, A diagnosis of eosinophilic variant of chronic myeloid leukaemia (eoCML) was confirmed.

Case 04

A 47-year-old female presented with chronic lower limb eczema for 1 year. FBC showed a high white cell count of $53 \times 10^9/L$ with basophils of $21 \times 10^9/L$ (40%). CML-Accelerated phase was diagnosed. Her lower limb eczema completely resolved with treatment and after achieving the haematological response.

Discussion: CML has diverse clinical presentations. There are several atypical presentations of CML which can cause diagnostic dilemmas. Some atypical presentations are associated with adverse clinical outcomes. This case series serves as an eye-opener regarding various atypical presentations of CML. A strong clinical suspicion is required for early diagnosis and commencing therapy without delay.

Keywords: Chronic myeloid leukemia, atypical presentations

PP-03: Clinical and genetic spectrum of hereditary colorectal cancer in a Sri Lankan cohort diagnosed through whole exome sequencing

Fernando K¹, Priyan H¹, Nirmala Sirisena N¹, Dissanayake VHW¹

¹Department of Anatomy, Genetics & Biomedical Informatics, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction: Colorectal cancer (CRC) is the third most common cancer in Sri Lanka, with 3-5% of cases attributed to specific hereditary cancer syndromes caused by germline pathogenic variants in CRC predisposing genes. Next-Generation sequencing (NGS)-based whole exome sequencing (WES) has revolutionized the diagnosis and management of CRC. This study describes the clinical and genetic spectrum of hereditary CRC in a Sri Lankan cohort diagnosed through WES.

Methods: Genomic and clinical data of 43 individuals [CRC affected (n=31); and pre-symptomatic at-risk (n=12)] who underwent WES during 2015-2022 were maintained prospectively in an anonymized database at the Human Genetic Unit and analyzed retrospectively.

Results: Majority were females 62.8% (n=27). The average age of CRC diagnosis was 43.4 years

(SD+13.2 years). Genetic variants were detected in 51.2% (n=22) individuals [affected: 72.7% (n=16); and pre-symptomatic: 27.3% (n=6)]. Pathogenic and likely pathogenic variants were detected in 63.6% (n=14) individuals [affected: 92.9% (n=13); and pre-symptomatic: 7.1% (n=1)]. The overall diagnostic yield was 32.6% (14/43). Majority of the pathogenic and likely pathogenic variants were detected in the *APC* gene (53.3%, n=8), followed by *MLH1* (26.7%, n=4), and *MSH2*, *MSH6*, and *BRIP1* genes (6.7%, n=1; each). One CRC affected individual had likely pathogenic variants in both *APC* and *MSH6* genes. Novel variants accounted for 33.3% (n=5). Among the individuals who had pathogenic or likely pathogenic variants, there were 23 first- and second-degree family members affected with various cancers. Majority of them had CRC (60.9%, n=14), followed by endometrial cancer (17.4.6%, n=4), esophageal cancer (8.7%, n=2) and leukemia, brain cancer, and osteomas (4.3%, n=1; each).

Conclusions: The familial adenosis polyposis (FAP) associated *APC* gene was the most frequently involved CRC predisposing gene, followed by genes associated with Lynch Syndrome. Diagnostic yield was 32.6% emphasizing the vital role of WES in genetic risk assessment and confirmation of CRC.

Keywords: Cancer, Colorectal, Hereditary, Genetics, Variants

PP-04: Unveiling Infantile Onset – Inflammatory Bowel Disease : Insights from the first Reported Cohort from Sri Lanka – A Case series

Thiruchelvanathan S¹, Hathagoda W², Rajindrajith S²

¹Faculty of Medicine, University of Colombo

²Department of Paediatrics, Faculty of Medicine, University of Colombo

Introduction: Infantile onset-Inflammatory Bowel Disease (IO-IBD), diagnosed before two years of age, exhibits elevated familial predisposition and primarily colonic engagement, as evidenced by previous literature. Moreover, limited therapeutic efficacy and heightened surgical interventions are observed relative to late onset-IBD. This study presents five cases identified at Sri Lanka's sole specialized pediatric tertiary care center for IBD.

Methods: A cross-sectional study was conducted from May 2019 to June 2023. Patient information was retrieved from the clinic's registry.

Results: Over the past four years, five patients were diagnosed with infantile-onset inflammatory bowel disease (IO-IBD), with an average age of diagnosis at 9.6 months. Among them, four were female and one male. Four cases were Crohn's disease, one was ulcerative colitis, and one patient had a family history of IBD. Chronic diarrhea with blood and mucus stools was the presenting symptom for all five cases. Treatment approaches varied: two patients received exclusive enteral nutrition therapy, while the remaining three achieved remission through corticosteroid therapy. Among the patients, three required biologics therapy. Two patients experienced ongoing symptoms during the maintenance phase despite using biologics such as Infliximab, Adalimumab, and Vedolizumab. Failure to thrive was the main complication in four cases; none required any surgical complications.

Conclusions: This study highlights the clinical spectrum and management diversity of infantile-onset inflammatory bowel disease (IO-IBD). The findings underscore the challenges in achieving remission in some cases despite biologics therapy and highlight the importance of tailored approaches in addressing the complications associated with IO-IBD.

Keywords: Infantile Onset-Inflammatory bowel disease, Case series, Sri Lanka

NON-COMMUNICABLE DISEASES - 2

PP-06: Prevalence of Frailty and Sarcopenia, and Exercise Adherence among people with Type two Diabetes Mellitus in Sri Lanka: A Study protocol

Liyanage JVW¹ Kariyawasam K¹, Katulanda P¹, Wettasinghe A²

¹Department of Clinical Medicine, Faculty of Medicine, University of Colombo

² Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction: Diabetes mellitus (DM) stands as one of the most prevalent non-communicable diseases among elderly individuals worldwide. Frailty and sarcopenia are common disabling complications in patients with type two diabetes mellitus (T2DM). Frailty is a pre-disability state that brings adverse health outcomes in older individuals, and sarcopenia is a condition characterized by loss of muscle mass, strength, and function. Evidence suggests that frailty

and sarcopenia can be treated with exercise interventions. Home-based exercise programs are commonly adopted as a convenient approach to prescribing physical activity for chronic conditions such as DM. Thus, the aims of this study are to determine the prevalence of frailty and sarcopenia and to assess adherence to prescribed home exercises and the factors contributing to exercise non-adherence.

Methods: A descriptive cross-sectional study will be conducted on a total of 246 patients aged ≥ 18 years, having T2DM, and capable of ambulating household distances with or without assistance, will be recruited from the National Hospital of Sri Lanka. Components of frailty; fatigue, physical activity level, grip strength, walking speed and weight loss will be assessed by the Fatigue Severity Scale, short version of the International Physical Activity Questionnaire, Hand-held dynamometer, walking test and weight records respectively. Each criterion of frailty will be given a score of one or zero to calculate the total frailty score. Participants will be considered "frail" when three or more of the above subcomponents are present, "pre-fail" when one or two subcomponents are present, and "non-frail" when none of them are present. The risk of sarcopenia will be evaluated by SARC-CalF and bioimpedance analysis. Exercise Adherence will be evaluated using the Exercise Adherence Rating Scale.

Conclusions: Early detection of frailty and sarcopenia in T2DM provides the opportunity to consider targeted interventions to reduce disability and functional decline. Exercise adherence and the evaluation of underlying reasons for non-adherence will be beneficial to adapt physical activities for diabetes population in Sri Lankan context.

Keywords: *Diabetes Mellitus, Exercise Adherence, Frailty, Sarcopenia*

PP-07: A study on diabetic patients in relation to Diabetic Peripheral Neuropathy in Gampaha District

Maheepala T¹, Yasapura M¹, Karunarathne A¹, Dissanayake T¹, Peterson C¹

¹International Institute of Health Sciences

Introduction: Diabetic peripheral neuropathy (DPN), a common complication of type 2 diabetes has significant impacts on the quality of life. If diagnosed early and adequate measures are taken, DPN can be properly managed while minimizing its occurrence.

Hence, before any implementation, this research aimed to examine the knowledge, presence of clinical features and practices of diabetic patients in the Gampaha district in relation to DPN.

Methods: A descriptive, cross-sectional study was conducted by a sample of 224 type 2 diabetic patients diagnosed by a medical professional and currently under medications in Gampaha district. Any other types of diabetes and patients who already have DPN were excluded. A stratified sampling technique was used to distribute a self-administered, open-ended questionnaire which was developed using adaptations to International Physical Activity Questionnaire-IPAQ 2002 and the Michigan Neuropathy Screening Instrument. The collected data were analyzed using statistical software, SPSS version 27.

Results: The majority of the participants were female (49.1%, n=110) and was diagnosed more than 2 years ago (72.6%, n=156). Majority were not aware on diabetic peripheral neuropathy (71.4%, n=160). The majority expressed sound knowledge on the practices to control diabetic peripheral neuropathy (51.8%, n=115). However, more than half of the respondents agreed that they do not practice diabetic foot care (54.3%, n=122), even if their feet feel numb at all times (69.2%, n=155). The majority stated not been to physiotherapy consultation for any DPN complication (94.6%, n=212) and were not aware of physiotherapy treatment availability to manage diabetes complication (89.7%, n=201).

Conclusion: Although a major lack of awareness on diabetic peripheral neuropathy was indicated, the knowledge on practices related to DPN appeared to be adequate. The majority of participants had poor conservative management techniques and were not aware of physiotherapy treatment availability to manage diabetes complications.

Keywords: Diabetic peripheral neuropathy, Diabetic, Patients, Awareness

PP-08: Cumulative risk assessment of atherosclerotic cardiovascular diseases: Impact of social determinants, psychological stress and allostatic load

Eugene EJ¹, Constantine G¹, Jayasinghe S²

¹ University of Colombo, Sri Lanka

² Sabaragamuwa University, Sri Lanka

Introduction: Risk assessment is an essential

approach for disease prevention. The biopsychosocial approach emphasizes that biological, psychological, and social factors play a widespread role in the causation of disease. The research explores the extent to which social determinants (SoD) and psychological stress (PS) is associated with allostatic load (AL) influenced by risk factors (age, gender and BMI), in three groups: those 'at risk', 'risk only' and in patients having cardiovascular diseases (CVD). The at risk individuals were identified from those who are attending clinical visits for cardiac check up; risk only were those who "had risks and were following" medical management and CVD patients from those admitted at cardiac wards for "coronary interventions and had proven cardiovascular disease". These were used to identify the key factors of the cumulative risk assessment (CRA) in the progression of atherosclerosis and to conceptualize a framework of cumulative risk assessment by the use of a system dynamic conceptual explanatory model.

Methods: Ethics approval and institutional clearance were obtained from Faculty of Graduate Studies, University of Colombo and from the relevant private hospital, respectively. Participants were recruited based on inclusion and exclusion criteria, and informed written consent was obtained. Participants completed a self-administered questionnaire related to SoD and PS assessment (quantitative phase), followed by extracting data from medical records on medical history, anthropometric measures and clinical variables. All data and variables obtained were used to conduct a CRA using logistic regression analysis and via the development of a conceptual explanatory model.

Results: The different mean scores were calculated by summing up the individual study variables, among different groups based on risk factors. Thus the following cut off values was obtained: AL score > 65, SoD score > 104, PS score > 58 and CRA score > 188. Interaction between AL, PS, and SoD with covariates of age, gender and BMI was analyzed. This produced significant interactions among different study populations. Only PS in CVD patients and only AL in at risk population; SoD alone and the dual effect of SoD and PS in all study groups; In addition, PS and AL, in both risk only and CVD patients; However the cumulative effect of all independent variables was observed in all 3 study populations. Cox and snell analysis was based on the log likelihood model where small ratio of loglikelihood value of <1, indicates that the complete model, including SoD, PS and AL is a far better fit model.

Conclusions: Risk assessment using age, gender, and

BMI can be improved by combining with others such as SoD, PS, and AL. It also allows us to track how atherosclerosis progresses and develop better predictive tools, which would be beneficial in identifying people at risk of heart disease earlier and intervene more effectively.

Keywords: Risk assessment, cardiovascular diseases, social determinants, psychological stress, allostatic load

PP-09: Effects of mindfulness meditation on balance, cognitive function, quality of life, and risk of falls in Parkinson's disease: a systematic review protocol

Bogahawatta P¹, Wijekoon A², Harini T², Wettasinghe A²

¹Falls and Balance Research Centre, Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

Introduction: Parkinson's disease (PD) is the second most common neurodegenerative disorder globally, limiting mobility, independence, and quality of life. Existing evidence on the effectiveness of mindfulness meditation on PD remains limited and inconclusive. Therefore, the aim of this systematic review is to synthesize evidence on the effectiveness of mindfulness meditation on balance, cognitive function, quality of life, and the risk of falls in people with PD.

Methods: A systematic search will be conducted in the PubMed, Web of Science, PEDro, Scopus, and Cochrane Library databases for published studies, ClinicalTrials.gov for registered ongoing trials, and OpenGrey for unpublished trials, from inception to May 20, 2023. We will employ published search terms for the population (Parkinson's disease), intervention (mindfulness meditation), and outcomes (balance, cognitive function, quality of life, and risk of falls). Studies not published in English and those without full-text papers will be excluded. We will not impose restrictions on the study design during the search. However, only the original interventional studies will be included in the final analysis. The risk of bias in the studies will be individually assessed by two independent authors using the Cochrane risk-of-bias tool for randomized trials (Cochrane RoB 2.0) and the ROBINS-I tool for non-randomized studies.

Data will be extracted using the predefined templates, primarily focusing on intervention characteristics and the effectiveness of the outcomes following PD. The review will be reported in adherence to the Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) statement. This protocol was registered in PROSPERO (CRD42023449806).

Conclusions: This review will provide specific evidence on the effectiveness of mindfulness meditation in improving outcomes in PD. These findings will provide insight for future research and guide clinicians and policymakers in designing and implementing such interventions for individuals with PD.

Keywords: Mindfulness meditation, Parkinson's disease, balance, cognitive function, quality of life

PP-10: Habitual physical activity in patients with Parkinson's disease in comparison with healthy seniors – A case-control study

Jamaldeen N¹, Kalyani HHN¹

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

Introduction: Parkinson's disease (PD) is a common, chronic progressive, Neurodegenerative disorder, characterized by both motor and non-motor symptoms. It significantly impacts the physical activity levels of individuals affected by the disease. Understanding the differences in habitual physical activity between individuals with PD and healthy seniors is crucial for developing targeted interventions. This case-control study aimed to compare the level of habitual physical activity in patients with PD and age-matched healthy seniors.

Methods: Participants included 55 patients with PD and 55 age-matched healthy seniors. The level of habitual physical activity was assessed using the International Physical Activity Questionnaire-Long Form (IPAQ-LF). Statistical analyses, including independent sample t-tests and chi-square tests, were performed to compare physical activity levels between the two groups.

Results: There were no significant differences in vigorous physical activity (P=0.415), moderate physical activity (P=0.568), walking (P=0.148) and cycling (P=0.144) between PD patients and healthy seniors. Also, total physical activity levels (P=0.332) were not statistically significant between the two groups. These findings suggest that although

PD patients have reduced levels of physical activity, there were not statistically significant differences between PD patients and healthy seniors

Conclusions: This study underscores that, there was no statistically significant difference in habitual physical activity levels between PD patients and healthy seniors. These results may be due to the inclusion of patients with mild and moderate disease symptoms. Considering the reduced level of physical activity in PD patients, tailored exercise interventions and rehabilitation programs are vital. Healthcare professionals should prioritize physical activity assessment and promotion within PD management to enhance mobility and well-being. Public health initiatives should promote exercise awareness. Further research is required to assess the level of habitual physical activity in different severity levels of PD.

Keywords: Parkinson's disease, habitual physical activity, case-control study, International Physical Activity Questionnaire-Long Form (IPAQ-LF), exercise intervention

PP-11: Assessment of falls, fall risk factors, and gait changes in people with Parkinson's disease in Sri Lanka: a study protocol

Bogahawatta P¹, Wettasinghe A^{1,2}

¹Falls and Balance Research Centre, Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

²Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction: Falls are a *significant cause of disability, loss of independence, and reduced quality of life* in people with Parkinson's disease (PD). Further research is required to assess PD-specific and other fall risk factors in Sri Lanka, considering genetic, environmental, ethnic, and cultural differences. Identifying these factors is vital for effective interventions. The aim of the study is to investigate the prevalence of falls, gait changes, and fall-associated risk factors in patients with PD.

Methods: Ethical approval (EC-23-025) was obtained from the Ethics Review Committee, Faculty of Medicine, University of Colombo. We will recruit PD participants (n=101) aged between 50-80 years from the Neurology Clinic at the National Hospital of Sri Lanka, Colombo. Individuals with medically diagnosed psychiatric disorders and other

neurological and orthopedic issues affecting gait will be excluded. Data will be collected on demographics, clinical characteristics (disease duration, disease severity, current medication use, and previous fall history), cognitive and psychological assessments (general cognition, mood, and quality of life), and physical assessments (balance, muscle strength, functional mobility, and freezing of gait). The data will be collected by the principal investigator in the presence of the other investigator. The primary outcomes of this study will be the incidence of falls, gait changes, and fall risk factors in PD patients. Gait will be assessed with wearable sensors. Falls will be prospectively monitored for 6 months using monthly fall calendars. Descriptive statistics and regression analysis will be utilized for data analysis.

Conclusions: The findings of this study will serve as a guide for physiotherapists in optimizing the strategies for preventing falls in people with PD and beneficial for the participants in their further rehabilitation programs. The outcomes of the study will be beneficial for further research to develop a user-friendly PD-specific fall screening tool.

Keywords: accidental falls, risk factors, gait changes, Parkinson's disease

Acknowledgement: VALD Applied Research Initiative (VARI) grant, 2023

PP-12: Bickerstaff brainstem encephalitis: A case report

Senavirathne U¹, Bandaranayake C², Wijayawardhana S², Wickramarachchi S³

¹Surgical Intensive Care Unit, National Hospital of Sri Lanka, Colombo

²Department of Anatomy, Faculty of Medicine, University of Kelaniya

³Accident and Emergency department, DGH Gampaha

Introduction: Bickerstaff brainstem encephalitis (BBE) is a rare inflammatory, demyelinating disease characterized by an acute dysfunction of brainstem. Its pathogenesis is believed to be autoimmune. BBE is considered as a variant of Guillain-Barré syndrome (GBS). We report the case of a 20-year-old male clinically diagnosed with BBE, which is considered as a rare disease.

Case presentation: A 20-year-old male, presented with fever, cough for four days followed by acute

onset bilateral lower limb weakness. Examination revealed hypotonia of all four limbs, external ophthalmoplegia, bilateral facial nerve palsy and bulbar palsy along with areflexic quadriplegia. Ataxia was difficult to assess due to profound weakness. Within hours his respiratory functions deteriorated and was intubated and ventilated. During ICU stay, episodes of autonomic instability, tachycardia and altered sensorium were noted.

CSF analysis showed elevated protein levels without pleocytosis. Nerve conduction tests showed unequivocal motor and sensory conduction in all four limbs. EMG showed fibrillation potentials which confirmed the lower motor neuron involvement. Non contrast CT brain, MRI brain and whole spine were unremarkable. Two repeated EEGs showed slow cortical activity and intermittent runs of sharpened theta/delta waves suggesting severe cortical, subcortical and brainstem dysfunction. A clinical diagnosis of BBE was made considering the ophthalmoplegia, altered sensorium and EEG findings of brainstem dysfunction, which were not usually seen in simple GBS.

Anti-GQ1b antibody levels were not checked due to feasibility issues.

Therapeutic plasma exchange was performed, following which he slowly started to improve

Conclusions: This case demonstrates the importance of considering BBE as a differential diagnosis for patients with rapidly progressive neurological weakness with both peripheral and central nervous system involvement. The absence of any one of the classic triad symptoms (ophthalmoplegia, ataxia and encephalitis), or presence of additional symptoms cannot rule out the diagnosis of BBE.

Keywords: Bickerstaff, Brainstem, Encephalitis

PUBLIC HEALTH

PP-13: Driving digital transformation in healthcare: A case study of implementing a Hospital Health Information Management System using Kotter's Change Model

Sugathadasa PK¹, Rodrigo A², Hapudeniya M³

¹Postgraduate Institute of Medicine

²Teaching Hospital Ratnapura

³Ministry of Health, Sri Lanka

Introduction: The adoption of HHIMS, a critical step towards a digitally advanced healthcare ecosystem, prompted the need for an effective implementation strategy. Drawing inspiration from change management principles, the study demonstrates how Kotter's 8-Step Change Model served as an invaluable tool to navigate complex organizational shifts.

Methods: The study adopted a multi-faceted methodology, incorporating a literature review, stakeholder consultations, training sessions, and strategic planning. Guided by Kotter's model, the implementation process was divided into eight distinct phases: instilling urgency, forming a coalition, creating a transformative vision, effective communication, surmounting obstacles, achieving short-term wins, reinforcing change, and embedding a lasting cultural transformation.

Results: The implementation process from February 2021 to July 2021 yielded significant positive outcomes. The hospital successfully created a sense of urgency by highlighting challenges related to patient queues and government mandates for digitization. By establishing 3 committees (Steering, Action, Advocacy) and identifying IT champions, a coalition was formed to drive the change effort. Through effective communication, staff engagement was maximized, and short-term wins were celebrated, generating momentum for further progress. Additionally, a dedicated maintenance unit was established for sustainable operations, while the change was ingrained in the organization's culture through continuous reinforcement and stakeholder empowerment.

Conclusions: This case study underscores the potency of Kotter's 8-Step Change Model in orchestrating a successful digital transformation within a healthcare institution. The model's structured approach, when tailored to an organization's context, nurtures stakeholder engagement, effective communication, and lasting change. The study offers valuable insights to healthcare professionals and administrators embarking on similar digitalization endeavours.

Keywords: Hospital Health Information Management System (HHIMS), Change Management, Kotter's 8-Step Change Model

PP-14: Prevalence of digital eye strain, associated factors, awareness and utilization of preventive measures amongst G.C.E A/L students of Colombo district

Drieberg M¹, Dodangoda B¹, Droston D¹, Abayadeera A²

¹Faculty of Medicine University of Colombo

² Professor in Anaesthesiology, Department of Anaesthesiology and critical care, Faculty of Medicine University of Colombo

Introduction: Digital Eye Strain (DES) is a vision related problem, resulting from prolonged use of digital devices. COVID-19 pandemic led to an upsurge in DES due to social distancing. This study aimed to estimate prevalence of DES, associated factors, awareness and utilization of preventive measures amongst G.C.E. A/L students in the Colombo district.

Methods: A cross-sectional study among 403 G.C.E. A/L students of a selected institution, chosen using simple random sampling. Prevalence was evaluated using the Computer Vision Syndrome Questionnaire (CVS-Q). A self-developed questionnaire assessed associated factors and preventive measures. Data was analysed with IBM SPSS version 25.

Results: This study found that 72.5% (95% CI: 67.8% to 76.8%) of participants had DES using a validated cut off score of ≥ 6 . Headache (90.1%) and double vision (15.4%) were the most and least common symptoms respectively. Female gender ($p < 0.01$), being a student of the 2021 A/L batch ($p < 0.01$) and use of corrective spectacles ($p = 0.041$) were associated with DES. Usage of digital devices for less than 3 hours before commencement of online education ($p = 0.009$) and more than 6 hours per day after commencement of online education ($p = 0.004$) were significantly associated with DES. 75.6% of participants had moderate to high awareness of DES prevention, with 69.2% reporting good utilization of preventive measures. High awareness was associated with good utilization of preventive measures. ($p < 0.001$).

Conclusions: Several similar studies have been done and no new knowledge was generated or added much to existing knowledge. Our study found out that despite high awareness and utilization of preventive measures, there was a high prevalence of DES.

Keywords: Computer Vision Syndrome, COVID-

PP-15: A left shift of weight, height and BMI of 5-15 year old Sri Lanka children compared to WHO data

Wijayawardhana S¹, Jayawardena D², Chandraratne N³, Wickramasinghe P⁴

¹Department of Anatomy, Faculty of Medicine, University of Kelaniya

² School of public health, Department of biostatistics, Rutgers University

³ Department of Community Medicine, Faculty of Medicine, University of Colombo

⁴ Department of Paediatrics, Faculty of Medicine, University of Colombo

Introduction: Assessment of growth is a cardinal component in pediatrics care. Childhood obesity is a growing concern in Sri Lanka. Similarly, wasting and stunting have not improved over last 3 decades. Sri Lanka adopts WHO define cutoff values to assess nutritional status. Although morbidity depends on body composition, anthropometry does not always correlate with the body composition. It has been queried the validity of use of WHO growth charts for Sri Lankan children. We aimed at assessing the diagnostic validity of WHO cutoffs in underweight and overweight/obesity

Methods: A cross sectional data collected from four previous studies conducted in western province of Sri Lanka were pooled. A total of 18595 children (7138 boys) aged 5 to 15 years were included. Median and percentiles for height, weight, and BMI for age were calculated for each gender and compared with respective WHO data.

Results: Individual data points plotted against the age showed a clustering of the data below the median of WHO data for weight and BMI rather than for height. Mean Z scores of anthropometric parameters for both genders were below the WHO standard median. Mean Z scores (WHO median within brackets) for height, weight and BMI for girls were -0.57(0.52), -0.74(0.61), -0.53(0.625). mean Z scores for boys were -0.56(-0.08), -0.62(0.58) and -0.8(0.74) respectively.

Conclusions: Central tendency of anthropometric parameters of Sri Lankan paediatric population shows a left shift when compared to WHO standards. Sri Lankan children's anthropometric parameters being lower than WHO values might lead to overdiagnosis

of underweight/stunting and underdiagnosis of overweight/obesity. We need to explore the reason behind this.

Keywords: Height, weight, BMI, Sri Lankan Children

PP-16: National growth charts for 10-15 year old paediatric population of Sri Lanka

Wijayawardhana S¹, Jayawardena D², Chandraratne N³, Wickramasinghe P⁴

¹Department of Anatomy, Faculty of Medicine, University of Kelaniya

² School of public health, Department of biostatistics, Rutgers University

³ Department of Community Medicine, Faculty of Medicine, University of Colombo

⁴ Department of Paediatrics, Faculty of Medicine, University of Colombo

Introduction: A left shift of anthropometry among Sri Lankan paediatric population has been observed when compared to WHO standards. Leading to a mismatch between World Health Organization (WHO) standards and Sri Lankan anthropometry parameters. India and Indonesia have adopted national growth charts due to the same reason. We aimed at plotting anthropometry parameters for Sri Lankan children to compare with WHO standards.

Methods: Cross sectional data collected from four previous studies conducted in Western Province were pooled. A total of 18595 children (7138 boys) were included. Data was filtered removing obvious outliers above +2SD and below -3SD compared to WHO2007 of LMS(Lambda-Mu-Sigma) Growth package. Growth curves were generated by GAMLSS (Generalized Additive Models for Location Scale and Shape) R software package and data points for percentiles were obtained for height, weight, and BMI for age for both girls and boys. Charts were plotted beside the existing WHO centiles for comparison.

Results: Compared with 50th centile height at each age WHO charts, Sri Lankan children were approximately 1 to 3 cm shorter with the difference widening with advancing age in both sexes. The Sri Lankan 50th centile was quite closer to the 25th centile of the WHO charts. When compared with Indian charts, the heights were quite similar. When the BMI for age compared with WHO charts, the local values were more than 1-2 BMI point below, but this gap

narrowed with advancing age. Data have shown that the pattern of distribution of parameters in Sri Lankan chart were similar to WHO charts but has moved to the left.

Conclusions: Since our growth curves shows an obvious left shift, we suggest that national growth percentiles cutoffs for Sri Lankan population should be developed and new national growth charts need to be introduced.

Keywords: National growth charts, Paediatric

PP-17: Demographic characterization of human cases confirmed with *Dirofilaria repens* infection

Senarathne S¹, Gunathilake H², Dayananda S², Rathnayake T², Gunawardene S²

¹Department of Parasitology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

²Department of Parasitology, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction: Sri Lanka is endemic for human dirofilariasis which is a zoonotic filarial nematode infection transmitted through an infective bite of a vector mosquito. This study was carried out to describe the demographic characteristics of human cases with *D. repens* infection, confirmed at the Department of Parasitology, Faculty of Medicine, University of Colombo.

Methods: This is a retrospective descriptive study done using the secondary data of patients with *D. repens* infection from year 2007 to 2021 at the Department of Parasitology, Faculty of Medicine, University of Colombo. Samples received were either, extracted whole nematodes, nematode fragments, or excision biopsies obtained from subcutaneous or ocular lesions following surgical interventions. Morphological identification of *D. repens* was established by light microscopy. Longitudinal ridges on the outer surface of the cuticle on wet mounts and/or tall muscle cells, large lateral chords, and conspicuous internal lateral ridges in histological cross sections were diagnostic. Frequencies of age, sex, and reported district were analysed for demographic characterization.

Results: A total of 66 cases were confirmed with *D. repens* infection. The age of the patients varied from 8 months to 80 years with a mean age of 30.44. The

mostly affected age category was children below 10 years (n=16, 24.2%). Infected majority were females (n=36, 54.5%). The highest number of patients were reported from Colombo District (n=49, 74.2%) while other patients were reported from Ratnapura, Gampaha, Chilaw, Polonnaruwa, Ampara, Kalutara, Monaragala, Kuranagala, Badulla, and Vavuniya Districts.

Conclusions: *D. repens* infection needs to be considered in patients presenting with subcutaneous and ocular lesions in Sri Lanka. Colombo District reports the highest number of cases probably due to unplanned urbanization which provides water collections for the vector mosquitos to breed. Children and females appear to be more exposed to infective mosquito bites. Unavailability of further details is a limitation of this study.

Keywords: Dirofilariasis, *Dirofilaria repens*, Demographics, Sri Lanka

GENETICS AND DIAGNOSTICS

PP-18: A Sanger Sequencing approach to sequence the hotspot regions of the human mitochondrial genome

Nissanka S¹, Somasunderam P¹, Noordeen N¹, Wettasinghe K¹, Dissanayake VHW¹

¹Faculty of Medicine, University of Colombo

Introduction: Mitochondria are the only mammalian organelles that contain their own genomes and mitochondria are considered as the power-generating units of the cell. Mitochondrial DNA contains 16,569 base pairs of nucleotides, encodes for 37 genes. Mutations in mitochondrial genes lead to various inherited diseases. When compared to nuclear genomes, the mitochondrial genome mutation rate is reported to be 10–17 times higher. Mitochondria produces most of the adenosine triphosphate (ATP) through the oxidative phosphorylation system. The mitochondrial reactive oxygen species formation increases the risk of mitochondrial DNA disruption and damage synthesis of ATP. Due to the high cost of modern sequencing technologies, identification of mitochondrial diseases remains a major obstacle in Sri Lanka. Therefore, we developed a Sanger sequencing approach to identify the most common pathogenic variants in human mitochondrial genome.

Methods: Peripheral blood was used for total DNA extraction and DNA extraction was done by using a commercially available common miniprep kit. Specific 14 primer sets were designed for selected mitochondrial genes using software: NCBI primer BLAST, Primer3, and ensembl. Using those primers, extracted DNA was amplified via polymerase chain reaction (PCR) technique. Gel electrophoresis was used to confirm the region's PCR amplification and products were sequenced using the Sanger sequencing method.

Results: Highly specific PCR will only make one amplification product, which will be the target sequence. In gel electrophoresis, each well contained one band. Using bioinformatics tools, sequencing data were aligned with the human mitochondrial reference genome (NC_012920.1) and variations were detected.

Conclusions: The Designed primers can be used in the clinical setup to identify the most common mitochondrial diseases via Sanger sequencing method. Due to the specificity of designed primers, nuclear DNA amplification can be avoided and minimized, which increases the accuracy of the sequencing data. However, the genes MTND4, MTND4L, MTND5, MTND6 were not be analyzed due to clinical insignificance.

Keywords: Sanger sequencing, Human mitochondria, Mitochondrial genome, Mitochondrial diseases, Hotspot, Primers, Polymerase Chain Reaction (PCR)

PP-47: Sun Avoidance Measures and Factors Associated with Low Outdoor Time among Healthcare Undergraduate Students, University of Jaffna

Paramanathan T¹, Arasaratinam V¹, Sivayokan B¹

¹University of Jaffna

Introduction: Many people in Asian countries have Vitamin D deficiency, despite getting sunlight throughout the year. This study was carried out to evaluate the sun avoidance measures and factors associated with low outdoor time of healthcare undergraduates in Sri Lanka.

Methods: An institutional based descriptive, cross-sectional survey was carried out to evaluate the sun avoidance behavior and sun protection measures among the healthcare undergraduate (Medical, Allied Health Sciences and Indigenous Medical) students at

University of Jaffna. Researcher developed, prepiloted, self-administered questionnaire was used to collect data. SPSS (version 26.0) was used for statistical analysis.

Results: A total of 918 respondents were included. Two main reasons for avoiding the direct exposure were preventing the skin tanning (63.08%) and skin cancer (14.98%). Many (57.38%) students spent < 30 minutes/day between 9am and 3pm during the weekdays while it was significantly higher (65.90%) during weekends. Majority (73.07%) were used at least one method of sun avoidance measure. Seeking shade (58.20%), followed with usage of umbrella/ hat (46.69%), wearing protective clothing (36.92%), and application of the sunscreen cream (23.02%) were the most common sun avoidance measures practiced by the students. The odds of having low outdoor time was higher for females (OR: 1.626, 95% CI: 1.213, 2.178, $p < 0.001$), final year students (OR: 2.049, 95% CI: 1.314, 3.194, $p < 0.002$), Fitzpatrick skin type VI (OR: 2.513, 95% CI: 1.601, 3.944, $p < 0.000$), ever tested serum 25-hydroxyvitamin D (OR: 2.043, 95% CI: 1.314, 4.021, $p < 0.039$), and those who consume vitamin D supplements (OR: 1.601, 95% CI: 1.173, 2.187, $p < 0.003$). In addition, course of the study was associated with low outdoor time (Indigenous medicine OR: 1.587, 95% CI: 1.136, 2.218, $p < 0.007$).

Conclusions: Healthcare undergraduate students have low outdoor time while majority practiced at least one sun avoidance measure. Gender, course of study, academic year, skin type, vitamin D testing status, and vitamin D supplement intake were identified as factors affecting outdoor time. Support should be given to promote outdoor events to get adequate sun exposure.

Keywords: Sun avoidance, outdoor time, vitamin D, undergraduate healthcare students

PP-19: A study on *BTNL2* gene and *HLA-DQB1* gene Variants that are associated with Sarcoidosis in the Sri Lankan population

Nawagamuwalage WISN¹, Wettasinghe K¹, Rajapakse YN¹, Somasunderam P¹

¹Human Genetics Unit, Department of Anatomy, Genetics and Biomedical Informatics, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction: Sarcoidosis is a granulomatous disorder that affects multiple organs, primarily the lungs and the skin. Environmental and genetic factors

are strongly linked to illness prevalence, according to previous studies. *HLA* and non-*HLA* gene polymorphisms have been linked to the onset of this disease and are significant markers for sarcoidosis susceptibility. The rs2076530 variant on *BTNL2* gene and rs1049130 variant on *HLA-DQB1* gene are the most associated genes with Sarcoidosis in the global population. The objective of this study was to determine the genetic variants associated with a cohort of patients affected with sarcoidosis in the Sri Lankan population.

Methods: DNA was extracted from a cohort of 15 patients with clinically proven sarcoidosis. All participants provided written informed consent for the study. A T-ARMS (tetra-primer amplification refractory mutation system) polymerase chain reaction (PCR) assay was designed to genotype the study cohort. The PCR assay was optimized and performed gel electrophoresis to get results. The results were validated by Sanger sequencing.

Results: All the patients were homozygous for the ancestral allele for rs1049130 variant on *HLA-DQB1* gene. Twenty percent (three patients) of the patients were heterozygous for the mutant allele for rs2076530 variant on *BTNL2* gene. The results were further validated by Sanger Sequencing which are presence of heterozygous mutant allele rs2076530 on *BTNL2* gene and homozygous ancestral allele for rs1049130 variant on *HLA-DQB1* gene.

Conclusions: As study on genetic association in Sarcoidosis has not been previously conducted in Sri Lanka. Hence, this study is an important step toward further understanding the genetic variants associated in the disease in our population

Keywords: Sarcoidosis, *BTNL2* gene, Granulomatous disorder, rs1049130, rs2076530

PP-20: Study on protein modelling and familial segregation of a variant of uncertain significance in the *ATM* gene identified in two unrelated families with hereditary breast cancer

Senasinghe K¹, Anandagoda G¹, Gunawardena K¹, Sirisena N¹

¹Department of Anatomy, Genetics & Biomedical Informatics, Faculty of Medicine, University of Colombo

Introduction: Germline pathogenic variants in Ataxia-telangiectasia mutated (*ATM*) gene account for 20-40% of hereditary breast cancer. Next-

Generation sequencing (NGS) technology is increasingly used in hereditary cancer diagnosis. Almost 35% of variants discovered through NGS analysis are variants of uncertain significance (VUS). A variant is classified as VUS when its impact on the function of the encoded protein is unknown. Thus, its associated cancer predisposition risk is unclear, and warrants further evaluation. This study aimed to elucidate the functional significance of a VUS in *ATM* gene identified in two unrelated patients with hereditary breast cancer.

Methods: A VUS in *ATM* gene, rs531617441(c.7502A>G, p.Asn2501Ser) identified in heterozygous state in two unrelated patients with hereditary breast cancer was selected for further study from an existing cancer genomics database. Population frequency of variant is 0.003%. Bioinformatics analysis and protein modeling was performed by constructing wild type and mutated *ATM* protein models using SWISS-MODEL and analyzing with Swiss-Pdb viewer and PyMOL web-based tools. Sanger sequencing was performed in consenting family members of the probands to determine familial segregation of VUS.

Results: rs531617441(c.7502A>G,p.Asn2501Ser) missense variant resulted in a conservative amino acid substitution (asparagine by serine) in the FAT domain of *ATM* protein. Five out of seven in-silico tools predicted this substitution had a damaging effect on the protein. Protein modeling showed asparagine forms hydrogen bonds with tryptophan at position 2491, which is lost when substituted with serine. This substitution significantly reduced the volume of two cavities. Missense3D-DB tool further revealed that the VUS resulted in a structurally damaging cavity alteration in *ATM* protein. The VUS was identified in four out of seven pre-symptomatic family members in heterozygous state (Family I:3/5; Family II:1/2).

Conclusions: The significant 3-dimensional structural alterations in *ATM* protein could potentially compromise its function, leading to increased cancer risk. Functional genomic assays are required to further validate this finding.

Keywords: Hereditary breast cancer, VUS, germline variants, protein modeling, familial segregation

PP-21: Genotype correlations of *CALR* type 1 and type 2 mutations and *JAK2V617F* mutation in primary myelofibrosis and post-polycythemia-vera myelofibrosis in a Sri Lankan cohort.

Daniel CR¹, Noordeen N¹, Ishak C¹, Somasundaram P¹, Goonasekera HW¹

¹Human Genetics Unit, Department of Anatomy, Genetics and Biomedical Informatics, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction: Primary Myelofibrosis (PMF) and Polycythaemia vera (PV) are Myeloproliferative neoplasms (MPN). The latter could transform into myelofibrosis, post-PV-myelofibrosis (Post-PV-MF). Calreticulin (*CALR*) gene type-1 and type-2, janus kinase-2 (*JAK2*) gene V617F and myeloproliferative leukemia virus (*MPL*) mutations are mutually exclusive driver MPN mutations, according to many Caucasian studies. Gene profile variations in Asians are increasingly being recognized. Concurrent studies of above mentioned mutations in Sri Lankan patients have not been previously reported. We developed a protocol to detect the common *CALR* type-1 and type-2 mutations, and correlated their presence with *JAK2V617F* mutation in a Sri Lankan PMF and Post-PV-MF cohort.

Methods: Ethical clearance obtained from ethics review committee, Faculty of Medicine, Colombo (EC/22/119). PMF and Post-PV-MF patients recruited from the Colombo North Teaching Hospital. Genetic testing done at the Human Genetics Unit (HGU) Faculty of Medicine, University of Colombo. A multiplex allele specific polymerase chain reaction was optimized using newly designed primers (Forward 1: 5'- CAGGTCAAGTCTGGCACCAT-3'; Forward 2: 5'-GCAGAGGACAATTGTCCGA-3'; Reverse primer: 5'-ATCCACCCCAAATCCGAACC-3') to detect *CALR* type-1 and type-2 mutations in all patients. Test validation was done using positive and negative controls and Sanger sequencing to verify the results. *JAK2V617F* mutation in untested patients (n=3) done using previously validated protocols.

Results: Nine patients (PMF: n=6, Post-PV-MF: n=3) studied. Median age 67years. Male to female ratio 1:2. Mutation detection *CALR* type-1 = 11.1% (n=1, PMF), *CALR* type-2 = 0% (n=0), *JAK2V617F* = 66.7% (n=6, PMF=3, post-PV-MF=3), one mutation positive 77.8% (n=7), both mutations negative = 22.2% (n=2, PMF=2). Both mutation positive = 0% (n=0). *JAK2V617F* positive patients were negative for *CALR* mutations and vice versa.

Conclusions: Protocol for *CALR* mutation detection was developed. Genotype correlations were similar to reported Caucasian studies. However larger cohort studies are required to validate the findings. Testing for other MPN mutations are also required

Keywords: Primary Myelofibrosis, Post-polycythaemia-myelofibrosis, *CALR*, *JAK2V617F*

PP-22: Study of patient's satisfaction and perception of care during Obstetrics ultrasound scan (USS) in a tertiary care hospital in Sri Lanka

Wijayapala MHWMN¹, Amarasinghe WDMG¹, Wanigasiri IDUK², Rajapakse RKJS²

¹Postgraduate Institute of Medicine, Colombo Sri Lanka

²Ministry of Health, Sri Lanka

Introduction: Obstetrics ultrasound has expanded as a major part of antenatal care in the world. Better obstetric care accomplishing a high degree of patient satisfaction is one of the priorities. Patient satisfaction is an essential index both for assessment and upgrading of healthcare services. Our objectives were to evaluate pregnant women's perception of care and satisfaction during obstetrics USS and to assess the correlation between demographic factors and level of satisfaction.

Methods: A cross sectional descriptive study was conducted at a tertiary care hospital in Sri Lanka. All expectant women who came to Radiology department for antenatal USS during February 2021 were enrolled. Pre validated self-administered Questionnaires including questions on patient demographics and ordinal scales to rate satisfaction on various indices was distributed to the patients prior to the obstetric USS and filled questionnaires were collected after USS. To compare the relationship between patient's demographic factors and their level of satisfaction, Kendall's tau-b correlation was used.

Results: Analytic sample consisted of 278 females with the majority (60.5%) attained either secondary education or university degree. Overall satisfaction reached 84.6 % and satisfaction ratings above 80% were noted for all the indices of perception of care. 95.7% would recommend it to third parties, and 98.6 % considered their expectations were fulfilled. Level of education and age showed positive correlation with the satisfaction with $p < 0.05$. Ethnicity was independent of satisfaction

Conclusions: Care during obstetric USS was evaluated with a high level of satisfaction by patients. Statistically significant association of level of education, age with the degree of satisfaction was observed. However no comparable studies were found in Sri Lanka, and multicenter studies would be

required to generalise the results.

Keywords: Satisfaction, Obstetrics ultrasound scan, USS, pregnant women, health policy

PP-23: Exploration of characteristics of the samples received at the Polio Regional Reference Laboratory Sri Lanka, in the era of polio eradication

Fernando MAY¹, Weerasinghe N², Rangana C², Madarasinghe NS², Abeynayake JI²

¹Department of Medical Microbiology and Immunology, Faculty of Medicine, University of Colombo

²Department of Virology, Medical Research Institute, Colombo

Introduction: Cessation of circulating vaccine-derived poliovirus (cVDPV) transmission and prevention of poliovirus outbreaks are essential to ensure a polio-free status in a disease eliminated country like Sri Lanka. The Polio Regional Reference Laboratory (RRL) plays a key role in accomplishing this target by engaging in laboratory surveillance through timely and accurate testing and reporting of samples. This study was aimed at evaluating the characteristics of the samples received at Polio RRL for laboratory surveillance.

Methods: This retrospective study analyzed all samples received for acute flaccid paralysis (AFP) and immunodeficient VDPV (iVDPV) surveillance at Polio-RRL, Sri Lanka from January, 2019 to May, 2023. The results of poliovirus testing methodologies including virus isolation, intra typic differentiation/vaccine derived poliovirus polymerase chain reaction (ITD/VDPV PCR) and sequencing were extracted from laboratory data system. Data was analyzed using Microsoft office excel software and described using descriptive statistics.

Results: A total of 1698 samples were tested at polio RRL during the study period. Majority (90.63%) of samples were for AFP surveillance from Sri Lanka while 7.89% were for iVDPV surveillance. Samples from Maldives for AFP surveillance represented 1.47%. Most samples (27.26%) have been received in the year 2019. Both polioviruses (n=19, 1.11%) and nonpolio enteroviruses (n=70, 4.12%) were isolated from AFP and VDPV surveillance samples. Among polioviruses isolated, Sabin-like (SL) 3 virus was detected in majority (57.89%) followed by

SL1 and 3 (21.05%) and SL1 (15.78%). One sample (5.26%) exhibited VDPV-discordant results and was later confirmed with sequencing as SL3. Wild polioviruses or c-VDPV were not detected among samples tested during the study period. All results of poliovirus testing were reported within 14 days of receipt ensuring timely reporting as per global guidelines.

Conclusions: Among the polioviruses only Sabin-like polioviruses were detected in Sri Lanka during the study period, ensuring the polio-free status in the country.

Key words: poliovirus, regional reference laboratory, laboratory surveillance

PP-24: In vitro-antimicrobial properties of selected medicinal plants against uropathogenic *Pseudomonas aeruginosa*

Ilangage JIMK¹, Ilangakoon IACS¹, Dissanayake DMMK¹, Rajapaksha NPD¹, Fernando KMK¹, Walpola LH¹, Hettiarachchi D²

¹Department of Biomedical Science, Faculty of Health Science, KIU

²Department of Anatomy, Genetics and Biomedical Informatics, Faculty of medicine, University of Colombo

Introduction: Urinary tract infections (UTIs) are commonly encountered bacterial infection globally. *P.aeruginosa* is among the common pathogens of complicated UTIs and cause catheter associated UTIs (CAUTIs) through biofilm formation. In recent years antibiotic resistance has emerged as a major concern. Aim of the study is to test the *in-vitro* inhibitory activity of selected plant extracts to pave the way for new plant base treatment development.

Methods: Agar well diffusion and broth microdilution (MIC) methods were conducted to determine the bacterial activity of methanol extracts of the ten medicinal plants against *P.aeruginosa* ATCC27853 and *P. aeruginosa* UTI positive pathogenic strains extracted from positive culture plates. These two bacterial strains were used to determine the resistance pattern by comparing the results. The methanolic extract of all plants were compared to Gentamycin as a positive control and 50% DMSO as the negative control. Selected medicinal plants were *Phyllanthus emblica* fruit, *Ocimum tenuiflorum* whole plant, *Terminalia*

chebula fruit, *Zingiber officinale* rhizome, *Tribulus terrestris* root, *Asparagus falcatus* root, *Cucumis melo* seeds, *Boerhavia diffusa* root, *Tragia involucrata* root and *Aerva lanata* whole plant.

Results: *T.involucrata* (29mm) showed the highest zone of inhibition (ZOI) against *P.aeruginosa* ATCC27853. Additionally, *B.diffusa* (21mm), *A.lanata* (21mm), *O.tenuiflorum* (21mm), *A.falcatus* (21mm), *Z.officinale* (19mm), *T.terrestris* (17mm), *T.chebula* (16mm), *P.emblica* (15mm) and Gentamycin (19mm) showed antimicrobial activity against *P.aeruginosa* ATCC27853 and *C.melo* did not show any ZOI. All the selected organisms were sensitive to Gentamycin. The *Z.officinale* (25mm) showed the highest ZOI and other plants except *C.melo* showed antimicrobial effect against the UTI Positive strain while Gentamycin only showed 18mm ZOI.

Conclusions: Methanolic extracts of all the selective plants except *C.melo* had the antimicrobial activity against the *P.aeruginosa* ATCC27853 and UTI positive organisms. *T.involucrata* roots showed the highest antimicrobial property against *P.aeruginosa* ATCC27853 and *Z.officinale* rhizome showed the highest antimicrobial property against *P.aeruginosa* UTI positive strain. The results of the present study evidently support the traditional use of plants against UTIs, and this study would pave the way for validating plant-based treatment options traditionally used for UTIs caused by *P.aeruginosa*.

Keywords: Urinary tract infections, medicinal plants, antimicrobial

Acknowledgement: Acknowledged to KIU undergraduate research grant.

MENTAL HEALTH

PP-25: Knowledge and Attitude Towards Psychological Counselling among Healthcare Students in Gampaha District

Maheepala T¹, Perera S¹

¹International Institute of Health Sciences

Introduction: There is a growing apprehension that the limited uptake by undergraduates regarding

psychological interventions such as counseling has an impact on their overall wellbeing, academic achievement and personal goals. Particularly, healthcare students who have access to this knowledge should have an understanding on counseling. Hence, this study was conducted to determine the knowledge and attitudes of undergraduates in a healthcare institute towards psychological counseling.

Methods: A quantitative, cross-sectional study was carried out with a validated Self-administered questionnaire in three different languages, distributed as Google Forms. 250 healthcare students aged 18 to 25 was selected via convenient sampling technique.

Results: Most of the participants were aged 20-23. The majority preferred seeking help from friends (65%) and were unaware of available psychological counselling at their institution. A higher level of knowledge was shown regarding Psychological Counselling as 86.6% knew that psychological counselling is available for everyday problems. 79.1% knew the role of counsellor which was assessed through various aspects. They also showed the awareness on time consuming nature of counselling (73.1%), nature of confidentiality (91%), and opportunity to withdraw consent at anytime (86.6%). The majority knew that counselling was more future-focused and supports life challenges other than just treating mental health issues, but their attitudes toward counselling were moderate. 64.2% admitted to never attending psychotherapy sessions, even though 92.5% believed counselling to be more effective. Reasons for avoidance included societal stigma (67.2%), fear of being perceived as weak (58.2%) and the fear of breach of personal information (55.2%). However, 83.6% expressed their willingness to seek professional counselling for future issues.

Conclusions: The level of knowledge on psychological counselling was high compared to their attitudes to counselling. It was remarkable how students agree for professional counselling services in future even without any intervention being provided to increase receptivity to counselling.

Keywords: psychotherapy, counselling, mental health, college students

among adolescent students aged 14 years in selected schools in Colombo city

Perera AANN¹, Pavithra MD¹, Peiris LKBC¹, Arambepola C²

¹ Faculty of Medicine, University of Colombo

² Department of Community Medicine, Faculty of Medicine, University of Colombo

Introduction: Online education was established in Sri Lanka in 2020 with the COVID-19 pandemic, and was continued as a hybrid online-onsite schooling system during the fuel crisis in 2022. This could have negatively influenced the mental status of adolescents due to loss of social interactions and hands-on learning. This study was done to evaluate the current emotional and behavioural status.

Methods: A descriptive cross-sectional study was conducted among 122 grade 9 students selected from 2 schools in Colombo city through a two-stage probability sampling method. Data were collected via a self-administered questionnaire. Self-reported emotional and behavioural status was assessed using Total Difficulties Score (TDS) derived from the Strengths and Difficulties Questionnaire; and students were categorized as 'normal', 'borderline' and 'abnormal'. Online usage patterns were described in relation to three domains; online usage for educational purposes, recreational purposes and virtual interactions. Associations were determined using Chi-squared test and t test at 0.05 significance.

Results: Response rate was 66.67%. The mean TDS was 11.75 (SD=5.74). The majority (n=87; 71.3%) belonged to the 'normal' category in relation to their self-reported emotional and behavioural status. All were currently using internet, of whom 98.4% (n=120) were using it for online recreational activities, and 87.7% (n=107) for virtual interactions via social media platforms. A significantly higher number of students who watched movies online for recreation had a 'normal' self-reported emotional and behavioural status (n=59), compared to those who did not (n=27) (p=0.03). A significantly higher number of students who felt their recreational activities changed after switching to online education were having 'borderline/abnormal' emotional and behavioural status (n=20), compared to those who did not (n=15) (p=0.002). Other associations tested were statistically non-significant.

Conclusions: The switch to online education leading to increased exposure to online activities, does not seem to have negatively influenced the current self-

PP-26: Self-reported emotional and behavioural status and its association with online usage pattern

reported emotional and behavioural status of adolescent students.

Keywords: adolescents, emotional and behavioural status, online education, SDQ

PP-27: Relationship between Screen Time and Sleep Quality among Advanced-Level Students in a National school in Colombo district

Gunawardena D¹, Jayawardena R²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Physiology, Faculty of Medicine, University of Colombo

Introduction: Excessive screen time, referring to the prolonged use of electronic devices such as smartphones, computers, and televisions, has become a prevalent issue among adolescents in recent years. Concurrently, inadequate sleep quality has emerged as a major concern impacting the health and well-being. Studies have shown that excessive screen time, particularly before bedtime, can disrupt the circadian rhythm and sleep-wake cycle, leading to sleep disturbances and poor sleep quality in school-going children. The aim of this study was to investigate the relationship between screen times and sleep quality among advanced-level (AL) students.

Methods: A cross-sectional analytical study was conducted to investigate the relationship between screen times and sleep quality among -Advanced Level (AL) students in a selected school in the Colombo District. AL Students were invited to participate in the study after ethical clearance and written informed consent were obtained. Screen time was collected using a pre-tested questionnaire. Pittsburgh sleep quality index (PSQI) was used to assess the sleep quality. Data were analyzed using logistic regression on IBM SPSS 25.

Results: 280 students met the study criteria. The study found that the majority of participants reported screen time exceeding recommended limits (>2 hours/day) on weekdays (81.7%) and weekends (81.0%). The average screen time was 5.98 hours on weekdays and 6.54 hours on weekends. Additionally, 60.21% of participants demonstrated poor sleep quality based on PSQI. Significant associations were found between screen time on weekdays and sleep quality (OR: 1.522, 95% CI: 1.080-2.144, p = 0.016) and between mobile phone usage and sleep quality (p < 0.001). However, no significant association was

observed between weekend screen time and sleep quality.

Conclusions: Increased weekday screen time is associated with - reduced sleep, adversely affecting the sleep quality of school-going children. -

Keywords: Screen time, Sleep quality, Advanced-level students, Colombo District

PP-28: Conduct disorders in children and adolescents: Presentations and management at a specialized psychiatry unit in Sri Lanka

Haluge RST¹, Dahanayake D¹, Kannangara PP²

¹Faculty of Medicine, University of Colombo

²Ministry of Health

Introduction: Identifying and addressing conduct disorders in children and adolescents is of paramount importance to mitigate potential adverse long-term consequences. Utilizing professional assistance and fostering a nurturing environment can significantly contribute to improving the well-being and future prospects of these young individuals. This research was undertaken to explore the characteristics and treatment strategies for children with conduct disorders who are receiving care at a specialized child and adolescent mental health service in Colombo.

Methods: A retrospective study was conducted using a structured questionnaire from clinic records of patients with conduct disorders(6-18-Years-Old) attending the University Psychiatry Unit, Lady Ridgway Hospital for Children, Colombo, during the year 2022. The diagnosis of conduct disorder typically involves a comprehensive assessment following criteria such as age of onset, differential diagnosis, pattern and length of the behavioural problems and Standardized tests by a child and adolescent psychiatrist.

Results: Out of a total of 115 participants, 76.5% were boys. The participants had an average age of 8.6 years, and 77.3% of them fell within the 6-10 age range. Among them, 80% were referred from the hospital outpatient department, 10.5% from wards, and 2.6% from the pediatric neurology department. The most common reasons for referral were hyperactivity (22.7%), anger issues (20.9%), and poor school performance (8%). In terms of management, 21.6% of the participants received a combination of parent education, behaviour management, and pharmacological interventions,

while 2.7% received only remedial teaching. Notably, at least 7.2% received a comprehensive intervention of parent education, remedial teaching, and pharmacological management whereas majority had received at least one intervention out of above. 10.5% referred to other services specifically addressing school-related issues.

Conclusions: Managing conduct disorder is a complex and long-term process. It often requires a multi-faceted approach involving professionals, family, and the broader community.

Keywords: conduct disorder, children and adolescents, psychiatry unit

PP-29: Health knowledge and attitudes on cannabis and associated factors among young adults

Nallahewa P¹, Muthumala N¹, Nagodawithana J¹, Liyanaarachchi H²

¹Faculty of Medicine University of Colombo

²University of Colombo

Introduction: Over the recent past, it has been much debated whether cannabis should be legalized for recreational purposes, after it was legalized for therapeutic medical uses by the government in 2017. Owing to their limited health knowledge and urge to escape stressful circumstances, abusing cannabis is popular among young adults. Limited information is available on Sri Lankan youth and if cannabis were to be legalized, this age group will be most affected. The objective of the study was to assess the health knowledge and attitudes related to cannabis and the socio-demographic factors associated with poor knowledge among young adults.

Methods: A cross-sectional study was undertaken, among Advanced Level Science students, attending two randomly selected private tuition institutions located in Nugegoda Educational Division. 150 participants were recruited using systematic sampling. Data were collected using a self-administered questionnaire, with knowledge based on a score (range=0-100%). Any association of poor knowledge with gender, location of residence, family income, parental education, having known cannabis users were determined using independent sample t-test.

Results: Response rate was 73.3% (N=110). The majority were females (52.7%). The overall mean

knowledge score was 37.49% (SD=17.56). The knowledge score obtained for addictive potential of cannabis was higher (mean=69.09%; SD=15.76) in contrast to that on medical use of cannabis (mean=18.36%; SD=14.65). Poor knowledge was significantly associated with students residing outside of Colombo District (28.8%) compared to those from Colombo (38.86%) (p=0.04) but no significant association was found with other socio-demographic factors. Regarding attitudes, over 60% of the responses captured the negative perception of cannabis, while 67% agreed with the undesirable effects of cannabis. The students had a mixed opinion about legalisation, with 64.8% showing opposition to recreational legalisation but with 63.2% also supporting medical legalisation.

Conclusions: The young adults showed relatively poor health knowledge on cannabis with those residing outside of Colombo district displaying significantly poorer knowledge. Although they had negative attitudes overall, the attitude regarding the medical use of cannabis was positive. Awareness regarding cannabis should be increased, particularly targeting adolescents and young adults outside Colombo district, with relevant school curriculum reforms to address this issue.

Keywords: knowledge, attitudes, cannabis, young adults

MEDICAL EDUCATION

PP-30: The relationship between screen time exposure and migraine and non-migraine headaches among undergraduates of Faculty of Medicine, University of Colombo; A cross-sectional study.

Bandara GI¹, Seneviratne SN²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Pediatrics, Faculty of Medicine, University of Colombo

Introduction: Headache is a disabling condition and migraine is the commonest disabling type of headache. Medical undergraduates have a high degree of exposure to digital screens and a high prevalence of headaches and migraines. Headache results in

reduced number of studying days and poor academic performance among university undergraduates. A considerable number of students also skip academic activities due to headache. Identifying if high screen time exposure is associated with headache among Sri Lankan medical undergraduates could assist measures to reduce headaches. This study aims to identify the relationship between screen time exposure and migraine and non-migraine headaches among medical undergraduates of a state university in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 200 undergraduates (85males, 115females) of Colombo Medical Faculty using stratified sampling on academic year with a random number generator. The pre-validated ID-Migraine™ questionnaire was used to assess headache types (migraine with aura, migraine without aura and non-migraine headaches) and a pre-validated 18-item questionnaire to assess average daily screen time exposure over the past three months using Chi-square, ANOVA and independent sample t-tests to explore associations.

Results: Participants with migraine with aura (16.1h), migraine without aura (14h) and non-migraine headaches (13.6h) had a higher daily screen time exposure than those without headache (11.0h). Significant relationships were found between high screen exposure and migraine with aura ($p<0.001$), high screen exposure and migraine without aura ($p<0.001$) and, high screen exposure and non-migraine headaches ($p<0.001$). Headache and screen time exposure were associated with academic year as well ($p<0.05$). No significant associations were found between gender and screen time exposure or headache.

Conclusions: High levels of screen time exposure and associations between screen time >13h per day and migraine and non-migraine headaches were seen. Taking steps to educate and reduce excessive screen-time among Medical Undergraduates in Sri Lanka is recommended.

Keywords: Screen time, Headache, Migraine with aura, Migraine without aura, Non-migraine headaches

PP-31: Were the Sudden Changes in Learning Due to the COVID-19 Pandemic Influenced the First-year Medical Students to Improve English and IT Skills?

Dias NWGLTL¹, Kumaradasa PP¹, Randiligama B¹, Rodrigo B¹, Ponnampuruma G¹

¹Department of Medical Education, Faculty of Medicine, University of Colombo

Introduction: The COVID-19 pandemic has brought about significant changes in the education sector, leading to a transition from traditional face-to-face learning to online learning. English and IT (information technology) skills are considered crucial for effective online learning. The aim of the study was to investigate whether the English and IT skills of 1st-year medical students changed from the early to the latter days of the pandemic.

Methods: An analytical cross-sectional study was conducted on students from both 2019-A/L (n=237) and 2021-A/L (n=233) batches prior to the beginning of their 1st-year academics, using a self-administered, online questionnaire. The total population was recruited for the study.

Results: A total of 453 students (mean age of 20.33±0.875 years; 56.1% females) completed the questionnaire. No significant differences were found between the groups in terms of their perceived English reading ($p=0.757$), writing ($p=0.301$), speaking ($p=0.617$), and listening ($p=0.937$) skills. Additionally, there were no significant differences in the use of IT among the students for educational activities: using computers ($p=0.757$), searching the internet for medical information ($p=0.138$), email communication ($p=0.718$), using video conferencing software like Zoom ($p=0.104$), and using software-packages for word processing ($p=0.386$), presentations ($p=0.149$), spreadsheet ($p=0.824$) and graphic designing ($p=0.225$). Students of the 2021-A/L batch were more familiar with using the Learning Management System (LMS) (3.10±1.299) compared to the 2019-A/L batch (2.20±1.312) ($p=0.000$).

Conclusions: Students of both batches had comparable English language skills and high proficiency in using IT for educational activities. The greater familiarity of the 2021-batch with LMS than the 2019-batch is likely due to the students perceiving the importance of LMS literacy as the pandemic progressed.

Keywords: Online learning, COVID 19, Medical students, English, IT

PP-32: Design and Implementation of an online Learning Management System for system training

in low resource settings

Fernando P¹, Pallewatta N², Gunewardena PVAI¹, Liyanage P³, Hewapathirana R⁴, Abeysekera AWADSN⁵

¹Postgraduate Institute of Medicine, University of Colombo

²National Programme for Tuberculosis Control and Chest Diseases

³Ministry of Health, Sri Lanka

⁴Faculty of Medicine, University of Colombo

⁵National Programme for Tuberculosis Control and Chest Diseases

Introduction: The National Programme for Tuberculosis Control and Chest Diseases is responsible for planning, implementation, monitoring, and evaluation of TB control activities, the development of policies and guidelines, and disease surveillance. To carry out these activities effectively, it is essential to have an efficient data flow. The electronic Programmatic Information Management System (ePIMS) was introduced as a way to overcome the barriers in the workflow. An online Learning Management System (LMS) was introduced to ensure continued user training.

Methods: A descriptive study was carried out among 78 users in all district chest clinics to identify the weaknesses in the manual workflow, and one officer from each staff category was selected for the study. The ePIMS training needs assessment among users and LMS that can be implemented at a low cost were identified. Training requests received to NPTCCD before and one month after the launch of LMS were compared.

Results: Delay in reporting (58%), incomplete and inaccurate data (67%), and inconsistency (61%) have been identified as weaknesses in the manual system. Issues pertaining to accessibility (64%), availability (59%), and IT literacy (45%) as gaps in ePIMS. Need for continuous training was identified as a key requirement for ePIMS due to the frequent turnover of the trained users. Google Classroom was identified as best method for training because it is easy-to-use, cloud based, time saving, flexible, free, and mobile friendly. Virtual training with the LMS was conducted, and a user manual was made available. After one month of follow up with LMS and ePIMS, a 50% reduction in training requests and system related queries was observed.

Conclusions: LMS is a user friendly, cost-effective solution that immensely reduces the burden of

training users. Therefore, countries like Sri Lanka with resource constraints can utilise free solutions such as Google Classroom to continue system training.

Keywords: Learning Management System, Google Classroom, User training

PP-33: Designing and conducting an interactive learning module based on ICT and gamification methods for tutors in a medical education course

Fernando P¹, Dilan NMNS², Wijeyaratne AKJM², Ranwala RADLMK³, Hewapathirana R⁴

¹Postgraduate Institute of Medicine, University of Colombo

²Ministry of Health, Sri Lanka

³University of South Australia

⁴Faculty of Medicine, University of Colombo

Introduction: With increased adoption of technologies for education, teachers in medical sciences were compelled to use technology to continue education during the pandemic. As a result, Information and Communications Technology (ICT) and distance education modules were introduced with both theory-based and practical components. The concept of "gamification of learning" has been introduced to education worldwide to solve problems linked to learning by applying the game mechanic. Because of its fun and playful nature, incorporating gaming is believed to keep students engaged during lessons.

Methods: During the practical gamified component, a pre-evaluation and post-evaluation were presented in the form of a mentimeter-poll, this included questions about Google-tools, email-etiquette, and learning management systems (LMS). Games were created through Kahoot-quizzes with the purpose of revising earlier lessons and assessing grasp of principles covered that day. Kahoot allowed players to answer questions in an interactive, time limited game-based format where each player was placed on a leaderboard according to their scores. Responses were received anonymously (players were identified using a nickname) for all those following the training.

Results: During the preliminary survey, over 60% of tutors were not familiar with Google tools and email etiquette. However, over 50% were familiar with the LMS Moodle. During the post-evaluation all agreed that the lesson had been comprehensible to them, and pre and post gamification elements provoked

interactiveness and improved palatability of the course. The report generated following the gaming quiz gave a summary of each player, highlighting areas needing special attention, which is useful for educators to identify gaps

Conclusions: There are many low-cost tools that can be used to enhance interactivity for learners. It is important to train tutors to use them. However, prior to introducing them, existing knowledge needs to be assessed to address gaps during training. Gamification enhances the interactivity and helps identify areas in lessons needing special attention.

Keywords: Gamification of Learning, Interactive learning ultrasound scan, USS, pregnant women, health policy

PP-34: Learning style and academic performance in physiotherapy students

Sigera C¹, Wettasinghe A¹, Thakshila S¹

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

Introduction: Learning is a process that induces permanent changes in life. The primary aim of teaching is to facilitate the learning process. Understanding students' learning style and preferences can benefit both students and teachers and it's a part of teaching. Previous studies have shown a strong association between learning style and academic performance of students, but this has not been revealed much among physiotherapy students, especially in low-middle-income countries. The aim of this study was to determine whether the learning style of physiotherapy students will affect the academic performance by identifying the learning styles of Sri Lankan physiotherapy students and assessing the association between learning styles and the student's academic performance.

Methods: The learning styles of 57 physiotherapy students were determined using the Grasha-Riechmann Student Learning Style Scales. It is a five-point Likert-type scale (strongly disagree, moderately disagree, undecided, moderately agree, strongly agree) consisting of 60 items which assess student attitudes toward learning, classroom activities, teachers and peers. Learning styles that form subscales are the Independent, Avoidant, Collaborative, Dependent, Competitive, and Participant learning styles. The applied physiotherapy

stream class (1st class, 2nd upper class, 2nd lower class and pass) was used as a measure for the academic performance. The chi-square test was used to compare the academic performance among the six learning style groups (Independent, Dependent, Competitive, Collaborative, Avoidant, and Participant).

Results: Out of 68 students, 50 students were females (73.5%). The most common learning style was collaborative style (n=41, 60.3%). The next common learning styles were independent style (n=14, 20.6%) and dependent style (n=9, 13.2%). No significant association was found between learning style and academic performance (p>0.05).

Conclusions: Based on the findings of this study, learning style has not been associated with the academic performance of BSc physiotherapy students. Further studies are needed with a large sample size to ensure this relationship.

Keywords – learning styles, academic performance, physiotherapy, undergraduates, teaching

PP-35: Computer Vision Syndrome and its association with ergonomic practices among the undergraduates of Faculty of Medicine, University of Colombo

Faizer F¹, Jayalath L¹

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

Introduction: Computer Vision Syndrome (CVS) has become a significant health concern due to the widespread use of electronic digital devices. Undergraduate students use electronic devices for prolonged hours for their learning in static postures which can have long term consequences. This study aims to identify the prevalence of CVS and its association with different aspects of ergonomic practices among the Undergraduates of Faculty of Medicine, University of Colombo.

Methods: This descriptive cross-sectional study recruited 105 medical students, studying in second and third academic years from the Faculty of Medicine, University of Colombo. Computer Vision Syndrome questionnaire (CVS-Q) and questionnaire on ergonomic practices were used to detect the symptoms of CVS and ergonomics practiced. Descriptive statistics, Pearson Chi Square test and Independent sample t test were used during statistical analysis.

Results: The prevalence of CVS among study participants was 44.8%, with the most common symptom being headache (71.4%). Workstation and seating ergonomics had a significant relationship with prevalence of CVS ($p=0.010 - 0.047$). A statistically significant relationship was shown between taking breaks during the use of devices ($p= 0.038$), duration of computer usage ($p=0.032$) and academic year (0.002) with the prevalence of CVS.

Conclusions: A significant proportion of the participants were suffering from CVS. CVS was associated with workstation and seating ergonomics. Improper workstation and seating ergonomics, prolonged use of electronic digital devices without breaks and higher academic year were risk factors of CVS.

Keywords – Computer Vision Syndrome, Ergonomic Practices, University students, CVS-Q

MUSCULOSKELETAL DISORDERS – 1

PP-36: Testing the validity and reliability of a questionnaire to determine the incidence of musculoskeletal pain and associated factors among postpartum women in Sri Lanka

Wijesiriwardana AWBWS¹, Thakshila YS¹, Rajasinghe U¹, Pathmanathan C¹

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

Introduction: Musculoskeletal issues are common in postpartum women (PPW). This study aims to validate a new questionnaire for assessing the incidence of musculoskeletal pain and related factors in PPW in Sri Lanka.

Methods: An interview-administered questionnaire was developed based on existing literature consisting questions on demographics, pain assessment, pain's impact on activities, breastfeeding posture, baby-carrying postures, incontinence, pregnancy/postpartum activity habits, and medical advice-seeking. Experts validated the questionnaire; Content Validity Index (I-CVI) and Scale-Level CVI (S-CVI) were calculated. Face validation ($n=10$) and reliability testing ($n=20$, 10% of sample) were conducted by interviewing randomly selected PPW from women's hospitals. A retest was done within three days, evaluating consistency using Interclass Correlation Coefficient (ICC). Statistical analysis is

being performed in SPSS 25.0.

Results: The I-CVI was greater than 0.8 for 51 out of 57 questions during the relevance assessment; S-CVI analysis for relevance showed 0.86 for the score for universal agreement by experts; 0.85 was the score for average agreement by experts. Cronbach's Alpha value of 0.992 (excellent) was obtained for the overall questionnaire (ICC of single measure (SM) = 0.983 (95% Confidence interval (CI) 0.981-0.986) and average measures (AM) = 0.992). The ICC of SM was excellent to good for questions related to exercise habits 0.924, (0.872-0.956) with AM of 0.96. The ICC of SM was moderate to good for questions related to demographic, 0.806 (CI: 0.724-0.866) and pain 0.740 (CI 0.630-0.820) with AM of 0.893 and 0.893, respectively. The ICC of SM was poor to moderate for questions related to childcare, 0.472 (CI 0.267-0.635), and advice 0.292 (CI -.064-0.582), with AM of 0.641 and 0.452, respectively.

Conclusions: Overall validity and reliability of the questionnaire are excellent. Poor reliability for childcare is likely due to transient changes during the postpartum period. This questionnaire will be used for the main study data collection.

Keywords : musculoskeletal, pain, postpartum, reliability, validation

PP-37: Association between shoulder joint mobility and glycemic control in patients with type 2 diabetes mellitus of National Hospital of Sri Lanka

Isurika MLT¹, Siridewa K²

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

²Department of Biochemistry and Molecular Biology, Faculty of Medicine, University of Colombo

Introduction: Type 2 Diabetes Mellitus (T2DM) patients have a greater risk of having various microvascular and macrovascular complications which are associated with poor glycemic control. Limited shoulder joint mobility is also a long term musculoskeletal complication of T2DM which may be affected by poor glycemic control. This study aims to evaluate range of motion (ROM) of shoulder joints and Glycemic control of T2DM patients and identify a relationship between the ROM of shoulder joints and Glycemic control of T2DM patients.

Methods: This analytical cross-sectional study

recruited 105 patients (female=59, male=46), mean age of 56.48(±3.50) years, diagnosed with T2DM, attending Diabetes and Endocrine clinics, National Hospital of Sri Lanka. ROM of shoulder joints was measured by a universal goniometer. Glycemic control of patients was assessed using HbA1C test. Descriptive statistics and Pearson's correlation were used during statistical analysis.

Results: There were minimal difference between ROM of right side and left side of shoulder joints of diabetes patients. This study found higher ROM limitations of the shoulder joint regarding flexion (97.1%), abduction (96.2%) and external rotation (97.1%) in T2DM patients. Majority of participants (69.52%) were diagnosed with poor glycemic control. Duration of diabetes has an effect on glycemic control. This study found a negative relationship between shoulder ROM and HbA1C result with regard to flexion ($r = -0.786$), abduction ($r = -0.923$) and external rotation ($r = -0.855$) in T2DM patients ($p < 0.01$).

Conclusions: Worsening of glycemic control has a negative effect on shoulder joint mobility of T2DM patients. Routine ROM measurements of shoulder joints is recommended as a part of investigation of T2DM patients. It is better to have a good awareness programme about glycemic control and Simple exercise programme which focus on shoulder joint ROM (specially flexion, abduction, external rotation) in the initial stages of the disease.

Key words: Type 2 Diabetes Mellitus, Range of motion, Shoulder joint, Glycemic control, HbA1C

PP-38: Comparison of patients' satisfaction among rheumatoid arthritis patients treated by Western and Ayurvedic treatments

Hewage KPH¹, Ediriweera MK²

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

²Department of Biochemistry and Molecular Biology, Faculty of Medicine, University of Colombo

Introduction: Rheumatoid arthritis is a chronic, systemic, inflammatory autoimmune disorder causing symmetrical polyarthritis of large and small joints. This study investigates the difference in satisfaction among patients with Rheumatoid Arthritis treated with ayurveda and western treatments.

Methods: A descriptive cross-sectional study was conducted among 50 patients from each treatment category; Ayurveda and Western treatments in two selected hospitals, Colombo using the convenient sampling method. Data was collected using the Treatment Satisfaction Questionnaire for Medications. Data were analyzed in SPSS version 25.0 using descriptive statistics, independence sample t-test, and stepwise regression to examine specific components of satisfaction and their relationship to total satisfaction. The confidence interval was considered 95%.

Results: The mean value of satisfaction with the effectiveness of patients treated with ayurveda treatments was 61.11% and 98.5% for no side effects, 54.77% for convenience, and 64.57% for global satisfaction. Effectiveness was identified as the most associated factor in determining satisfaction with ayurveda treatments. The mean value for satisfaction with effectiveness in patients treated with western treatments was 55.22%, 60.87% for no side effects, 55.77% for convenience, and 56.28% for global satisfaction. 'Side effects' were identified as the most associated factor in determining satisfaction with western treatments. Results revealed that there were higher significance levels in effectiveness ($p=0.017$), no side effects ($p=0.001$), and global satisfaction ($p=0.012$) components in Ayurveda treatments. Moreover, the mean value of the total satisfaction score was also higher in ayurveda (69.18%) and significant ($p=0.04$) compared to western treatments (56.96%).

Conclusions: The satisfaction for treatments according to effectiveness, no side effects, and global satisfaction was significantly higher in patients treated with ayurveda treatments relative to the western treatments. These findings emphasize the importance of considering these factors in maintaining and improving the patient's adherence to the treatment.

Keywords: Rheumatoid Arthritis, Patient satisfaction, Ayurveda, Western medicines

PP-39: Case control study of large joint mobility of adult haemophilia patients receiving regular prophylactic therapy with age-matched healthy group and assess the factors of non-compliance with physiotherapy

de Silva A¹, Ratnamalala V², Goonasekera H³

¹Department of Allied Health Sciences, Faculty of

Medicine, Colombo

²Department of Haematology, National Hospital of Sri Lanka

³Department of Anatomy, Genetics and Biomedical informatics, Faculty of Medicine, University of Colombo

Introduction: Limited joint range of motion (ROM) due to haemarthrosis and synovitis is a significant complication of haemophilia, however regular physiotherapy can overcome this problem. Objectives were to compare joint ROM of haemophilia patients receiving regular prophylactic therapy with a healthy cohort and assessing the barriers for obtaining physiotherapy. This type of study has not been done previously in Sri Lanka.

Method

Following ethical (ERC: UCP/AL/18/424) and institutional approvals, haemophilia patients (n=36, mean age=34.5 years) and age matched control (n=36, mean age 33.8 years) were recruited from the haemophilia clinic at National Hospital Sri Lanka and non-academic staff of Faculty of Medicine, University of Colombo respectively. The ROM of bilateral elbow flexion (EF), knee flexion (KF), ankle dorsiflexion (ADF), ankle plantar flexion (APF), ankle eversion (AE), and ankle inversion (AI) were measured using a universal goniometer. An interviewer-administered questionnaire was used to collect demographic data and data regarding physiotherapy.

Results

The mean ROM for the tested movements bilaterally in cases and controls respectively for defined age categories:

19-29 years:

EF=123.020:149.750(P<0.05)

KF=120.200:144.560(P<0.05)

ADF=5.810:14.170(P>0.05)

APF=42.490:51.860(P>0.05)

AE=24.760:29.990(P>0.05)

AI=29.720:35.170(P>0.05), for ages **30-39 years:**

EF=115.300:148.190(P<0.05)

KF=113.050:138.090(P<0.05)

ADF=2.630:11.220(P>0.05)

APF=31.570:46.530(P>0.05)

AE=19.030:28.740(P>0.05)

AI=24.460:31.050(P>0.05), for ages **40-50 years:**

EF=110.60:143.410(P<0.05)

KF=83.950:140.300(P<0.05)

ADF=1.890:12.910(P>0.05)

APF=36.430:43.760(P>0.05)

AE=23.350:27.640(P>0.05)

AI=21.380:31.280(P>0.05). ROM of KF among physiotherapy receiving vs. non-receiving patients 114.790:97.260 (**P<0.05**), ROM of EF among physiotherapy receiving vs. non-receiving patients 116.740:115.530(P>0.05). Patients not obtaining physiotherapy were 52.8%(n=19). Reasons for poor-compliance were: Pain/swelling following physiotherapy 10.5%(n=2), lack of time (work) 36.8%(n=7), Physiotherapy not necessary 15.8%(n=3), no specific reason 36.8%(n=7), no access to physiotherapy 0%(n=0).

Conclusions: Despite regular prophylactic therapy, significant ROM limitation was observed in EF and KF in both haemophilia 19-29 years and 40-50 years age groups; the reasons for this need to be investigated further. However, regular physiotherapy resulted in better knee mobility of haemophilia patients. Haemophilia patients need greater health education regarding physiotherapy.

Keywords: Haemophilia, Joint range of motion, Physiotherapy

MUSCULOSKELETAL DISORDERS – 2

PP-40: The influence of shoe heel height on lower limb joint pain and functional disabilities among female office workers in selected office settings in Colombo district

Masinghe Y¹, de Silva C², Jayalath L¹

¹ Department of Allied Health Sciences, Faculty of Medicines, University of Colombo.

² Department of Pathology, Faculty of Medicines, University of Colombo

Introduction: In modern society, high-heel shoes are preferred by most of women to enhance their attractiveness. However, many of those who wear high heeled shoes for long period complains of many musculoskeletal problems specially related to legs. Therefore, this study was objected to determine the association between shoe heels height with lower limb joints pain and functional disabilities among female office workers in selected office settings in Colombo district.

Method: An analytical cross-sectional study using 105 female office workers who wears high heeled footwear aged between 25-55 years, in private

organizations were selected using convenient sampling method. Numerical pain rating scale (NRS) was used to measure the severity of pain in hip, knee and ankle joints within last 3 months and Lower Extremity Functional scale (LEFS) were used to measure the functional disabilities in the lower limb. The participants who reported any recent orthopedic injuries, Neurological conditions and any medical conditions that affect lower limbs, Osteoarthritis, rheumatoid arthritis or pregnancies were excluded from participation. The collected data were analyzed using descriptive statistics and one-way ANOVA test on SPSS version 25.0 software.

Results: There was significantly increased mean (\pm SD) values of hip pain (4.269 ± 0.9616), knee pain (5.692 ± 1.2254) and ankle pain (4.769 ± 1.6807) severities among women wearing 3cm or above heels. In this group, the mean (\pm SD) value of LEFS (23.808 ± 9.6417) was also lowest, indicating highest lower limb functional disabilities. There were significant differences between three group of footwear heel height with hip pain ($F=37.005$, $p=0.000$), knee pain ($F=31.237$, $P=0.000$) and ankle pain ($F=19.802$, $P=0.000$) severities and LEFS score ($F=62.659$, $P=0.000$).

Conclusions: The prevalence of pain, pain severity in lower limb joints and lower limb functional disabilities increase with footwear heel height.

Keywords: High heel shoes, Lower limb, Joint pain, Functional Disability

PP-41: Relationship between smartphone usage and subjective musculoskeletal symptoms in the low back region among a cohort of Sri Lankan university undergraduates

De Silva SMNSS¹, Sirisena ND²

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

²Department of Anatomy, Genetics and Biomedical informatics, Faculty of Medicine, University of Colombo

Introduction: The widespread use of mobile phones among young adults has prompted concerns about their potential effects on musculoskeletal well-being. This study aimed to investigate the relationship between musculoskeletal symptoms in the low back region and mobile phone usage patterns among a group of university undergraduates in Sri Lanka.

Methods: This descriptive cross-sectional study consisted of 350 students from Faculty of Science, University of Colombo, Sri Lanka. A self-administered online questionnaire was used to assess mobile phone usage patterns (total duration of usage, usage per day and posture adopted during usage), and subjective musculoskeletal symptoms in the low back region and their severity. Descriptive statistical analysis, Chi-square test, and binary logistic regression were used.

Results: 35.1% ($n=123$) individuals reported musculoskeletal symptoms in the low back region. Mean age was 23.54 years. Majority were females 69.9% ($n=86$). The most frequent musculoskeletal symptom reported was discomfort (53.7%, $n=66$). Majority 60.2% ($n=74$) had symptoms lasting less than 6 weeks. 53.7% ($n=66$) experienced severe low back symptoms at the onset. 46.3% ($n=57$) had used mobile phones for 2-5 years, 63.4% ($n=78$) had used their phones for more than five hours per day, and 65.0% ($n=80$) had adopted a slumped posture during usage. The total duration of phone usage (odd ratio [OR]:1.557; $p<0.05$), usage per day (OR:24.498; $p<0.05$), and slumped posture (OR:138.915; $p<0.05$) were significantly associated with the presence of low back symptoms.

Conclusions: Prolonged durations of mobile phone usage per day and maintaining a slumped posture during usage are significant risk factors for developing low back symptoms. The findings emphasize the importance of considering the duration of mobile phone usage and the adoption of proper posture to mitigate the risk of low back symptoms. Limitations include small study sample, and other influences on the results such as physical activity levels, pre-existing health conditions, genetics, and mental well-being.

Keywords: Low back region, Musculoskeletal, Symptoms, Smartphones, Undergraduates

PP-42: The relationship between quality of sleep and musculoskeletal pain among a cohort of undergraduates in Computer Science Engineering in University of Moratuwa

Gamage SRMB¹, Perera RS¹

¹Department of Allied Health Sciences, Faculty of Medicine, Colombo

Introduction: Musculoskeletal (MSK) pain and poor sleep are common among undergraduates using computers frequently. This study explored the

association between quality of sleep and MSK pain in a cohort of undergraduates in Computer Science Engineering at the University of Moratuwa.

Methods

A cross-sectional study was carried out among a cohort of undergraduates in Computer Science Engineering at the University of Moratuwa. Male and female undergraduates (Years 1-4) who responded to the self-administered questionnaire (via email) were included. The quality of sleep was assessed using the Pittsburgh Sleep Quality Index (PSQI; range 0-21; high PSQI – poor sleep quality), and the prevalence of MSK pain during the last 7 days and 12 months (yes vs. no) were assessed using Nordic Musculoskeletal Questionnaire (NMQ). Independent sample T-test was used, and mean difference (MD) and 95% confidence intervals (CI) were reported.

Results: This study recruited 125 undergraduates, with a mean age of 23.59 (± 1.44) years, and 71.2% were females. The pain was highest in the neck during the last 7 days (31.2%) and last 12 months (45.6%). The mean global PSQI was 5.28 (± 2.56). Undergraduates with pain in the neck (MD=1.31; 95% CI 0.32 to 2.30), shoulder (MD=2.08; 95% CI 0.94 to 3.22), lower back (MD=1.21; 95% CI 0.11 to 2.30), hip (MD=3.08; 95% CI 1.51 to 4.65), knee (MD=1.86; 95% CI 0.40 to 3.32), and ankle (MD=2.74; 95% CI 1.07 to 4.41) regions in last 7 days and neck (MD=1.16; 95% CI 0.24 to 2.09), shoulder (MD=1.35; 95% CI 0.32 to 2.39) and hip (MD=3.08; 95% CI 1.89 to 4.23) regions in the last 12 months had significantly higher mean PSQI score (poor sleep quality) compared to the undergraduates without pain in those areas.

Conclusions: MSK pain is common and is associated with poor sleep quality. Education to prevent MSK pain and improve sleep quality is recommended.

Keywords: Undergraduates, sleep quality, musculoskeletal pain, computer users

PP-43: Prevalence and associated factors of neck and back pain in information technology sector workers in Sri Lanka

Senanayake B¹, Senevirathne S¹, Ameer S¹, Atukorala I¹

¹Faculty of Medicine, University of Colombo

Introduction: Neck and back pain are prevalent among IT sector workers, impacting both their well-

being and productivity. This study aims to determine the prevalence, contributing factors, effects on productivity, and coping strategies associated with these issues.

Methods: We conducted a cross-sectional study among IT professionals in Sri Lanka to evaluate neck and back pain. We used the validated Maastricht Upper Extremity Questionnaire (MUEQ), which was already validated for the Sri Lankan population and received expert face validation for our amendments. Inclusion criteria covered individuals aged 20-60, working in IT for over a month, and using computers for more than 40 hours weekly. Exclusion criteria encompassed those with injuries, prior upper extremity musculoskeletal surgeries, spinal deformities, and pregnant women. We used descriptive methods to assess prevalence, productivity impact, and pain management strategies and employed the Chi-Squared test to analyze associated factors.

Results: The response rate was 53%. The study involved 159 participants (mean age 30.16, SD=6.51), with 41.5% females and 58.5% males. Within the past year, 49.1% reported neck pain, 45.3% back pain, and 34% both. Significant associations emerged: age, male sex, poor posture, high job demands linked to neck pain; poor posture and high job demands linked to back pain; poor posture, high job demands, insufficient breaks, limited social support linked to both neck and back pain ($p < 0.05$). However, workstation, social support, and break time were not statistically significantly associated with neck pain. Additionally, female sex, age, workstation, social support, break time, and working days per week showed no statistically significant association with back pain. Likewise, female sex, age, and workstation were not statistically significantly associated with both neck and back pain. Participants with pain reported an average of 3.16 days of impaired task performance (SD=5.178), with varying levels of discomfort. Physician consultation rates: 38.46% neck pain, 45.83% back pain. Therapies included medications, physiotherapy; 26.92% skipped neck pain therapy, 29.16% skipped back pain therapy.

Conclusions: The study found high neck and back pain prevalence in IT workers, with significant risk factors including gender, age, posture, and work schedule. Pain impairs productivity, but many don't seek treatment despite available options. This poses a major concern for the IT sectors regarding the well-being and productivity of the workers.

Keywords: Neck, Back, Pain, IT, Computer

PP-44: Effects of sedentary time, time spent in family activities and physical activity level on health related quality of life among adolescents

Gamlath R¹, Karunathilake I²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Medical Education, Faculty of Medicine, University of Colombo

Introduction: Health-related quality of life (HRQOL) is utilized as a health outcome to assess physical and social functioning, mental health and well-being. With technological advancements, excessive sedentary time, low family activity level and physical activity level have emerged as major concerns impacting physical and psychosocial health outcomes in adolescents. This study aimed to identify the relationship between health-related quality of life and sedentary time, family activity level, physical activity level among adolescents.

Method: This descriptive cross-sectional study was done among 360 adolescents, with mean age of 14 (± 0.818) years. Convenient sampling method was employed to recruit participants. Adolescent Sedentary Activity Questionnaire (ASAQ), Family activity items of Determinants of Adolescent Social well-being and Health (DASH) questionnaire, Physical Activity Questionnaire for Adolescents (PAQ- A) and Short Form 8 (SF 8) questionnaire were used to detect sedentary time, family activity level, physical activity level and health-related quality of life. Descriptive statistics and Pearson's correlation test were used for data analysis in SPSS Version 26.

Results: In this study, the mean sedentary time of participants was 8.24 (± 3.12) hours per day. The majority of participants (58.6%) showed a "moderate level of family activity". 70.6% of participants were physically active and 29.4% were physically inactive. The majority (61.4%) of physically active group showed a "moderate level of physical activity". A significant negative relationship was observed ($r = -0.768$, $p < 0.01$) between sedentary time and health-related quality of life. There was a significant positive relationship ($r = 0.803$, $p < 0.01$) between family activity level and health-related quality of life. A significant positive relationship was discovered between physical activity level and health-related quality of life ($r = 0.860$, $p < 0.01$).

Conclusions: Low sedentary time, high family activity level and greater physical activity level lead to good health related quality of life among adolescents.

Keywords: Sedentary time, Family activity, Physical exertion, Adolescents' quality of life

PP-45: The relationship between work related stress and musculoskeletal pain among professional computer operators in selected settings in Colombo district

Perera Y¹, Fernando D²

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka

²Department of Biochemistry & Molecular Biology, Faculty of Medicine, University of Colombo, Sri Lanka

Introduction: Professional computer operators are more prone to develop work related stress due to poor working conditions, work overload and tight deadlines. In addition, they work in sitting posture for prolonged period of time and perform repetitive movements when work with computers, leading to musculoskeletal pain. This study was aimed to assess the relationship between work related stress and musculoskeletal pain among professional computer operators in selected settings in Colombo district, Sri Lanka.

Methods: In this cross sectional study, professional computer operators within 20 to 45 aged who worked more than 3 months were included ($n=110$). Employees above 45 years of age, History of recent injury, trauma or accident and employees who underwent any type of recent surgery were excluded. General information form was distributed to the participants to obtain socio-demographic data. The Occupational Stress index and Standard Cornell Musculoskeletal Discomfort Questionnaire were used to assess Work related stress and Musculoskeletal pain among professional computer operators. In order to meet the specific objectives, descriptive and inferential statistics were used. Effect of the age on stress score, effect of the working hours per day on stress score and effect of age on MSK pain score, effect of the working hours per day on MSK pain was analyzed using one-way ANOVA. In order to find out the relationship between overall stress score and MSK pain, which is the general objective of this study, Pearson correlation was employed.

Results: A total of 110 participants formed the study, and out of these 51.8% of the participants were males. And majority of the participants (53.6%) were unmarried. The age of participants ranged between 20 years and 45 years. The participants had a minimum experience of 3 months in the IT sector and they worked for at least 8 hours per day. The results of the present study showed that 43.6% of the participants experienced high occupational stress while 40.9 % were moderately stressed and 15.5 % experienced low occupational stress. The prevalence of musculoskeletal pain in professional computer operators was found to be very high, where the neck (89.1%) was the most frequently affected body part. A significant association was seen between work related stress and musculoskeletal pain in neck, lower back, bilateral shoulders and bilateral wrist ($P < 0.05$).

Conclusion: According to this study there was a significant relationship between work related stress and musculoskeletal pain arising in neck, lower back, bilateral shoulders and bilateral wrist ($P < 0.05$) among professional computer operators in selected settings in Colombo district. Based on other findings on specific objectives, prevalence of high level of stress was more common than the moderate level and low level stress among professional computer operators. This study concluded that musculoskeletal pain is widely prevalent among professional computer operators studied with neck being the most common body part to be affected.

Key words: Work related stress, musculoskeletal pain, professional computer operators

PP-46: Relationships among musculoskeletal pain, physical activity level and stress level of secondary school teachers in Matara district

Dahanayake MSW¹, Pathmanathan C¹, Chadratilaka KRM¹

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

Introduction: Musculoskeletal (MSK) pain is a common occupational health problem among school teachers. MSK pain may be affected by several personal factors and occupational factors. This study aimed at determining the prevalence of MSK pain, physical activity level, stress level among secondary school teachers, determining relationships among those variables.

Methods: This descriptive cross-sectional study was conducted among 222 secondary teachers by using

two-stage random sampling method from selected 10 schools of Matara district. Teachers of both genders aged 25-60 years who had been teaching for one year or more were recruited. Self-administered questionnaires were used to collect data, Nordic MSK questionnaire for MSK pain, International Physical Activity Questionnaire-Short form (IPAQ-SF) for physical activity level, Perceived Stress Scale for stress level. Descriptive statistics were used to describe variables and relationships between variables were assessed using Chi-square test for data analysis in SPSS.

Results: The mean age of secondary school teachers was 46.05(± 8.76) years. The majority had MSK pain in one or more body regions during last 12-months ($n=155$, 69.8%) and last 7-days ($n=147$, 66.2%). Lower back pain was the most prevalent region of MSK pain in last 12 months (39.2%) and last 7-days (33.8%) followed by knee pain (36.5%, 32.4%) and upper back pain (23%, 18.9%). The majority ($n=131$, 59%) reported that MSK pains interfered with their daily activities and had a low physical activity level ($n=112$, 50.5 %) and moderate level of stress ($n=185$, 83.35%). There was a statistically significant relationship between MSK pain in one or more body region and stress level during last 12 months ($p=0.017 < 0.05$) and last 7 days ($p=0.004 < 0.05$). There was no significant relationship between MSK pain and physical activity level ($p = 0.079 > 0.05$).

Conclusions: MSK pain among secondary school teachers were high while lower back region was commonly affected. There was a significant relationship between MSK pain and stress level of school teachers. Comprehensive occupational health approaches to minimize MSK pain, including strategies to manage stress, promote physical activities were highly recommended.

Keywords: Musculoskeletal pain, Physical activity level, Stress level, School teachers