



# **FMAS 2025**

**Proceedings of the 13<sup>th</sup> Academic Sessions of  
the Faculty of Medicine, University of Ruhuna**

**28<sup>th</sup> May 2025**

**At T.W. Wikramanayake Auditorium**

**“One health – Uniting people, animals and  
environment for a better future”**

# **FMAS 2025 Organising committee**

## **Co-chairpersons**

Prof. A De S Nagahawatte

E-mail: [ajithnagahawatte@yahoo.co.uk](mailto:ajithnagahawatte@yahoo.co.uk)

Mobile: 071 228 8615

Department of Microbiology

Prof. CK Bodinayake

E-mail: [bodinayake@gmail.com](mailto:bodinayake@gmail.com)

Mobile: 077 355 7844

Department of Medicine

## **Secretary**

Dr. HHPMJ Thabrew

E-mail: [fmaz\\_2025@med.ruh.ac.lk](mailto:fmaz_2025@med.ruh.ac.lk), [harshani@med.ruh.ac.lk](mailto:harshani@med.ruh.ac.lk)

Mobile: 071 841 1697

Department of Microbiology

## **Steering Committee**

Prof. Thilak Weeraratne (Dean)

Prof. A De S Nagahawatte (Co-Chairperson)

Prof. CK Bodinayake (Co-Chairperson)

Dr. HHPMJ Thabrew (Secretary)

Prof. PV De Silva (Ex-Co)

Prof. N Liyanarachchi (Ex-Co)

Dr. ILAN Darshana (Ex-Co)

## **Main Committee**

Prof. EI Waidyarathna

Dr. TW Wijesiri

Dr. SS Wickramasinghe

Dr. W De Zoysa

Snr. Prof. S Gunawardena

Prof. AP Attanayake

Prof. TC Yahathugoda

Dr. KACP Imalke

**Cover Design: Mr. Roshan Jayarathna (43<sup>rd</sup> Batch)**

# Contents

	i	Contents
	ii	Message from the Co-Chairpersons
	iv	Message from the Vice Chancellor, University of Ruhuna
	v	Message from the Dean, Faculty of Medicine, University of Ruhuna
	vi	Programme: FMAS 2025
Address by the Chief Guest	1	Some historical observations on the underlying ethical principles of the One Health concept <i>Prof. Anoja Fernando, Emeritus Professor of Pharmacology, Faculty of Medicine, University of Ruhuna</i>
Keynote Address	2	Role of physicians in One Health <i>Professor Christopher W. Woods, Professor of Medicine, Pathology and Global Health, Duke University, North Carolina, USA</i>
FMAS Oration 2025	3	Unlocking the antidiabetic potential of ivy gourd: From bench to bedside and beyond <i>Prof. Anoja Attanayake, Professor in Biochemistry, Faculty of Medicine, University of Ruhuna</i>
Symposium		One Health – Uniting people, animals and environment for a better future
	5	Role of Veterinary professionals in One Health <i>Prof Ruvini Kalupahana</i>
	7	Antibiotic Resistance and One Health <i>Prof Gayani Tilekaratne</i>
	8	Environment and One Health <i>Prof. Darshan De Silva</i>
Emerging Research from Faculty of Medicine, University of Ruhuna	9	Prevalence and associated factors of burnout among medical professionals managing COVID-19 patients in Sri Lanka <i>Dr. Sahan Mendis</i>
	12	Postpartum weight retention in the first year: Unraveling patterns, influencing factors and predictors among postpartum mothers in Galle <i>Dr B V S De Silva</i>
Postgraduate Studies Awardees	15	Ongoing and completed postgraduate studies
	20	Research Publication Awards
	21	Dean's Award and Dean's List – 2024
	23	Best Presenters' Awards: FMAS 2024
Abstracts	24	Oral and Poster Presentations

## Message from the Co-Chairperson



I warmly welcome you to the **13th Annual Academic Sessions of the Faculty of Medicine, University of Ruhuna** under the overarching theme "**One health - Uniting people, animals and environment for a better future**".

While looking forward to hosting scholars, practitioners, researchers, students and many others we believe the academic sessions will provide the necessary space for networking, collaborative learning and charting a way forward for One Health research.

With the host of resource persons from both within and outside Sri Lanka, the conference and the many sessions to follow will provide opportunities for all participants to share knowledge and make new connections. I am very much thankful to all the resource persons, the invited guests, the orator and all researchers who are sharing their research findings and the medical students performing the cultural event for enriching the academic sessions and bringing glamour and dignity to this event.

Many thanks are due to the FMAS 2025 Secretary, the sub-committee chairpersons and committee members for their hard work, commitment and meticulous preparations in making the academic sessions a success. I also greatly appreciate the time and effort rendered by the many volunteers in making this event a success.

I wish you all a rewarding experience!

**Professor Ajith De S Nagahawatte**  
**Co-Chairperson, FMAS 2025**

## Message from the Co-Chairperson



Dear Colleagues, academic members, and partners,

It is with great pleasure that I welcome you to this year's FMAS conference centered on the vital theme of "*Uniting People, Animals, and Environment for a better future*".

Here by we affirm a powerful concept that wellbeing of people cannot be separated from that of animals and the environment we share. In a world where disease pandemics, climate change, biodiversity loss, and food insecurity increasingly intersect, the "one Health" approach offers a holistic path forward.

This year's FMAS conference is more than an event - showcasing partnerships and collaboration and exploring knowledge gaps and bridging gaps across human health, veterinary science and environmental health together.

The FMAS gives opportunities to undergraduate and postgraduate students and researchers from diverse disciplines and the highlight of the session the FMAS oration being on a theme of identifying the potential of plant Ivy gourd as an anti-diabetic agent.

My special thanks to our partners at Duke University and Duke Global Health Institute for providing funding and partnership throughout and being present here today. you for being part of this important journey.

I thank the Dean and all academics and all presenters today and I offer my special thanks to all team members of FMAS for doing a wonderful job.

**Prof C. K. Bodinayake (MD(Col) MRCP(UK) FRCP(UK) FC  
Co-Chairperson FMAS 2025**

## Message from the Vice Chancellor



It is with immense pleasure that I extend my greetings as the Vice Chancellor of the University of Ruhuna for the success of the Annual Academic Sessions of the Faculty of Medicine (FMAS 2025). I find that the selection of this year's theme, "One Health: Uniting People, Animals and Environment for a Better Future," is both timely and of paramount importance.

The One Health concept would be emphasizing the intricate and inseparable connections between human health, animal health, and the environment. In an era marked by rapid environmental changes, emerging infectious diseases, and increased interaction between humans and animals, we must adopt a holistic and collaborative approach to health. Addressing health challenges alone would be no longer sufficient; instead, an interdisciplinary approach that includes diverse fields, such as medicine, veterinary science, environmental science, and public health, will be essential for effective prevention, detection, and response on issues related to challenges in health issues.

It is observed that embracing the One Health approach not only enhances our ability to manage diseases but also fosters the development of sustainable solutions that benefit entire communities. Ensuring access to clean water, safe food, and a healthy environment will lay the foundation for the well-being of all. Through collective action and knowledge sharing, we can build resilient systems capable of safeguarding the health of present and future generations.

I extend my best wishes to the Dean and the organizing committee of FMAS 2025 for their vision in selecting this significant theme, and I look forward to witnessing a successful academic session.

**Senior Professor P. A. Jayantha**  
**Vice Chancellor**  
**University of Ruhuna**

## Message from the Dean



It is with pleasure that I convey my greetings to all participants and contributors to the Annual Scientific Sessions 2025 of the Faculty of Medicine, University of Ruhuna. This year's sessions are particularly noteworthy, as they are held in collaboration with the Duke Global Health Institute of USA, under the theme: *"Uniting People, Animals, and Environment for a Better Future."*

This theme underscores the imperative of interdisciplinary approach in addressing complex global health challenges. The convergence of human, animal, and environmental health encapsulated in the One Health paradigm reflects an evolving scientific understanding that sustainable solutions must transcend traditional disciplinary boundaries.

As an academic institution committed to excellence in medical education, research, and community engagement, the Faculty of Medicine, University of Ruhuna, takes pride in fostering scholarly discourse that addresses real-world issues. This collaborative initiative with the Duke Global Health Institute represents an exemplary model of international academic partnership, aimed at generating knowledge that is both locally relevant and globally impactful.

I take this opportunity to commend the organizing committee and all contributors for their dedication and tireless efforts in making this event a reality. I am confident that the Annual Scientific Sessions 2025 will serve as a vibrant platform for the exchange of ideas, the dissemination of research findings, and the strengthening of academic networks.

I wish all participants a stimulating and productive academic experience.

**Prof TP Weerarathna**  
**Dean**  
**Faculty of Medicine**

## Programme

### **Faculty of Medicine Academic Sessions (FMAS) 2025-University of Ruhuna**

***Wednesday 28<sup>th</sup> May 2025***

***TW Wikramanayake Auditorium, Faculty of Medicine, University of Ruhuna***

***Theme: One Health-Uniting people, animals and environment for a better future***

07:45 - 08:30	Morning Tea & Guests to be seated
08:30 - 08:40	Ceremonial Procession
08:40 - 08:45	University Song & Faculty Song
08:45 - 08:50	Lighting of the Oil Lamp
08:50 - 08:55	Welcome Speech
	Prof. Champika Bodinayake, Co-Chairperson - FMAS 2025
08:55 - 09:00	Address by the Dean, Faculty of Medicine
	Senior Professor Thilak Weerathna
09:00 – 09:05	Address by the Guest of Honour, Vice Chancellor, University of Ruhuna
	Senior Professor P. A. Jayantha
09:05 - 09:20	Address by the Chief Guest
	Emeritus Professor Anoja Fernando, Faculty of Medicine, University of Ruhuna
09:20 - 09:40	Keynote Address
	“Role of Physicians in One Health”
	Prof. Christopher Woods, Chief of Infectious diseases, Ruhuna Duke Center for infectious diseases, USA
09:40 - 09:55	Research Publication Awards 2024
09:55 - 10:05	Academic Excellence Awards
10:05 - 10:15	Deans' Awards & Dean's List 2024
10:15 - 10:20	Launch of Sri Lanka One Health University Network
10:20 - 10:50	FMAS Oration 2025
	Prof Anoja Attanayake
	“Unlocking the Antidiabetic Potential of Ivy Gourd: From Bench to Bedside and Beyond”
10:50 - 11:00	Cultural Event
11:00 - 11:05	Vote of Thanks
	Dr. Harshani Thabrew, Secretary - FMAS 2025
11:05 - 11:10	National Anthem & Closing Ceremony



## Programme

11:10 - 12:25 FMAS Symposium: *“One Health – Uniting people, animals and environment for a better future”*

### **“Role of Veterinary professionals in One Health”**

Prof Ruvini Kalupahana,  
Professor in Veterinary Public Health, Department of Veterinary  
Public Health & Pharmacology, Faculty of Veterinary Medicine &  
Animal Science, University of Peradeniya, Sri Lanka

### **“Antibiotic Resistance and One Health”**

Prof Gayani Tilekaratne,  
Co-director, Ruhuna Duke center for infectious diseases, USA

### **“Environment and One Health”**

Prof Darshan De Silva,  
Professor in Immunology, Department of Paraclinical Sciences,  
General Sir John Kotelawala Defence University, Sri Lanka

12:25 - 13:15 Lunch Break and Poster Session

13:15 - 13:45 **Emerging Research from Faculty of Medicine, University of Ruhuna**

Dr. Sahan Mendis, Senior Lecturer, Department of Pharmacology,  
Faculty of Medicine, University of Ruhuna

Dr B V S De Silva, Lecturer, Department of Community Medicine,  
Faculty of Medicine, University of Ruhuna

13:45 - 14:45 Free Paper Session (Open Category)

14:45 - 15:45 Free Paper Session (Undergraduate Category)

15:45 - 16:00 Awards Ceremony

16:00        Tea

## **Address by the Chief Guest**

### **Some historical observations on the underlying ethical principles of the One Health concept**



Although the One Health concept is not new, the interconnected nature of the COVID pandemic in 2020 created an increased interest in this concept, and an interdisciplinary panel, the One Health High-Level Expert Panel (OHHLEP), was established by four global partner organizations, to translate this concept from theory to practice on a global platform, working towards a sustainable healthy future.

According to this panel, One Health was defined as “an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the broader environment (including ecosystems) as closely linked and interdependent.” This definition highlights an ecocentric worldview as against an anthropocentric one.

The One Health concept is based on several fundamental principles, such as equity, parity and inclusivity, and socio-ecological equilibrium that strives to achieve a balance between human-animal-environment interaction, while acknowledging the intrinsic value of all living things within the ecosystem. Stewardship is another important principle, whereby responsible human beings adopt sustainable solutions to threats facing humans, animals and the integrity of the entire ecosystem, in order to secure the welfare of current and future generations.

While these principles are well recognized today in the relatively new field of international Bioethics, I wish to highlight some of the historical evidence that similar principles had been followed by our distant ancestors in Sri Lanka, during the long period when Sri Lanka was ruled by its own kings, before the advent of Western colonisers in the 16<sup>th</sup> century CE.

**Prof. Anoja Fernando**  
**Emeritus Professor of Pharmacology**  
**Faculty of Medicine**  
**University of Ruhuna**

## Keynote Address

### Role of physicians in One Health



Physicians play a critical role in the One Health paradigm, which recognizes the interconnectedness of human, animal, and environmental health. Physician engagement is essential to the success of One Health initiatives. Drawing on my experience in clinical medicine, public health, and global infectious disease research including a longstanding partnership in Sri Lanka, I recognize the physician's role in addressing zoonotic threats, antimicrobial resistance, and climate-related health risks.

I hope to highlight real-world examples—including my work on undiagnosed febrile illnesses and global disease surveillance—to illustrate how physicians can contribute to interdisciplinary teams focused on early detection, response, and prevention. I will discuss the structural and educational barriers that limit physician involvement in One Health and propose strategies to integrate One Health principles into medical training and health system design. By fostering cross-sector collaboration and embracing systems thinking, physicians can expand their impact beyond individual patient care to population and planetary health. I believe that physician leadership in One Health is not only desirable but necessary to build resilient health systems and confront the increasingly complex threats of the 21st century.

My aim is to inspire Sri Lankan physicians and health professionals to embrace a broader role in safeguarding public and planetary health. By becoming active participants in the One Health movement, physicians can help build more resilient, equitable, and responsive health systems for the challenges of today and tomorrow.

**Professor Christopher W. Woods, MD, MPH,  
Professor of Medicine, Pathology and Global Health  
Duke University,  
North Carolina  
USA**

### Unlocking the antidiabetic potential of ivy gourd: From bench to bedside and beyond



Natural products have been the basis of modern drugs, with more than half of all small-molecule drugs being based on natural products. These have significant clinical applications, especially in managing diabetes mellitus due to the features correlated with increased binding specificity, decreased preclinical toxicity, and improved progression through clinical trials. Nanotechnology has also proven to be instrumental in connecting the realms of natural products in the drug discovery process. These approaches represent significant advances in improving treatment outcomes by controlling drug release, improving drug solubility and permeability, improving drug targeting, reducing adverse reactions, and increasing physical and chemical stability. The application of nanotechnology offers substantial backing for the advancement of natural products-based drug discovery and serves as a technological foundation for the modernization of drug leads. The ever-increasing prevalence and mortality rate of patients with diabetes and its complications require a continuous search for effective, safe, and affordable management options. Although conventional oral hypoglycemic agents are widely used, they are preset with limitations such as side effects, reduced efficacy over time, drug resistance, etc. This justifies the renewed scientific interest in the exploration of new herbal drug leads to be used in the management of diabetes and the development of antidiabetic drug entities. The present work describes comprehensive scientific studies that were carried out team on Ivy gourd *Coccinia grandis* (Linn.) Voigt (Local name: Kem wel or Kowakka) for diabetes care in four main phases; standardization and bioactivity-guided isolation of antidiabetic compounds from Ivy gourd, preclinical evaluation on efficacy, safety, and antidiabetic mechanisms of Ivy gourd, clinical assessment of Ivy gourd capsule in newly diagnosed patients with type 2 diabetes mellitus, and bioactivity and toxicity assessment of nanotechnology-based Ivy gourd formulations.

The standardization data of Ivy gourd extract supported its safety and stability for human consumption with a profound nutritive value. Fucosterol and coccinoside C were isolated from Ivy gourd as potent drug leads targeting the inhibition of  $\alpha$ -amylase,  $\alpha$ -glucosidase, and DPP-IV enzymes. The docking results of the isolated compounds further validated the formation of stable complexes with the selected enzymes via molecular docking simulation. The results of the three-month, randomized, double-blind, placebo-controlled clinical trial revealed that

the administration of the herbal capsule of Ivy gourd (500 mg per day) improved glycemic indices and lipid profile parameters in newly diagnosed patients with type 2 diabetes mellitus (T2DM), corroborating the pre-clinical findings. The herbal capsule of Ivy gourd would be a therapeutic promise against the development and progression of cardiovascular diseases while improving antioxidant status. This dual therapy of action through glucose-lowering potential and improvement of lipid profile, together with the safety and tolerability of the Ivy gourd capsule, could be beneficial as a new therapeutic approach for the early management of patients with T2DM. Encapsulation of Ivy gourd extract into nanomatrices improved antidiabetic activity in Wistar rats induced with diabetes. The slow and stable release of bioactive compounds of the Ivy gourd encapsulated nanoformulations would serve as the foundation for the development of improved antidiabetic nanotherapeutic drug leads.

The prime goal of this success story on Ivy gourd is to resynthesize the scaffolds of the isolated compounds and rational modification into more specific, potent product with improved pharmacokinetic properties using nanotechnological approaches. The work presented in this oration would explore the scientific studies that were carried out on Ivy gourd for diabetes care with intense devotion, research collaboration, cooperation, and an unwavering commitment for the past ten years. The outcomes of research on Ivy gourd would lead to shedding light on the road ahead in the field of diabetes care.

**Anoja Attanayake (PhD, FIChem C)**

**Professor in Biochemistry**

**Department of Biochemistry**

**Faculty of Medicine**

**University of Ruhuna**

## Symposium

### Role of veterinary professionals in one health



The One Health paradigm recognizes the inextricable link between human, animal, and environmental health, advocating for cross-sectoral collaboration to address complex global threats such as emerging infectious diseases, antimicrobial resistance (AMR), food insecurity, and ecosystem degradation. This presentation highlights the indispensable role of the veterinary profession in implementing One Health strategies at operational, policy, and research levels.

Veterinarians are uniquely positioned in zoonotic disease surveillance and control, given that over 75% of emerging human pathogens—such as avian influenza, rabies, and Ebola—originate in animal populations. Their expertise underpins early detection systems, outbreak response, and epidemiological intelligence, forming a cornerstone of pandemic preparedness and global health security.

In the realm of food safety, veterinarians oversee animal health and biosecurity across production systems, directly impacting the reduction of foodborne illnesses, which afflict over 600 million people annually. Their contributions to sustainable livestock practices are also critical as global demand for animal-source foods increases.

Addressing AMR, a looming crisis projected to result in 10 million deaths annually by 2050, veterinarians lead stewardship initiatives that promote judicious antimicrobial use in animals and support integrated surveillance programs.

Moreover, veterinarians play a vital role in monitoring wildlife health and managing the interface between domestic animals, wildlife, and human populations—an increasingly important domain as climate change and biodiversity loss heighten zoonotic spillover risks.

In Sri Lanka, veterinary professionals are key actors in public health and food system resilience. However, fragmented legislation, limited regulatory authority, and insufficient representation in policymaking processes hinder their full participation in One Health governance.

For One Health to reach its full potential, the veterinary profession must be empowered through supportive legal, institutional, and academic frameworks to co-lead a unified health agenda for all species.

**Prof. R. S. Kalupahana**

**Professor of Veterinary Public Health and Pharmacology**

**Department of Veterinary Public Health and Pharmacology**

**Faculty of Veterinary Medicine and Animal Science**

**University of Peradeniya**

## Symposium

### Antibiotic resistance and one health



Antimicrobial resistance (AMR) is one of the top ten threats to global health, with the potential to reverse decades of progress in medical care. AMR results in decreased ability to treat common infections such as pneumonia and urinary tract infections, and also greatly impacts the success of life-saving treatments such as chemotherapy and organ transplants. If left at current levels, AMR is predicted to result in over 39 million deaths globally by 2050.

There are multiple drivers of AMR, but one major factor is thought to be the use and overuse of antimicrobials in human health care, the veterinary sector, and in crop and animal agriculture. While antimicrobial overuse in humans is an important contributor to AMR, it is estimated that 70% of all antimicrobials used globally are in food-producing animals. Thus, an integrated, unifying One Health approach that addresses antimicrobial use in humans, animals, and the environment is essential for effectively tackling AMR.

In this presentation, we will cover some important examples of how antimicrobial use and overuse may have resulted in highly antimicrobial-resistant infections in an increasingly interconnected world. Important examples of AMR-related work in Sri Lanka will be discussed through the One Health lens. This presentation will highlight the importance of a multidisciplinary approach, with partnership and equity between the human, animal, and agricultural sectors, in order to tackle the growing global threat of AMR.

**Prof. Gayani Tilekaratne**

**Co-director**

**Ruhuna Duke Centre for infectious diseases**

**USA**



## Symposium

### Environment and One Health



The environment plays an important role in disease transmission and the health outcomes of humans as well as animals. To understand these interactions in 2009 the US Center for Disease Control initiated the One health program and established a One health office with physicians, scientists, veterinarians and other experts working together to build strong partnerships around the globe. The One health approach attempts to understand this connection to the spread of disease between the environment, animals and human. This program was further validated in 2010 by the United Nations and the World Bank encouraging the adoption of One Health approach in pandemic preparedness. The disruptions to the environment, especially human encroachment to forested areas can provide new opportunities for pathogens to pass onto animals and humans.

I will discuss a number of examples of pathogens spreading through the environment and causing various diseases and how they were controlled. A new strain of dengue, characterized as, DENV-5, emerged in Malaysia in 2013, but has not been detected since. The SARS-CoV2 virus which caused the COVID-19 pandemic is the best example of a virus/disease which had to be studied using the One Health approach to bring it under control. Our group has been studying the effects of the soil bacterium, *Burkholderia pseudomallei*, responsible for causing the disease melioidosis in humans in Sri Lanka. This bacterium can cause severe sepsis and death in some individuals while others living in the same environment can control the disease. Overall, the importance of the environment in controlling pathogens will be discussed.

**Prof. Aruna Dharshan De Silva**

**Professor in Immunology**

**Department of Paraclinical Sciences**

**Faculty of Medicine, General Sir John Kotelawala Defence University**

**Prevalence and associated factors of burnout among medical professionals managing COVID-19 patients in Sri Lanka**

Dr. Sahan Achintha Mendis, Lecturer in Pharmacology, Department of Pharmacology, Faculty of Medicine, University of Ruhuna

**Supervisor**

Professor Sarath Lekamwasam, Department of Medicine, Faculty of Medicine, University of Ruhuna

**Introduction and the rationale of the study**

The COVID-19 pandemic is an unprecedented global public health emergency. During the pandemic, healthcare workers have faced numerous challenges, including increased workload and demanding work hours. Medical professionals experienced uncertainty, helplessness, and unpreparedness because infrastructure, equipment, guidelines, and treatment have not been adequately established since the disease started spreading. This situation instigated burnout among the medical professionals.

Burnout is an occupational syndrome that comprises emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment from work stress (1). Physician burnout is more vital than burnout among other professionals since it affects job performance and can lead to medical errors and poor patient care. Physician burnout has serious consequences for the individual physician, patients, and healthcare systems. Therefore, addressing physician burnout is crucial. Physician burnout varies according to socio-demographic factors, experience in the profession and multiple other factors related to occupation and job environment.

At the beginning of the surge of infection in Wuhan, China, the pandemic's epicentre, multiple studies have been conducted to determine the magnitude of burnout among healthcare workers (2). Worldwide research has determined the factors and outcomes associated with burnout during the pandemic (3). Increasing workload, concerns on safety of oneself, peers and the family, years of experience in profession, place of work, lack of access to up-to-date information had shown a key impact on burnout (4). Due to the risk of infection, many healthcare workers stayed away from their family members and isolated themselves from those who supported them. Due to the demanding work hours, some had experienced a reduction of time spent with the family. Some healthcare workers perceived an inability to carry out daily activities and difficulty coping with new challenges.

The governments and authorities should recognize, prioritize and address the issues pertaining to physician burnout in the best interest of the patients. To identify the potential determinants of burnout is far more essential. With that knowledge, effective interventions should be implemented to manage and mitigate burnout among physicians as well as other healthcare workers in order to prevent the collapse of healthcare system amidst mounting severity of the pandemic.

This research estimated the prevalence of physician burnout using the validated Copenhagen Burnout Inventory (CBI) (5). The knowledge of the prevalence of burnout in relation to three subscales of CBI (personal, work and client-related burnout) seemed vital to plan out interventions to address this problem. The factors associated with physician burnout during the COVID-19 pandemic have been examined, which would be useful in assuming potential determinants and consequences of burnout. Thus, the necessary measures would be implemented to control and minimise burnout among doctors during unprecedented times.

## **Objectives**

The objective of the study was to estimate the prevalence of physician burnout and determine the associated factors of burnout among medical professionals managing COVID-19 patients in Sri Lanka.

## **Methods**

A cross-sectional observational study was conducted among 310 medical professionals involved in managing COVID-19 patients. A self-administered questionnaire comprised of the Copenhagen Burnout Inventory and the investigator-developed questions, including potential associated factors, was disseminated through emails and social networks. The prevalence of burnout was calculated, and the associations were analysed using logistic regression analysis.

## **Results**

The participants' ages ranged from 28 to 43, with a mean of 33.01 (SD 3.07). The majority of the respondents were females (n = 162), while there were 148 males.

Two hundred forty-four participants were married, 57 had never married, and nine were legally separated. The mean years of experience of the study population was 6.09 (SD 2.79). Mean number of work hours per day was 8.43 (SD 6.9) and the mean number of working days were 19.43 (SD 10.04).

Out of the 310 responders, 61.3% (n = 190) had moderate to high personal burnout whereas 38.7% (n = 120) reported to have low burnout. None of the study participants reported severe burnout with a score of 100. Moderate to severe total burnout during management of COVID-19 was seen in 115 (37.1%) doctors. The prevalence of total, personal, work-related and client-related burnout were 37.1%, 50.3%, 50.0% and 31.3% respectively.

Factors potentially associated with physician burnout in this population were analysed using multivariate logistic regression analysis. Factors such as female gender, age, married or separated status, number of children, living alone, number of working hours per day, and number of working days per month showed a positive association with physician burnout ( $p < 0.05$ ). Years of experience in profession, living with family and existing premorbid medical conditions showed negative association with burnout ( $p < 0.05$ ). Male gender, workstation or hospital, working unit (outpatient, inpatient, intensive care), and pre-existing psychological conditions did not show significant association with burnout ( $p > 0.05$ ).

## Conclusions

Most doctors involved in managing COVID-19 patients have moderate to high burnout. The prevalence of personal and work-related burnout is higher than patient-related burnout. Several socio-demographic and personal factors are positively associated with physician burnout. Identifying these predictors is beneficial in implementing preventive measures and effective interventions to reduce and prevent burnout among doctors during a health crisis. The burnout can amplify during a health emergency, worsening a crisis situation. Medical professionals are potentially at risk of suffering from personal and work-related burnout rather than patient-related burnout. Therefore, interventions to mitigate burnout should focus on improving individual well-being and planning healthy and considerate work schedules. Further research should be conducted to estimate the establishment of effective interventions to prevent physician burnout. The care system should have preparedness plans to avoid the burnout of healthcare workers during a health crisis to deliver effective care to the patient.

## References

1. Maslach C, Jackson S, Leiter M. Maslach Burnout Inventory Manual. Consulting Psychologists Press. 1996;3rd edition (Palo Alto, CA, USA).
2. Hu D, Kong Y, Li W, Han Q, Zhang X, Zhu L et al. Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: A large-scale cross-sectional study. *EClinicalMedicine*. 2020;24:100424.
3. Amanullah S, Ramesh Shankar R. The Impact of COVID-19 on Physician Burnout Globally: A Review. *Healthcare*. 2020;8(4):421.
4. Lasalvia A, Amadeo F, Porru S, Carta A, Tardivo S, Bovo C et al. Levels of burn-out among healthcare workers during the COVID-19 pandemic and their associated factors: a cross-sectional study in a tertiary hospital of a highly burdened area of north-east Italy. *BMJ Open*. 2021;11(1):e045127.
5. Kristensen T, Borritz M, Villadsen E, Christensen K. The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress*. 2005;19(3):192-207.

## **Emerging research from Faculty of Medicine, University of Ruhuna**

### **Postpartum weight retention in the first year: Unraveling patterns, influencing factors and predictors among postpartum mothers in Galle**

Dr. B.V.S De Silva, Lecturer, Department of Community Medicine, Faculty of Medicine, University of Ruhuna

#### **Supervisor**

Professor C.J. Wijesinghe, Professor in Community Medicine, Department of Community Medicine, Faculty of Medicine, University of Ruhuna

#### **Introduction**

Postpartum weight retention (PWR) is defined as ‘the difference in weight at a certain point after childbirth and pre-pregnancy weight’ (1). The average PWR at six to eighteen months after delivery varies among populations and has been reported to range from 0.5kg to 5kg, with extreme instances reporting weight retention as high as 17kg (1,2). The average weight retention at postpartum six months among Asian women is between 1.56kg to 4.1kg and PWR is reported to be as high as 90% among Asian populations (3,4). Studies on PWR are scarce in Sri Lankan literature except one study which reported that PWR at six months postpartum is an average of 2.4kg among Sri Lankan women (5). The prevalence of PWR according to the same study was 67.8%, which is significantly high and depicts the gravity of the situation. Comprehending the severity of PWR in the Sri Lankan context would be beneficial for the health authorities in the identification of vulnerable groups of postpartum women and planning targeted healthcare programs for postpartum weight management to improve maternal health, nutrition, and well-being beyond the boundaries of pregnancy.

#### **Objective**

The objectives of the study were to assess the prevalence, patterns, and associated factors of postpartum weight retention within the first year postpartum among women attending Maternal and Child Health clinics (MCH) in Bope-Poddala and Galle health unit areas, and its association with maternal psychological well-being.

#### **Methods**

A cross-sectional study was conducted among a consecutive sample of 256 women in the first postpartum year attending MCH clinics of Galle and Bope-Poddala Medical Officer of Health areas. Women registered for the booking visit before 12 weeks of Period of Amenorrhea (POA) in their last pregnancy were included and women currently on special diets due to disease conditions and women with a diagnosed psychiatric condition before the last pregnancy were excluded.

An interviewer-administered questionnaire and locally validated tools assessing perceived social support (assessed using Multidimensional Scale of Perceived Social Support) and psychological problems (assessed using Depression Anxiety Stress Scale-21) were used to

collect data. A data record sheet was used to record information extracted from maternal health records and maternal anthropometric parameters such as height and weight measured on-site.

For the purpose of analysis, PWR was defined as ‘retaining more than 1.5kg above the pre-pregnancy weight at the time of participation in the study’, based on the mean PWR among Asian postpartum women at six months postpartum. Data was analyzed with the Statistical Package of Social Sciences (SPSS) software (Version 25). The Chi-square test was applied to analyze associated factors for PWR and predictors of PWR were assessed using logistic regression analysis. The level of probability was considered as 0.05 for all analyses. Ethical approval for the study was obtained from the Ethical Review Committee, Faculty of Medicine, University of Ruhuna.

## Results

Postpartum Weight Retention was present among 58.2% of the women in the first postpartum year with a mean  $PWR \pm SD = 2.4 \pm 3.7$  kg. Interestingly, 41% had returned to their pre-pregnancy weight. PWR showed a negative linear relationship with the pre-pregnancy Body Mass Index (BMI), where women with higher pre-pregnancy BMI have not retained or retained lesser weight postpartum, and women with normal to lower BMI have retained more weight postpartum. The trendline of PWR of women with normal to low pre-pregnancy BMI showed higher PWR in the initial postpartum period, and a gradual decline over time, returning to lower levels of PWR after the first six months. On the contrary, women with higher pre-pregnancy BMI values had less PWR in the initial postpartum months, followed by a gradual increase in PWR.

In bivariate analysis, presence of PWR was significantly associated with being ethnic minority ( $p=0.023$ ), living in extended family set-up ( $p=0.001$ ), low perceived social support ( $p=0.049$ ), low/normal pre-pregnancy BMI ( $p=0.000$ ), Cesarean delivery ( $p=0.010$ ), unplanned pregnancy ( $p=0.019$ ), breastfeeding for six months or more ( $p=0.025$ ), seven or more sleeping hours ( $p=0.003$ ), not sleeping during daytime ( $p=0.001$ ) and symptoms of stress ( $p=0.006$ ). However, only pre-pregnancy BMI ( $OR=3.131$ ,  $p<0.001$ ) and having symptoms of stress ( $OR=2.189$ ,  $p<0.05$ ) remained as significant predictors of PWR in the first postpartum year after controlling for confounders.

## Conclusions

PWR affects over half of Sri Lankan women in the first postpartum year and shows a negative linear relationship with pre-pregnancy BMI with significant predictors being pre-pregnancy BMI and maternal stress. Women with low/normal pre-pregnancy BMI were three times more likely to retain weight in the postpartum period, compared to women with higher pre-pregnancy BMI, and postpartum women with higher levels of stress symptoms were twice as more likely to develop PWR than those without stress. Regular weight monitoring, and psychological screening during antenatal care extending into the postpartum period, with special attention to ethnic minorities are essential to mitigate PWR. Promoting physical activity in women who undergo Cesarean delivery and targeted nutrition education to pregnant and lactation mothers would lower the risk of PWR in the first postpartum year.

## References

1. Nasreddine L, Ayoub J, Abbas N, Malik MA, Naja F. Postpartum Weight Retention and Its Determinants in Lebanon and Qatar: Results of the Mother and Infant Nutrition Assessment (MINA) Cohort. *Int J Environ Res Public Health* [Internet]. 2020 Nov 1 [cited 2023 Aug 21];17(21):1–17. Available from: [/pmc/articles/PMC7672614/](https://pmc/articles/PMC7672614/)
2. Nehring I, Schmoll S, Beyerlein A, Hauner H, Von Kries R. Gestational weight gain and long-term postpartum weight retention: a meta-analysis. *Am J Clin Nutr*. 2011 Oct 1;94(5):1225–31.
3. Sha T, Cheng G, Li C, Gao X, Li L, Chen C, et al. Patterns of Women's Postpartum Weight Retention and Its Associations with Maternal Obesity-Related Factors and Parity. *International Journal of Environmental Research and Public Health* 2019, Vol 16, Page 4510 [Internet]. 2019 Nov 15 [cited 2024 Aug 20];16(22):4510. Available from: <https://www.mdpi.com/1660-4601/16/22/4510/htm>
4. Patel N, L V, Sagili H, L S. Burden of excessive gestational weight gain and postpartum weight retention among Indian women - A systematic review and meta-analysis. *Clin Epidemiol Glob Health*. 2023 Sep 1;23:101364.
5. Perera SNS, Abeysena C. Association of physical activity and consumption of snacks on weight retention at six months after childbirth. *Journal of the College of Community Physicians of Sri Lanka* [Internet]. 2020 Aug 21 [cited 2023 Aug 21];26(2):104. Available from: <https://jccpsl.sljol.info/articles/10.4038/jccpsl.v26i2.8227>

## Acknowledgments

We wish to express our sincere gratitude to Dr. Rekha Aththidiye and the Institute of Research and Development in Health and Social Care for granting permission to use the Sinhala versions of the Depression Anxiety Stress Scale -21 and Multidimensional Scale of Perceived Social Support respectively.

## Ongoing and Completed Postgraduate Studies

Ongoing Postgraduate Research Projects and Thesis Submitted During 2024 from projects Registered at the Board of Study in Medicine, Faculty of Medicine, University of Ruhuna and Faculty of Graduate Studies, University of Ruhuna

### MPhil Degrees

#### MPhil studies (Ongoing)

1. **Effect of sarcopenia and frailty on clinical outcomes and burden on caregivers of patients with hip fracture**

**Candidate:** MPHK Dias, Department of Medicine, Faculty of Medicine, University of Ruhuna

**Principal Supervisor:** Snr Prof Sarath Lakamwasam, Department of Medicine, Faculty of Medicine, University of Ruhuna

**Co-Supervisors:**

Dr RHMPN Rathnayake, Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna

Mr TUW Abeygunasekera, Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna.

Funding: Pending

2. **Characteristics of Candida species isolated from oral flora of cancer patients and the anti-candida activity of selected medicinal plants in Sri Lanka**

**Candidate:** AMDN Wanigasekera, Department of Biochemistry, Faculty of Medicine, University of Ruhuna

**Principal Supervisor:** Prof MT Napagoda, Department of Biochemistry, Faculty of Medicine, University of Ruhuna

**Co-Supervisor:** Prof WMDGB Wijeyarathne, Department of Microbiology, Faculty of Medicine, University of Ruhuna

**Funding:** NSF Research Grant No: RG/2019/BS/02

3. **The effects of herbal extracts obtained from the leaves of *Psidium guajava*, *Garcinia quaesita*, *Eryngium foetidum* and *Cinnamomum verum* in diabetes induced Wistar rat models**

**Candidate:** GMUD Wijenayake, Department of Pharmacology, Faculty of Medicine, University of Ruhuna

**Principal Supervisor:** Prof S Jayasinghe, Department of Pharmacology, Faculty of Medicine, University of Ruhuna

**Co-Supervisors**

Prof VP Bulugahapitiya, Department of Chemistry, Faculty of Science, University of Ruhuna

Prof PLN Lakshman, Department of Food Science and Technology, Faculty of Agriculture, University of Ruhuna

**Funding:** Accelerating Higher Education Expansion and Development Programme Development Oriented Research (AHEAD-DOR 05)



## PhD Degrees

### PhD Studies (Completed)

1. **Delusional disorder (Jealous type): frequency of presentation to mental health services and web-based community survey on psychological mechanisms and psychosocial correlates of abnormal jealousy in intimate relationships**

**Candidate:** MKOK De Silva, Department of Clinical Sciences, Faculty of Medicine, General Sir John Kothalawala Defence University, Ratmalana

**Principal Supervisor:** Prof IH Rajapaksha, Department of Psychiatry, Faculty of Medicine, University of Ruhuna

**Co-Supervisors:**

Dr MC Rajasuriya, Department of Psychiatry, Faculty of Medicine, University of Colombo

Dr NFJ Fernando, Department of Clinical Sciences, Faculty of Medicine, General Sir John Kothalawala Defence University, Ratmalana.

**Funding:** Self-funded

2. **Antidiabetic effects of nanoparticle-based herbal nutraceutical formulation in Wistar rats induced with diabetes mellitus.**

**Candidate:** WASD Wickramasinghe, Department of Biochemistry, Faculty of Medicine, University of Ruhuna

**Principal Supervisor:** Prof AP Attanayake, Department of Biochemistry, Faculty of Medicine, University of Ruhuna

**Co-Supervisor:** Dr P Kalansooriya, Department of Biochemistry, Faculty of Medicine, University of Ruhuna

**Funding:** Accelerating Higher Education Expansion and Development Programme Development Oriented Research (AHEAD-DOR 15)

3. **Development, characterization and bioactivity assessment of nano-encapsulated antidiabetic herbal drug leads from Sri Lankan flora**

**Candidate:** WND De Silva, Department of Biochemistry, Faculty of Medicine, University of Ruhuna

**Principal Supervisor:** Prof AP Attanayake, Department of Biochemistry, Faculty of Medicine, University of Ruhuna

**Co-Supervisors:**

Prof DN Karunaratne, Department of Chemistry, Faculty of Science, University of Peradeniya

Dr KMGK Pamunuwa, Department of Horticulture and Landscape Gardening, Faculty of Agriculture and Plantation Management, Wayamba University

Dr LDAM Arawawala, Industrial Technology Institute, Colombo

**Funding:** Accelerating Higher Education Expansion and Development Programme Development Oriented Research (AHEAD-DOR 15)

## **PhD studies (Ongoing)**

### **1. Cardiovascular and psychological comorbidity among patients with plaque psoriasis.**

**Candidate:** PLAN Liyanage, Department of Community Medicine, Faculty of Medicine, University of Ruhuna

**Principal Supervisor:** Snr Prof S Lekamwasam, Department of Medicine, Faculty of Medicine, University of Ruhuna

**Co-Supervisors:**

Snr Prof PV De Silva, Department of Community Medicine, Faculty of Medicine, University of Ruhuna

Prof S Imafuku, Department of Dermatology, Fukuoka University, Japan

**Funding:** Financial assistance for university teachers for higher studies 2020.

Grant No: UGC/VC/DRIC/PG2020/RUH/01 and Faculty research grant No FOM/RG/2023/03

### **2. Evaluation of integrated therapeutic measures on functional and psychological outcomes in athletes with iliotibial syndrome: An interventional study**

**Candidate:** ST Thebuwanaarachchi, Department of Physiology, Faculty of Medicine, University of Ruhuna

**Principal Supervisor:** Snr Prof S Gunawardena, Department of Physiology, Faculty of Medicine, University of Ruhuna

**Co-Supervisors:**

Prof AS Dissanayake, Department of Medicine, Faculty of Medicine, University of Ruhuna

Prof MB Samarawickrama, Department of Anatomy, Faculty of Medicine, University of Ruhuna

**Funding:** Self-funded

### **3. Effectiveness of myofascial release and kinesio taping for pain relief and rehabilitation of bicipital tendinopathy-related anterior shoulder complaints**

**Candidate:** YHS De Silva, Department of Physiology, Faculty of Medicine, University of Ruhuna

**Principal Supervisor:** Snr Prof S Gunawardena, Department of Physiology, Faculty of Medicine, University of Ruhuna

**Co-Supervisors:**

Prof TP Weeraratne, Department of Medicine, Faculty of Medicine, University of Ruhuna

Prof MB Samarawickrama, Department of Anatomy, Faculty of Medicine, University of Ruhuna

**Funding:** Self-funded

4. **Effectiveness of a novel mobile application and a modified manual process in improving adverse drug reactions reporting in Teaching Hospital, Karapitiya**  
**Candidate:** MT Madushika, Department of Pharmacology, Faculty of Medicine, University of Ruhuna  
**Principal Supervisor:** Prof S Jayasinghe, Department of Pharmacology, Faculty of Medicine, University of Ruhuna  
**Co-Supervisors:**  
Prof PLGC Liyanage, Department of Pharmacology, Faculty of Medicine, University of Ruhuna  
Dr JA Jeewani, Department of Computer Science, Faculty of Science, University of Ruhuna.  
**Funding:** Faculty Research grant
  
5. **Deferoxamine-based nano chelators: Nano formulation and Evaluation of Functional Characteristics Towards Effective Iron Chelation Therapy**  
**Candidate:** AKDVK Wimalasiri, Department of Biochemistry, Faculty of Medicine, University of Ruhuna  
**Principal Supervisor:** Dr P Kalansooriya, Department of Biochemistry, Faculty of Medicine, University of Ruhuna  
**Co-Supervisors:**  
Prof. Breno Pannia Espósito Department of Fundamental Chemistry, University of São Paulo, São Paulo, S.P. – Brazil  
Dr M.G.M. Mohotty, Consultant Haematologist, National Hospital Galle  
**Funding:** UNESCO grant TWAS 21-054 RG/CHE/AS\_I
  
6. **Dietary intake, eating behaviours, body image perception and their impact on nutritional status of adolescent school children in Galle district**  
**Candidate:** PARI Kulathunga, Department of Community Medicine, Faculty of Medicine, University of Ruhuna  
**Principal Supervisor:** Prof C.J. Wijesinghe, Department of Community Medicine, Faculty of Medicine, University of Ruhuna  
**Co-Supervisor:** Snr Prof PV De Silva, Department of Community Medicine, Faculty of Medicine, University of Ruhuna  
**Funding:** Faculty research grant No FOM/RG/2024/01 and Department Development fund
  
7. **Trajectory and correlates of symptoms of perinatal depression and its impact on mother-infant bonding among mothers attending Maternal and Child Health clinics in two health unit areas in Galle**  
**Candidate:** Dr. B.V.S. De Silva, Department of Community Medicine, Faculty of Medicine, University of Ruhuna  
**Principal Supervisor:** Snr Prof P.V. De Silva, Department of Community Medicine, Faculty of Medicine, University of Ruhuna  
**Co-Supervisors:**  
Prof C.J. Wijesinghe, Department of Community Medicine, Faculty of Medicine, University of Ruhuna

Prof T.T Ponnampetuma, Department of Community Medicine, Faculty of Medicine, University of Ruhuna

Dr. G.D Punchihewa, Department of Psychiatry, Faculty of Medicine, University of Ruhuna

**Funding:** Faculty Research Grant, Faculty of Medicine, University of Ruhuna

**8. Impact of Hormone Replacement Therapy on Symptom Reduction and Clinical Outcomes of Menopausal Women in Sri Lanka, Including a Biomarker Analysis of Genetic Susceptibility**

**Candidate:** Ms. Vindya Mekala Pathiraja, Department of Pharmacy, Faculty of AHS, University of Ruhuna

**Principal Supervisor:** Dr. Gayathri Delanerolle, The Digital Evidence Based Medicine Lab, University of Birmingham, United Kingdom

**Co-Supervisors:**

Prof. Peter Phiri, Research & Innovation at Hampshire & Isle of Wight Healthcare NHS Foundation Trust

Prof. Lanka Dasanayake, Department of Obstetrics & Gynaecology, Faculty of Medicine, University of Ruhuna

Prof. Nirmala Rathnayake, Department of Nursing, Faculty of AHS, University of Ruhuna

**Funding:** The Digital Evidence-Based Medicine Lab, University of Birmingham, United Kingdom

**9. Effects of sodium glucose co-transporter-2 (SGLT2) inhibitors on functions of the autonomic nervous system, peripheral nerves and muscles of the patients with type 2 diabetes attending National Hospital Galle and laboratory evaluation of the quality control parameters of commercially available SGLT2 inhibitor tablets in Galle**

**Candidate:** Dr. Malwatta Arachchillage Lakshani Dhananjane Malwatta, Department of Physiology, Faculty of Medicine, University of Ruhuna

**Principal Supervisor:** Snr Prof Sampath Gunawardena, Department of Physiology, Faculty of Medicine, University of Ruhuna

**Co-Supervisors:**

Dr. D.D.K. Abeyratne, Department of Physiology, Faculty of Medicine, University of Ruhuna

Dr. Shanaka Priyankara Mohotti, Department of Physiology, Faculty of Medicine, University of Ruhuna

Dr. P.W.D. Wasana, Department of Pharmacy, Faculty of AHS, University of Ruhuna

**Funding:** Faculty Research Grant, Faculty of Medicine, University of Ruhuna

## **Research Publication Awards**

### **Recipients of ‘Research Publication Awards’ for the year 2024**

<b>Name of the Recipient</b>	<b>Number of publications in indexed journals*</b>
Prof. Wijesinghe CJ	10
Dr. Drshana ILAN	7
Prof. Attanayake AP	4
Snr. Prof. De Silva PV	4
Prof. Bodinayake CK	3
Dr. De Silva NL	3
Dr. De Zoysa W	3
Prof. Nagahawatta A de S	3
Snr. Prof. Weeraratne TP	3
Prof. Yahathugoda TC	3
Dr. Chandana JG	2
Dr. De Silva ND	2
Prof. Herath HMM	2
Prof. Wijayaratne WMDGB	2
Dr. Fonseka CL	1
Dr. Kalansuriya P	1
Dr. Liyanage PLAN	1
Dr. Thabrew H	1

## Dean's Awards and Dean's List 2024

### Dean's awards

Dean's Awards are awarded annually to the students with the best overall performance in each faculty. They are funded by the University and administered by the Deputy Vice Chancellor's Office in consultation and collaboration with the faculties and assisted by the Division of Examination and Student Affairs.

Dean's award for the year 2024 were awarded to the following students.

#### Best 2<sup>nd</sup> MBBS student of the year 2024



**Miss A. M. Tissera**

Miss A.M. Tissera is a past pupil of Adventist International School, Negombo, and Rathnavali Balika Vidyalaya, Gampaha. She entered the Faculty of Medicine, University of Ruhuna in 2023 and completed the 2nd MBBS Examination with Second Class Honours (Upper Division), earning a distinction in Anatomy.

In 2023, she participated in the 14th Sri Lanka University Games and secured 1st place in the 59kg weightlifting category, setting a new SLUG record for which she was nominated for SLUSA Colours. In the 2024 Inter-University Games, she won 2nd place in the same category for which she was nominated for Ruhuna University Colours and also represented the university Tennis team. She has also placed in Elle, Badminton, and Powerlifting at the Inter-Batch Championship 2023.

Miss Tissera served as a committee member of the Resus Club for the 2024/2025 tenure, representing her batch, and acted as a resource person in several Basic Life Support (BLS) training programs conducted by the club.

Outside of academics and sports, she showcased her musical talents by performing at events such as Adara Handaawa, the Sunil Shantha memorial program organized by the Galle Medical Association (GMA), and the GMA annual academic sessions 2024.

#### Best 2<sup>nd</sup> MBBS student of the year 2024

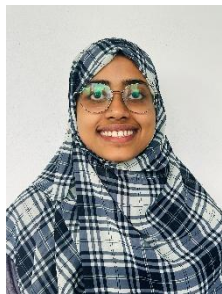


**Mr. W.M.T.S.  
Wickramasinghe**

Mr. W.M.T.S. Wickramasinghe completed his primary education at Sribodhi Primary school, Gampaha. After passing the scholarship exam, completed secondary education at Bandaranayake College Gampaha. Was the Island second from GCE O/L examination. After passing the GCE A/L, achieving two As and one B, he entered the Faculty of Medicine, University of Ruhuna in 2021. He passed the 2<sup>nd</sup> MBBS examination becoming the best student from 2<sup>nd</sup> MBBS exam in 2023 achieving first-class honours with distinctions in all three subjects. He completed 3<sup>rd</sup> MBBS (Part 1) examination with two distinctions for Microbiology and Parasitology. He was the leader of the winning team of inaugural interfaculty Anatomy quiz in 2023. He also

represented the Physiology quiz team which secured the fourth place. He is a current member of the Resus club of the faculty. He attended the FMAS 2024 as the leader of the ushering team.

### **Best 3<sup>rd</sup> MBBS student of the year 2024**



**Ms. Nusaiha MNA**

Ms. Nusaiha Nawzar received her education at Ilma International Girls' School, followed by Khairiya Muslim Girls' College, where she was a consistently high-achieving student. She entered the University of Ruhuna in 2020 and is currently pursuing her MBBS degree at the Faculty of Medicine, having completed the 2<sup>nd</sup> MBBS Examination with First Class Honours and distinctions in Physiology, Anatomy, and Biochemistry, as well as the 3<sup>rd</sup> MBBS Examination with First Class Honours in Pharmacology, Pathology, Microbiology, Parasitology, and Community Medicine.

Her dedication to academic competence is reflected by her participation in the Inter-Medical Faculty Pharmacology Quiz 2024 organized by the International Union of Basic and Clinical Pharmacology (IUPHAR) and the Inter-faculty Quiz organized by the World Health Organization (WHO) for World Antimicrobial Resistance Week in 2022 and 2023. Notably, she was the leader of the team that emerged champion in the prestigious Professor Carlo Fonseka Challenge Trophy - Annual Inter-Medical Faculty Physiology Quiz 2023. She also secured first place in the Inter-faculty Statistics Quiz Competition in 2023.

She won the Women's Championship in the Interfaculty Scrabble Competition in 2022 and earned placements in inter-batch Chess and Scrabble competitions.

Additionally, she has successfully completed the academic requirements for a Diploma in Applied Statistics at the Institute of Applied Statistics, Sri Lanka, and is in the final stages of completing her research project.

Her leadership has been recognized through her service on the editorial board of the Islamic Students' Association of the University of Ruhuna and her representation of students in the Internal Quality Assurance Cell (IQAC), the Ruhuna Pharmacological Society in 2024 and the Library Committee in 2022. She has also been involved in health awareness and outreach initiatives through the Islamic Students' Association of the Faculty of Medicine, University of Ruhuna. Her contributions reflect a steady commitment to both academic and extracurricular engagement.

### **Dean's List (3<sup>rd</sup> MBBS) for the year 2024**

The following student has been selected for the Dean's list (3<sup>rd</sup> MBBS) for the year 2024.

Abesingha A.M.H.N.

## **FMAS 2024 Winners of the Free Paper Sessions**

### **FMAS 2024 Winners of the Free Paper Sessions**

#### **Best oral presentation (Open category)**

Discrimination in workplace, health care, family settings and mental health outcomes among transgender people in Galle, Sri Lanka

**He T, Godavithana J, De Silva P I A, Johnson C Y, De Silva P V, Ostbye T**

#### **Best poster presentation (Open category)**

Comparison of the efficacy of automated and manual fungal blood culture collection bottles to assess growth of selected species of fungi from simulated blood samples

**Thabrew H H P M J, Jayawardena M N, Gunasekera S, Gunasekera H K T A, Wickramasinghe S S, Perera B, Nagahawatte A de S**

#### **Best oral presentation (Undergraduate category)**

Awareness and acceptance of contraception among postpartum mothers at Teaching Hospital, Mahamodara

**Delpachithra H C, De Silva K D H A D, Deshapriya G D R N, Dharmavijaya P K U, Dilrukshi H H, De Silva K K W J C**

#### **Best poster presentation (Undergraduate category)**

Knowledge of attention deficit hyperactive disorder and autism spectrum disorder among mothers of children under five years, attending maternal and child health clinics in the Galle municipality area

**Azha M B S, Bandara G M S D, Bandara G P A D, Bandara I A, Bandara R M P D, Kulathunga P A R I, Hettiarachchi D**



# **Abstracts**

## **FMAS 2025**

## Oral Presentations: Open Category

### OP 01

#### **Multimorbidity, medications, and their association with falls, physical activity, and cognitive functions in older adults: multicenter study in Sri Lanka**

De Zoysa PDWD<sup>1\*</sup>, Mendis SA<sup>2</sup>, Liyanage A<sup>3</sup>, Lekamwasam S<sup>1</sup>, Weeraratna TP<sup>1</sup>, Pathirana KD<sup>1</sup>, Bodinayake CK<sup>1</sup>, Dissanayake AS<sup>1</sup>, Dahanayake NJ<sup>1</sup>, Palangasinghe DR<sup>1</sup>

1. *Department of Medicine, Faculty of Medicine, University of Ruhuna*
2. *Department of Pharmacology, Faculty of Medicine, University of Ruhuna*
3. *Department of Community Medicine, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: warshadez@gmail.com

**Background:** Multimorbidity and medication use are common in older adults and are linked with adverse health outcomes.

**Objective:** This study aimed to estimate the prevalence of multimorbidity, polypharmacy, and falls risk increasing drug use (FRIDs) and anti-cholinergic burden (ACB) among older adults attending medical clinics in Sri Lanka. It also aimed to examine the associations between multimorbidity, medication use, and health outcomes, including falls, physical dependence, and cognitive impairment.

**Methodology:** A cross-sectional study was conducted among 704 adults aged 65 years or older attending medical clinics in four tertiary care hospitals in Sri Lanka (National Hospital Galle, Colombo South Teaching Hospital, Colombo North Teaching Hospital, and Teaching Hospital- Kotelawala Defense University). Information related to falls, comorbidity, medication use, physical activity level, and cognitive function assessed using an interviewer-administered questionnaire. The prevalence of falls was compared between those with or without polypharmacy and multimorbidity using Chi square test. Activities of daily livings, ACB and cognitive function were compared based on polypharmacy, multimorbidity, and the use of FRIDs using either independent t-test or one way ANOVA. The P value was adjusted for multiple comparisons by Bonferroni method.

**Results:** The mean (SD) age of study participants was 73 (5.5) years, and the majority were females (58.7%). Among them, 305(43.5%) reported at least one fall after the age of 65 while 220(31.3%) reported falls in the previous 12 months and 90(12.8%) reported recurrent falls. The prevalence of multimorbidity was 546(77.4%) while polypharmacy was seen in 367(51.2%). At least one FRIDs was used in 496(70.5%) patients while higher ACB was seen in 34(5.4%). Multimorbidity, polypharmacy, use of FRIDs and ACB were not associated with falls, physical activity level or cognitive function ( $p>0.05$ ). Polypharmacy, however, was associated with high ACB ( $p<0.001$ ).

**Conclusions:** This study highlights a high prevalence of multimorbidity and polypharmacy among older adults in clinical settings. However, lack of associations between drugs and multimorbidity with adverse health outcomes indicates that these relationships are complex, and potentially influenced by other factors such as poor drug compliance.

**Keywords:** Falls, Multimorbidity, Older adults, Polypharmacy, Sri Lanka

## Oral Presentations: Open Category

### OP 02

#### **Perceived stress and quality of life of adolescent school children in Matara Educational Division: A Preliminary study**

Kulathunga PARI\*, De Silva PV, Wijesinghe CJ

*Department of Community Medicine, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: ruwanthikulathunga1993@med.ruh.ac.lk

**Background:** Adolescent school children experience different stressors, which can affect their quality of life. Assessing the presence of stress and its associations will facilitate early intervention, ensuring their mental health and well-being.

**Objectives:** To assess the perceived stress, associated factors, and its correlation with the quality of life (QOL) among adolescent school children in Matara Educational Division.

**Methodology:** A cross-sectional study was conducted among a random sample of 167 adolescent schoolchildren in Matara Educational Division. Their stress level and QOL were assessed using validated Sinhala versions of Perceived Stress Scale (PSS) and World Health Organization Quality of Life Brief Questionnaire, respectively. Data were analyzed using SPSS software. Pearson correlation coefficient and independent sample t-test were used in data analysis.

**Results:** The majority of the participants (62.3%) had a moderate level of stress, whereas 15.6% had a high perceived stress. The QOL scores ranged between 50<sup>th</sup> and 75<sup>th</sup> centiles in the majority (general health 55.7%, physical health 49.7%, psychological health 62.9%, social relationships 51.5%, and environmental 59.3%). Only a minority rated their QOL as poor (<25<sup>th</sup> centile): general health 1.2%, physical health 0%, psychological health 3%, social relationships 0.6% and environmental 0%.

Mean PSS score was significantly higher among students in O/L and lower grades ( $p=0.003$ ), while no significant differences were found between genders and residential areas. Mean overall QOL score did not show significant differences with regard to gender, grade of study, or area of residence.

Perceived stress level demonstrated a significant negative correlation with the psychological domain of QOL ( $r=-0.602$ ,  $p=0.000$ ), but not with other domains. It showed a significant, weak, negative correlation with the overall QOL ( $r=-0.368$ ,  $p=0.000$ ).

**Conclusions and Recommendations:** A considerable proportion of adolescent school children in Matara Educational Division experience moderate to high stress, affecting their quality of life. Further studies are recommended to explore sources of stress and plan appropriate programs to improve their psychological health.

**Keywords:** Adolescent school children, Matara Educational Division, perceived stress, preliminary study, quality of life

## Oral Presentations: Open Category

### OP 03

#### **Biological activity assessment of *Catharanthus roseus* L. leaf extract encapsulated alginate nanoparticles: Development of novel nanotherapeutic agent against diabetes mellitus**

De Silva ND\*, Attanayake AP

*Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Sri Lanka*

*\*Corresponding author: nayomi@med.ruh.ac.lk*

**Background:** Encapsulation of herbal extracts into a nanomatrix is a promising strategy in the development of novel therapeutic agents against diabetes mellitus. The antidiabetic potential of the aqueous leaf extract of *Catharanthus roseus* L. (AqCR, Family: Apocyanaceae) was previously proven. However, limitations associated with the AqCR have hindered the development of it as a commercially viable antidiabetic drug candidate.

**Objective:** To prepare, characterize, and evaluate the antidiabetic, antioxidant, and anti-inflammatory activities of AqCR-encapsulated alginate nanoparticles (AqCR-NPs) using *in vitro* assays.

**Methods:** The AqCR-NPs (1 mg/mL) were prepared using the ionic gelation method and characterized through particle size, zeta potential analysis, scanning electron microscopy and Fourier transform infrared spectroscopy. The antidiabetic activity was evaluated *via*  $\alpha$ -amylase,  $\alpha$ -glucosidase, and dipeptidyl peptidase-IV (DPP-IV) inhibitory assays. Further, AqCR-NPs were subjected to evaluate their antioxidant activity via 2,2-di-phenyl-1-picrylhydrazyl (DPPH), 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) radical scavenging assay, ferric reducing antioxidant (FRAP), and oxygen radical absorbance capacity (ORAC) assays. Anti-inflammatory activity was also evaluated using xanthine oxidase (XO) inhibitory activity, heat-induced hemolysis, and hypotonicity-induced hemolysis.

**Results:** The characterization data confirmed that the AqCR was successfully encapsulated into alginate matrix and the resultant AqCR-NPs had the desired morphological characteristics. The  $\alpha$ -amylase, and  $\alpha$ -glucosidase inhibitory activities of AqCR-NPs were significantly improved at 41.77%, and 59.69% respectively when compared to its free extract ( $p < 0.05$ ). The DPP-IV, DPPH, ABTS, FRAP, and ORAC assays showed that the antidiabetic and antioxidant properties were preserved upon encapsulation. Based on the results of anti-inflammatory assays, there was an improved activity (heat-induced hemolysis – 95.9%, and hypotonicity-induced hemolysis – 42.6%) for AqCR-NPs compared to the free extract ( $p < 0.05$ ).

**Conclusion:** Results revealed that AqCR-NPs improved biological activities which could be beneficial for developing new nanotherapeutic agent for the management of diabetes mellitus.

**Keywords:** Alginate nanoparticles, biological activities, *Catharanthus roseus* L., nanotherapeutic agent

**Acknowledgment:** AHEAD STEM DOR 15

## Oral Presentations: Open Category

### OP 04

#### Associations of Muscle Strength, Lung Functions and Anthropometric Measures in Community Dwelling Women

Lenora J<sup>1\*</sup>, Alwis G<sup>2</sup>, Rathnayake H<sup>3</sup>, Rathnayake N<sup>4</sup>

1. Department of Physiology, Faculty of Medicine

2. Department of Anatomy, Faculty of Medicine

3. Department of Nursing, Faculty of Allied Health Sciences

4. Department of Biochemistry, Faculty of Medicine, University of Ruhuna

\*Corresponding author: lenora@med.ruh.ac.lk

**Background:** Age-related decline in muscle strength is a powerful predictor of future disability. Handgrip strength (HGS) is a known indicator of muscle strength, which is used to diagnose sarcopenia. Peak expiratory flow rate (PEFR) is used in evaluating respiratory muscle strength. Identification of factors associated with HGS is important for preventive measures for development of sarcopenia.

**Objectives:** To investigate the associations of HGS, anthropometric indices and PEFR in women.

**Methodology:** A cross-sectional study was conducted with 187 healthy community dwelling women aged 20-70 years. HGS (kg) of the dominant hand was measured using a handheld dynamometer. Lung functions were measured using a portable spirometer. Weight, height, body mass index (BMI), skin-fold thickness (SFT) over triceps, biceps and subscapular region, and circumferences of neck, chest, waist, hip, mid-arm, mid-thigh and calf were measured. Associations between HGS (dependant variable) and each anthropometric index, lung function measures and age were determined by Pearson correlation (r) and multiple regression (MR) analysis.

**Results:** Mean (SD) of age, HGS and PEFR were 50.36 (12.53) years, 19.97 (5.53) kg and 304.44 (124.84) L/min respectively. HGS showed significant negative correlation with age ( $r = -0.33, p < 0.001$ ). Height ( $r = 0.25, p < 0.001$ ), weight ( $r = 0.24, p < 0.001$ ), BMI ( $r = 0.15, p < 0.05$ ), neck circumferences (NC) ( $r = 0.25, p < 0.001$ ), calf ( $r = 0.20, p < 0.01$ ), and SFT-triceps ( $r = 0.15, p < 0.05$ ), SFT-biceps ( $r = 0.18, p < 0.01$ ), SFT-subscapular ( $r = 0.15, p < 0.05$ ) and forced vital capacity ( $r = 0.21, p < 0.01$ ), Forced expiratory volume in 1<sup>st</sup> sec ( $r = 0.24, p < 0.001$ ), PEFR ( $r = 0.33, p < 0.001$ ) showed positive correlations with HGS.

In MR analysis, age ( $\beta = -0.29, p < 0.001$ ), NC ( $\beta = 0.30, p < 0.05$ ) and PEFR ( $\beta = 0.29, p < 0.001$ ) emerged as significant predictors of HGS in the model with adjusted  $R^2$  0.22,  $F = 5.78, p < 0.001$ .

**Conclusions:** HGS showed a significant negative association with advancing age. Age, NC and PEFR emerged as strongest predictors for HGS. Importance of NC and PEFR in predicting HGS and future disability needs to be studied further.

**Key Words:** Sarcopenia, handgrip strength, peak expiratory flow rate, anthropometry

## Oral Presentations: Open Category

### OP 05

#### **Clinical and laboratory characteristics of confirmed leptospirosis and suspected leptospirosis in Galle District, Sri Lanka**

Fonseka CL<sup>1\*</sup>, Chandrasiri PAA<sup>2</sup>, Gunawardhana KAPS<sup>3</sup>, Sinhabahu TK<sup>4</sup>, Jayasundara JMDD<sup>5</sup>, Gunasekara CA<sup>3</sup>, Hettiarachchi ED<sup>2</sup>, Somaratne KM<sup>2</sup>, Dissanayake A<sup>1</sup>, Agampodi S<sup>6</sup>

1. *Department of Medicine, Faculty of Medicine, University of Ruhuna*
2. *Regional Director of Health Services, Office of Regional Director of Health Services, Galle*
3. *Faculty of Medicine, University of Ruhuna*
4. *Department of Pharmacology, Faculty of Medicine, University of Ruhuna*
5. *Department of Microbiology, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka*
6. *International Vaccine Institute, Seoul, South Korea*

\*Corresponding author: lakmalfonseka@med.ruh.ac.lk

**Background:** Clinical spectrum of leptospirosis ranges from mild, self-limiting illness to severe multiorgan failure and death. Due to the unavailability of confirmatory tests, treatments are primarily based on clinical suspicion.

**Objective:** This study aims to compare the clinical features, treatments, and investigation findings between confirmed and suspected leptospirosis cases.

**Methodology:** This prospective observational study was conducted among patients suspected of leptospirosis who were admitted to the tertiary care hospital and three base hospitals in the Galle district. Patients with either quantitative PCR (qPCR) or microscopic agglutination test (MAT) positive were considered as “confirmed” cases, while both negative results were considered as “suspected” cases. Clinical symptoms, complications, disease severity, treatments, and investigation markers were compared between the two groups.

**Results:** A total of 354 patients underwent laboratory confirmation, with 40 testing positive for MAT and 159 for qPCR, resulting in 197 confirmed leptospirosis cases. In both groups, the majority were males, with no significant difference in mean age (43 years vs. 44 years). Clinical features commonly associated with Weil’s disease did not differ significantly between confirmed and suspected cases. Jaundice and conjunctival suffusion were observed in 4.1% and 20.8% of confirmed cases and 8.3% and 23.6% of suspected cases, respectively. Myalgia was more frequent among confirmed cases (85.8%, n=169) than suspected cases (75.2%, n=118), but other symptoms showed no significant differences. The frequency of renal, hepatic, respiratory, or other complications was similar between the two groups. Confirmed cases had a higher mean neutrophil percentage on admission (82.0%) than suspected cases ( $p = 0.033$ ), while other hematological and biochemical parameters showed no significant differences. The case fatality rate was 0.5% among confirmed cases and 4.5% among suspected cases.

**Conclusions:** Clinical presentation, including complications and blood biochemistry, does not reliably distinguish confirmed from suspected leptospirosis, emphasizing the diagnostic challenges and need for improved detection methods.

**Keywords:** Leptospirosis, Clinical features, Laboratory investigations, Sri Lanka

## Oral Presentations: Open Category

### OP 06

#### Host gene expression in the nasopharynx can discriminate viral and bacterial lower respiratory tract infection

Weerasinghe SA<sup>\*1</sup>, Bodinayake CK<sup>1,2,3</sup>, Nagahawatte ADS<sup>1,3,4</sup>, O'Grady N<sup>5</sup>, Iglesias-Ussel MD<sup>5</sup>, Anderson J<sup>5</sup>, Brown A<sup>5</sup>, Obale A<sup>3</sup>, Nix C<sup>5</sup>, Rolfe R<sup>3,5</sup>, Wijayaratne GB<sup>1,4</sup>, Dilshan UHBY<sup>1</sup>, Gamage J<sup>1</sup> Kurukulasooriya MRP<sup>1</sup>, Premamali MHM<sup>1</sup>, Nicholson BP<sup>1,6</sup>, Ko ER<sup>5</sup>, Tsalik EL<sup>5</sup>, McClain MT<sup>5</sup>, Myers RA<sup>5</sup>, Woods CW<sup>1,3,5</sup>, Burke TW<sup>5</sup>, Tillekeratne LG<sup>1,2,3,5</sup>

1. Duke-Ruhuna Collaborative Research Center, Faculty of Medicine, University of Ruhuna

2. Department of Medicine, Faculty of Medicine, University of Ruhuna

3. Duke Global Health Institute, Duke University, United States of America

4. Department of Microbiology, Faculty of Medicine, University of Ruhuna

5. School of Medicine, Duke University, United States of America

6. Institute for Medical Research, Durham Veterans Affairs Medical Center, USA

\*Corresponding author: senalidukeruh@gmail.com

**Background:** Distinguishing viral versus bacterial lower respiratory tract infection (LRTI) is challenging based on clinical presentation and pathogen-based diagnostics alone. We have previously developed a rapid, host response-based test (Biomeme HR-B/V assay on the Franklin<sup>TM</sup> platform), that identifies viral versus bacterial infection accurately when using blood samples.

**Objective:** We assessed the performance of blood-based assay in distinguishing viral from bacterial LRTI when using nasopharyngeal (NP) samples from patients in southern Sri Lanka.

**Methodology:** Patients meeting age-specific LRTI criteria were enrolled. NP swab samples collected in RNeasy<sup>®</sup> were run using the HR-B/V assay (assessing 24 targets) on the Franklin<sup>TM</sup> platform. The prior classifier's performance in distinguishing viral from bacterial infection was assessed, using clinical adjudication with etiological testing as the reference standard. A novel model was generated for NP samples to improve the performance using same 24 targets and linear sparse logistic regression. Results were validated using two external datasets with nasal/NP sample RNA sequencing data.

**Results:** Among 19 patients (12 viral, 7 bacterial), median age was 61 years and 52.1% were male. When using the blood-based classifier, the area under the curve (AUC) for viral versus bacterial infection was 0.786 (0.524-1), with accuracy of 0.79 (95% CI 0.57-0.91), positive percent agreement (PPA) of 0.43 (95% CI 0.16-0.75), and negative percent agreement (NPA) of 1.00 (95% CI 0.76-1). The novel model had an AUC of 0.881 (95% CI 0.726-1), with accuracy of 0.84 (95% CI 0.62-0.94), PPA of 0.86 (95% CI 0.49-0.97), and NPA of 0.83 (95% CI 0.55-0.95) for bacterial infection. Validation of the NP-specific model in two external datasets showed AUC of 0.932 (95% CI 0.90-0.96) and 0.915 (95% CI 0.88-0.95).

**Conclusions:** Our blood-based classifier effectively distinguishes viral versus bacterial LRTI when using NP samples, although validation in larger, diverse cohorts is needed. Results suggest a NP-based diagnostic detecting both host response and pathogen could be developed to improve LRTI diagnosis.

**Keywords:** nasopharynx, LRTI, host response, gene classifier

**Acknowledgement:** This study was funded by a grant from the National Institute of Health, US (Grant no: R21AI163548-02)

## Oral Presentations: Undergraduate Category

### SOP 01

#### Validity and reliability of salivary creatinine estimation in patients with chronic kidney disease

Dissanayake DMPK<sup>1</sup>, Amarasiri AMSS<sup>1\*</sup>, Attanayake AP<sup>2</sup>, Dissanayake M<sup>3</sup>

1. *Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna*
2. *Department of Biochemistry, Faculty of Medicine, University of Ruhuna*
3. *Chemical Pathology Laboratory, National Hospital, Galle*

*\*Corresponding author: amssamarasiri@gmail.com*

**Background:** Saliva is a biological fluid that inherently reflects the physiological conditions of body. The potential benefits associated with sample collection make saliva a feasible alternative to blood in the estimation of biomarkers. The most widely used biomarker for diagnosis and management of chronic kidney disease (CKD) in the current healthcare setting is the estimation of serum creatinine concentration. Therefore, saliva can be considered as a noninvasive diagnostic tool over serum for the estimation of creatinine concentration in patients with CKD.

**Objective:** To assess the validity and reliability of estimation of salivary creatinine compared to serum creatinine in patients with CKD

**Methodology:** A diagnostic test validation study was conducted with 70 CKD patients attending the Nephrology Clinics at National Hospital, Galle, and 60 healthy individuals from the Faculty of Allied Health Sciences, University of Ruhuna during July 2024. Serum and salivary creatinine values were estimated by Jaffe kinetic method. Data were analyzed using SPSS software. Ethical clearance was obtained from the Ethics Review Committee, Faculty of Allied Health Sciences, University of Ruhuna (Ref. No. 2023.12.355).

**Results:** The mean salivary creatinine levels were  $0.84 \pm 0.62$  mg/dL and  $0.17 \pm 0.11$  mg/dL, respectively in patients with CKD and healthy individuals. Significant differences in serum and salivary creatinine values were observed between healthy individuals and CKD patients, between different CKD stages and between males and females by independent student t-test ( $p < 0.05$ ). There was a significant positive correlation between serum and salivary creatinine values of both CKD patients ( $r = 0.938$ ,  $p = 0.00$ ) and healthy individuals ( $r = 0.863$ ,  $p = 0.00$ ). The area under the curve obtained from the receiver operating characteristic (ROC) curve analysis for serum and salivary creatinine were 1.000 and 0.996, respectively. The cut-off value of serum creatinine estimation was 1.33 mg/dL, however, salivary creatinine estimation provided a cut-off value of 0.40 mg/dL with 97.2% sensitivity, 98.2% specificity, 98.6% positive predictive value and 96.6% negative predictive value.

**Conclusions:** Saliva could be a potentially reliable non-invasive alternative to serum for the estimation of creatinine.

**Keywords:** Chronic kidney disease; Creatinine; Diagnostic accuracy; Saliva

**Acknowledgements:** Research Grant of University of Ruhuna (2020)



## Oral Presentations: Undergraduate Category

### SOP 02

#### **Skin Care Practices and Skin-Related Quality of Life Among Institutionalized Older Adults in the Galle District**

Apsarani SGP<sup>1</sup>, Madirawalage VC<sup>1</sup>, Arachchi MASDM<sup>1</sup>, Arachchi SATTS<sup>1</sup>, Babarendra PSR<sup>1\*</sup>, Bandara WGKSM<sup>1</sup>, Liyanage A<sup>2</sup>

1. 43rd batch, Faculty of Medicine, University of Ruhuna

2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna

\*Corresponding author: praveeni5666@umed.ruh.ac.lk

**Background:** Institutionalized older adults require extra skin care as they are more prone to skin issues due to aging and limited financial resources to purchase skin-cleansing products.

**Objective:** To evaluate skin care practices and skin-related quality of life (QoL) among institutionalized older adults in the Galle district.

**Methodology:** A descriptive cross-sectional study was conducted among 385 institutionalized older adults in the Galle district. Data collection involved an interviewer-administered questionnaire for socio-demographic details and a self-administered questionnaire for skin care practices and skin-related QoL. The Dermatology Life Quality Index (DLQI) assessed skin-related QoL, and the Barthel Index evaluated dependency for bathing. Data analysis used SPSS software with descriptive statistics (means, frequencies, and proportions) and the chi-square test for associations.

**Results:** The study included 385 participants (mean age: 70 years, SD = 7.96; 62.1% female). Most were independent for bathing (68.57%). Only 24% practiced appropriate skin cleansing, while 76% had poor practices. Most participants (73.25%) used skin moisturizing products, and 56.62% expressed concerns about general skin protection. Regarding skin-related QoL, 36.88% reported no impact, 49.87% had minor effects, 11.43% experienced moderate effects, and 1.82% had severe effects. Those practicing proper skin cleansing (95.7%), independent for bathing (94.3%), and attentive to skin protection (92.2%) reported higher QoL scores.

**Conclusions:** Participants who adhered to proper skin cleansing and skin protection practices had better skin-related QoL. Promoting healthy practices can help maintain or enhance skin health among institutionalized older adults.

**Keywords:** Institutionalized older adults, skin care practices, skin-related quality of life

## Oral Presentations: Undergraduate Category

### SOP 03

#### Prevalence of undernutrition and its associated factors among hospitalised elderly at the National Hospital, Galle

Rahal Kavindra HC<sup>1</sup>, Perera TWTL<sup>1</sup>, Piyumanthi MSK<sup>1</sup>, Prashadika KAD<sup>1</sup>, Premanath THHT<sup>1</sup>, Priyadarshani TMM<sup>1</sup>, Kulathunga PARI<sup>2\*</sup>

*1. 43rd Batch, Faculty of Medicine, University of Ruhuna*

*2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: ruwanthikulathunga1993@med.ruh.ac.lk

**Background:** Undernutrition in the hospitalised geriatric population has serious implications, causing increased mortality and morbidity and higher readmission rates worldwide.

**Objective:** To assess the prevalence of undernutrition and its associated factors among hospitalized elderly patients at National Hospital, Galle (NHG).

**Methodology:** A descriptive cross-sectional study was conducted among 409 hospitalized elderly patients in medical and surgical wards of NHG. Simple random sampling technique was used to select the wards and the patients. Nutritional status of the patients was assessed using validated Sinhala version of Mini-Nutritional Assessment (MNA). Its undernutrition indicator score classified the individuals into three distinct groups as normal nutritional status (24-30 points), at risk of undernutrition (17-23.5 points) and undernourished (<17 points). Translated Sinhala versions of Oral Health Assessment Test (OHAT), FRAIL Score, and Simple Poverty Scorecard (SPS) were used to assess oral health, frailty and poverty of the participants respectively. Data were collected using interviewer administered questionnaires and analysed using SPSS software (version 26). Chi-square test and correlation analysis were used to determine the associations.

**Results:** The mean age (SD) of the participants was 70.5 (5.1) years. Majority (55.5%) were males while 44.5% were females. Of the elderly, 15.6% were undernourished while 57.2% were at risk of undernutrition. Individuals with frailty were 5.1%, while 27.8% were pre-frail and 67.0% were non-frail. Chronic alcohol consumption was noted in 38.4% of the sample. Undernutrition was significantly associated with frailty ( $p=0.00$ ). A moderate negative correlation was noted between OHAT and MNA scores ( $r = -0.414$ ,  $p=0.00$ ) and a weak positive correlation was found between SPS and MNA scores ( $r = 0.208$ ,  $p=0.00$ ). No association was found between gender or chronic alcoholism and undernutrition.

**Conclusions:** The majority of the participants were at risk of undernutrition suggesting the elderly are more likely to have negative outcomes related to undernutrition in the near future. Frailty and poor oral health were associated with poor nutritional outcomes in this age group, emphasising the need to screen patients in healthcare settings for these conditions. The relationship between undernutrition and gender, socioeconomic status and chronic alcoholism should be explored more in future research.

**Keywords:** Frailty, hospitalized elderly, oral health, undernutrition, Sri Lanka

## Oral Presentations: Undergraduate Category

### SOP 04

#### Effect of childbirth experience on the development of early postpartum depression in mothers admitted to postnatal wards at Teaching Hospital Mahamodara, Galle

Karunatileke AHTTM<sup>1\*</sup>:ahttmk5741@umed.ruh.ac.lk, De Silva WTP<sup>1</sup>, Karunasena KRAS<sup>1</sup>, Kavindi DNSP<sup>1</sup>, Kodippili TKN<sup>1</sup>, Keembiyage CN<sup>1</sup> De Silva BVS<sup>2</sup>

1. 43rd Batch, Faculty of Medicine, University of Ruhuna,

2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna

\*ahttmk5741@umed.ruh.ac.lk

**Background:** The maternal experience on childbirth has a significant effect on the mother-child relationship and can even lead to the development of postpartum depression (PPD). Early onset PPD is defined as depression which has an onset within four weeks after giving birth to a child.

**Objective:** The study aimed to explore the link between childbirth experiences and the development of early PPD in mothers admitted to postnatal wards at Teaching Hospital Mahamodara, Galle.

**Methodology:** A descriptive cross-sectional study was conducted among 421 postnatal mothers during the first 72 hours following childbirth, admitted at Teaching Hospital Mahamodara, from December 2023 to May 2024, employing systematic random sampling. PPD symptoms and childbirth experience were assessed with validated Sinhala versions of the Edinburgh Postnatal Depression Scale and the Childbirth Experience Questionnaire respectively. Data was analyzed with the Statistical Package for Social Sciences (SPSS) version 27.

**Results:** The mean age  $\pm$  SD of the sample was  $29.8 \pm 5.438$  years, 54.5% were primiparous and 45.2% had normal vaginal deliveries. A negative childbirth experience was present among 6.9% postpartum mothers and 11.7% had symptoms of early PPD. A significant weak positive correlation was observed between negative childbirth experience and early PPD symptoms ( $r = 0.245$ ,  $p = <0.001$ ). The presence of antenatal complications ( $p = 0.004$ ), antenatal hospital admissions ( $p = 0.010$ ), and absence of spousal support ( $p = 0.010$ ) were significantly associated with a negative childbirth experience. The development of breastfeeding problems was observed as a secondary outcome ( $p < 0.001$ ) of a negative childbirth experience.

**Conclusion and Recommendations:** The prevalence of negative childbirth experiences and the presence of early PPD symptoms among postpartum mothers were found to be low but significant. Training the staff in maternity hospitals to care for patients with empathy during the perinatal period while providing better social support is recommended to ensure a positive childbirth experience.

**Keywords:** Childbirth Experience, Postpartum Depression, Pregnancy, Galle, Early postpartum

**Acknowledgements:** We wish to convey our sincere gratitude to the authors of the validated Sinhala versions of the Childbirth Experience Questionnaire and Edinburgh Postnatal Depression Scale, Dr. Malitha Patabendige, and Dhammika Rowel, respectively for granting permission to use the questionnaires in our study.

## Oral Presentations: Undergraduate Category

### SOP 05

#### Significance of identifying Tacrolimus metabolizer status on kidney function and personalized dosing algorithms throughout the first year of post-renal transplant

Ayesha APH<sup>1\*</sup>, Wickramatilake CM<sup>2</sup>, Dissanayake M<sup>3</sup>

1. *Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna*
  2. *Department of Biochemistry, Faculty of Medicine, University of Ruhuna*
  3. *Chemical Pathology Laboratory, National Hospital, Galle*
- \*Corresponding author: ayesha2019260@uahs.ruh.ac.lk*

**Background:** Tacrolimus (TAC) metabolizer status influences post-transplant kidney function and is important in TAC dosing protocol during renal transplant management. Identifying tacrolimus metabolizer status is essential to minimize TAC toxicity and maintain drug efficacy.

**Objective:** To compare graft function among slow TAC metabolizers (SMs) and fast TAC metabolizers (FM) and to identify TAC dose requirements among SMs and FM throughout the first post-transplant year.

**Methodology:** A retrospective cross-sectional study was conducted in the Nephrology Unit and Chemical Pathology Laboratory, National Hospital, Galle. Data on tacrolimus blood trough concentration (TAC C<sub>0</sub>), TAC daily dose, serum creatinine concentrations at the 1<sup>st</sup>, 3<sup>rd</sup>, 6<sup>th</sup>, 9<sup>th</sup>, and 12<sup>th</sup> months of kidney transplant (KTx), and the basic characteristics of patients were collected. Patients with TAC blood trough concentration/dose ratio (TAC C<sub>0</sub>/D ratio) at the 6<sup>th</sup> month of post-transplant  $\geq 1.69$  ng/ml $\times$ mg and  $<1.69$  ng/ml $\times$ mg were classified as SMs and FM respectively.

**Results:** There were 24 (48%) and 26 (52%) SMs and FM respectively. FM exhibited a consistent decline in estimated glomerular filtration rate (eGFR) throughout the first year, indicating a progressive reduction in kidney function. In contrast, eGFR in SMs declined slightly but remained relatively stable, with a less pronounced decrease than fast metabolizers. No statistically significant differences in eGFR were observed between SMs and FM during the first two weeks ( $p=0.998$ ), 1 month ( $p=0.152$ ), 3 months ( $p=0.408$ ), 6 months ( $p=0.407$ ), and 9 months ( $p=0.118$ ) after KTx. A statistically significant decrease of graft function was observed among FM compared to the SMs at 12 months ( $p < 0.001$ ) of post-transplant. Approximately 30% higher TAC dose was required by FM at the 3<sup>rd</sup> and 6<sup>th</sup> months of post-transplant, increasing up to 65% at the 9<sup>th</sup> and 12<sup>th</sup> months, compared to SMs.

**Conclusion:** Identification of tacrolimus metabolizer status is essential to prescribe personalized tacrolimus therapy to enhance graft function during the first post-transplant year as approximately 30% of deterioration of graft function was observed from the FM compared to the SMs.

**Keywords:** Tacrolimus metabolizer status, Tacrolimus dosing, Kidney transplant, Graft function

## Oral Presentations: Undergraduate Category

### SOP 06

#### Caregiver burden & its associated factors among caregivers of Chronic Kidney Disease patients attending haemodialysis unit, National Hospital Galle

Rathnayake RMNS<sup>1</sup>, Rajakaruna RWPP<sup>1</sup>, Ranathunga EKST<sup>1</sup>, Kahatagahawaththa KTD<sup>1</sup>, Rathnayake AR<sup>1</sup>, Rathnayake RMBK<sup>1\*</sup>, Darshana ILAN<sup>2</sup>

1. Faculty of Medicine, University of Ruhuna

2. Department of community medicine, Faculty of Medicine, University of Ruhuna

\*Corresponding author: bhashini5795@umed.ruh.ac.lk

**Background:** Chronic Kidney Disease (CKD) is a progressive condition which requires extensive care, often provided by caregivers such as family members, relatives or siblings. These caregivers manage daily needs, including medication, diet, and emotional support, but face significant physical and emotional burden.

**Objectives:** This was a study carried out to assess caregiver burden & its associated factors among caregivers of CKD patients attending hemodialysis unit, National Hospital Galle (NHG).

**Methodology:** A cross-sectional study was conducted among 367 caregivers of CKD patients attending the Hemodialysis unit at NHG. Original version Zarit caregiver burden scale (ZCBS) with 22 questions was used to assess caregiver burden. A total score of 40 – 60 and  $\geq 61$  according to the ZCBS were considered moderate to severe and severe caregiver burden respectively. The associated factors were assessed using chi square test at 0.05 significance level.

**Result:** The majority of caregivers participating were the spouses of the patients (50.1%), aged below 55 years (70.3%), and educated above the Ordinary Level (83.65%). Most caregivers were Sinhalese (94.5%) and commonly manual workers or unemployed (80.7%). Moderate to severe and severe caregiver burden was reported in 78.20% and 21.8% of the participants respectively. Education level ( $p=0.038$ ) employment status ( $p=0.027$ ), number of employees in family ( $p=0.000$ ), dependency of patient on caregivers' income ( $p<0.000$ ) and having additional income source ( $p=0.004$ ) were significantly associated with moderate to severe burden. However, direct, indirect and total expenditure factors were not significantly associated with caregiver burden ( $p>0.05$ ).

**Conclusions and Recommendations:** The high proportion of caregiver burden among caregivers of CKD patients was identified as a significant problem. As many factors identified as associated factors for caregiver burden, attention should be drawn to minimize caregiver burden using appropriate psychosocial interventions.

**Keywords:** Caregiver burden, CKD patient, associated factors, Zarit scale

## Poster Presentations: Open Category

### PP 01

#### **Fasting vs. non-fasting lipid profiles in apparently healthy adults: A cross-sectional study**

Wasana KGP<sup>1</sup>, De Silva ND<sup>1</sup>, Attanayake AP<sup>1\*</sup>, Weeraratna TP<sup>2</sup>

1. *Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Sri Lanka*

2. *Department of Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka*

\*Corresponding author: [anojaattanayake@med.ruh.ac.lk](mailto:anojaattanayake@med.ruh.ac.lk)

**Background:** Transitioning from fasting to non-fasting testing for biochemical investigations such as lipid profiles holds significant promise in terms of convenience and improved patients' acceptance. However, solid evidence is lacking to confirm fasting samples offer superior over non-fasting samples.

**Objective:** To compare fasting and non-fasting lipid profiles and define desirable cut-off values for the main determinants of dyslipidemia in non-fasting testing in apparently healthy adults.

**Methods:** A total of 485 apparently healthy adults aged between 30-60 years in Galle district were recruited in this cross-sectional study. Fasting lipid profile parameters were estimated in the 8h fasting state and non-fasting state on the same day in the same individuals following the spectroscopic methods. The optimal cut-off values of lipid profile parameters were determined to predict dyslipidemia in a non-fasting state. The study protocol was approved by the Ethical Review Committee, Faculty of Medicine, University of Ruhuna, Sri Lanka (Ref. No. 2023/P/048).

**Results:** Significant mean differences between non-fasting and fasting triglyceride, high-density lipoprotein cholesterol (HDL-Ch), low-density lipoprotein cholesterol (LDL-Ch), and very low-density lipoprotein cholesterol were found as +0.048 mmol/L, -0.080 mmol/L, -0.213 mmol/L, and +0.013 mmol/L, respectively. There were no significant differences in TC and non-HDL-Ch between fasting and non-fasting serum samples. The area under the receiver operating characteristic curves (AUC) of total cholesterol (TC) ( $0.884 \pm 0.021$ ,  $p < 0.001$ ), triglyceride ( $0.785 \pm 0.037$ ,  $p < 0.001$ ), HDL-Ch ( $0.132 \pm 0.025$ ,  $p < 0.001$ ), and LDL-Ch ( $0.939 \pm 0.015$ ,  $p < 0.001$ ) as the determinant factors of dyslipidemia were significant. The optimal cut-off values for non-fasting TC, triglyceride, and LDL-Ch were 5.33 mmol/L, 1.70 mmol/L, and 3.62 mmol/L, respectively to diagnose dyslipidemia among apparently healthy adults.

**Conclusions:** Small differences and strong correlations in lipid profile parameters between fasting and non-fasting status revealed that the non-fasting sample could be used in the screening of healthy adults for dyslipidemia. Screening is positive for dyslipidemia if the cut-off values for non-fasting TC, triglyceride, and LDL-Ch are 5.33 mmol/L, 1.70 mmol/L, and 3.62 mmol/L, respectively, in apparently healthy adults.

**Keywords:** Apparently healthy adults; fasting lipid profile; non-fasting lipid profile; screening

**Acknowledgment:** Faculty Research Grant 2024, University of Ruhuna

## Poster Presentations: Open Category

### PP 02

#### Hospital admissions among infants with structural birth defects in Galle, Sri Lanka

De Silva KKWJC<sup>1\*</sup>, Amarasena S<sup>2</sup>, Jayaratne K<sup>3</sup>, Perera B<sup>1</sup>

1. *Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Galle*

2. *Department of Paediatrics, Faculty of Medicine, University of Ruhuna, Galle*

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

\*Corresponding author: janithradesilva@med.ruh.ac.lk

**Background:** Birth defects, a significant health problem worldwide, are well known to contribute to long term disability that cause a significant impact on individuals, families and healthcare systems.

**Objective:** This study was carried out to describe the hospital admissions among infants with structural birth defects (SBD).

**Methodology:** A longitudinal follow-up study was carried out to follow-up 315 infants with SBD residing in Galle, Sri Lanka, recruited during a previous phase of a study. Two follow-up visits were carried out for each infant in 6 months intervals. Data on hospital admissions of the infants were recorded through the interviews and examining the medical records of the infants.

**Results:** One-hundred and seventy-nine (56.8%) infants were males and one had ambiguous genitalia. Hundred and seventy-five (55.6%) infants had isolated cardiovascular system involvement (n=175, 55.6%) and it was followed by multiple system involvement (n=81, 25.7%). Forty-four infants (14%) died during the first year of life and three were lost-to-follow-up. All the infants died during infancy (100%) and 133 (49.6%) infants among the live infants reported at least one hospital admission owing to the SBD they had. Nearly 30% of infants were admitted for surgical correction of the defects and another 86 (48.6%) were admitted for both surgical correction and management of the complications. Thirteen (7.3%) were admitted for palliative care.

The mean hospital stays among alive and dead infants were 31.0 (range 2-298) days and 43.9 (range 1-199) days respectively. Ninety-two (29.2%) infants had admissions to the intensive care units for the management of SBD or the complications. Seventy-five percent (n=33) of infants who died received care from the intensive care units. The majority of the infants received intensive care were the infants with SBD involving multiple systems followed by cardiovascular system involvement.

**Conclusion:** Birth defects among children are associated with a significant morbidity and mortality and impose a huge burden on the health care delivery system of Sri Lanka. In order to minimize the burden caused by birth defects among the individuals and the healthcare systems, Sri Lanka should focus largely on the prevention of birth defects among children.

**Keywords:** Structural birth defects, infants, hospital admissions, Galle, Sri Lanka

**Acknowledgement:** We acknowledge the “University of Ruhuna Block Grants 2016 for strengthening research” for providing the funding for the research.

## Poster Presentations: Open Category

### PP 03

#### **Clinical presentation and fungal characteristics of patients presenting with onychomycosis: A single centre, descriptive, cross-sectional study**

Thabrew H H P M J<sup>1</sup>\*, Rathnayake M M<sup>1</sup>, Gunasekera H K T A<sup>1</sup>, Liyanage P L A N<sup>2</sup>, Wijeweera K D D S<sup>1</sup>, Weerasinghe N P<sup>1</sup>, Wickramasinghe S S<sup>1</sup>, Nagahawatte A De S<sup>1</sup>

1. Department of Microbiology, Faculty of Medicine, University of Ruhuna, Galle

2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Galle

\*Corresponding author: harshani@med.ruh.ac.lk

**Background:** Early identification of differential features of fungal nail infections facilitates timely diagnosis. This aids in initiating proper treatment of the condition even in the absence of culture results.

**Objective:** This study aimed to describe the clinical presentation and the fungal characteristics of the patients presenting with onychomycosis to the Department of Microbiology, Faculty of Medicine, University of Ruhuna.

**Methodology:** A prospective cross-sectional study was done on consenting patients presenting to the Department of Microbiology from 1<sup>st</sup> April 2023 to 30<sup>th</sup> November 2024. Ethical approval was granted by the Ethics committee of the Faculty of Medicine, University of Ruhuna. Nail scrapings were collected from patients along with their demographic details, medical history, details of lifestyle and habits. Specimens were processed in the laboratory for direct microscopy and fungal culture on Sabouraud Dextrose agar with and without cycloheximide. Data was analysed using the SPSS

**Results:** A Total of 55 samples were collected from consenting patients with a median age of 38 (IQR 25 to 42). The Majority were from females (72.7%). Diabetes (5) hypothyroidism (5) and psoriasis (1) were the co-morbid conditions noted in the patients. The commonest presentation was toenail infection (76.3%) whereas (49%) had fingernail involvement and (21.8%) had both finger and toenail infections. Among the clinical types, complete nail involvement was the commonest (61.8%) followed by distal lateral onychomycosis (41.8%) and proximal onychomycosis (3.6%). Common associated factors were walking barefoot (44.8%), gardening (44.8%), and frequent emersion of hands in the water (31%). Direct microscopy demonstrated presence of fungal elements in 30 patients with 19 of them suggestive of filamentous fungi. Among culture isolates, the predominant organisms were *Aspergillus candidus* (12), *A niger* (10), and *Candida spp* (11). Dermatophytes were not isolated from any sample. Nails infected with *Candida spp*. exhibited brittle nails (Fisher's extract, p=0.02) whereas none of the other fungi presented with unique features.

**Conclusions:** Non-dermatophyte infections are the most common cause of onychomycosis among the study sample. The macroscopic appearance does not differentiate the causative fungi except for the brittle nails of *Candida spp*.

**Keywords:** Onychomycosis, Clinical features, Fungal characteristics, Southern Sri Lanka



## Poster Presentations: Open Category

### PP 04

#### Cardiac amyloidosis

R.H.A.I. Rathnaweera\*

*Department of Forensic Medicine, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: [ajithr@med.ruh.ac.lk](mailto:ajithr@med.ruh.ac.lk)

**Introduction:** Amyloidosis is a disease characterized by abnormal deposition of proteins in which a specific precursor protein pathologically misfolds from its physiologic tertiary structure into a more linear shape. Systemic amyloidosis presents with a wide range of symptoms depending on the systemic organ primarily involved. Cardiac amyloidosis results in a restrictive cardiomyopathy caused by extracellular deposition of proteins in the myocardium.

**Case report:** A 67-year-old woman presented to a tertiary care hospital with a history of progressively worsening shortness of breath on exertion. She also complained of having episodes of chest pain, fatigue and weight loss over few months. On examination, she was found to have bilateral ankle oedema. While awaiting further investigations, she passed away within 6 hours after admission to the hospital.

Post-mortem examination revealed cardiomegaly (heart weight 480 g and left ventricular wall thickness 1.8cm - normal adult size 1.2-1.5cm) and mild triple vessel coronary artery atherosclerosis. Myocardium appeared congested. Mild ascites and pleural effusions were also noted. Sections of myocardium showed extensive interstitial pink congophilic material consistent with amyloid deposition. Interstitial fibrosis and myocyte hypertrophy were also evident. Histopathology of other organs did not reveal evidence of amyloid deposition. Cause of death was concluded as complications of cardiac amyloidosis.

**Conclusions:** Cardiac amyloidosis remains underdiagnosed, especially in elderly patients, despite a recent rise in diagnoses owing to increased physician suspicion and improved cardiovascular imaging techniques. Increased awareness of cardiac amyloidosis is essential to achieve a timely and definitive diagnosis. This case report is aimed to increase clinicians' awareness of cardiac amyloidosis to promptly recognize, diagnose and treat it.

**Key words:** Cardiac amyloidosis, Restrictive cardiomyopathy, Cardiomegaly

## Poster Presentations: Open Category

### PP 05

#### Effect of Jendrassik manoeuvre on the reflex time and magnitude of the ankle jerk in young adults

Gunawardena S<sup>1</sup>\*, Gunarathna RDS<sup>2</sup>, Deshapriya WSA<sup>3</sup>, Amerasinghe DMY<sup>1</sup>, Gunawardena AJ<sup>4</sup>, Malwatta MALD<sup>1</sup>

1. Department of Physiology, Faculty of Medicine, University of Ruhuna

2. National Eye Hospital, Colombo

3. Lady Ridgeway Hospital, Colombo

4. Faculty of Medical Sciences, University of Sri Jayewardenepura

Corresponding Author: sampath@med.ruh.ac.lk

**Background:** Tendon reflexes of the lower limb can be enhanced by Jendrassik manoeuvre (JM), that is, pulling apart the locked, flexed fingers of two hands. A previous study showed enhancement of knee jerk amplitude by 34.3% with JM. There are no similar previous studies on the effect of JM on ankle jerk.

**Objectives:** The aim was to quantify the effect of JM on the reflex time and the magnitude of the ankle jerk.

**Methodology:** Twenty medical students from the Faculty of Medicine, University of Ruhuna, aged 23.2±1.0 years, were recruited (16 females). Their ankle jerk was studied using a fiberoptic goniometer and an electronic tendon hammer connected to a data acquisition system (Power lab 26T). Each ankle jerk was tested five times, and the mean values (time in milliseconds and magnitude in degrees) were calculated. Ankle jerk measurements were repeated while performing JM. Data were expressed as mean (SD) and compared using paired t test.

**Results:** Right ankle jerk (n=20) showed a reduction of latent time from 74.0 (6) to 70.6 (8) with JM (p=0.003). Similarly, time to peak reduced from 207.4 (15) to 201.4 (14) (p=0.003). Angle of movement increased from 4.71° (1.6) to 5.5° (1.7) (p=0.008).

Left ankle jerk (n=20) showed a statistically non-significant reduction of latent time with JM from 75.6 (10) to 74.1 (9) (p=0.17). Time to peak has reduced from 204.7 (16) to 198.2 (15) (p=0.001). The angle increased from 4.47° (1.8) to 5.16° (1.9) (p=0.008).

Relaxation time and total reflex time did not show any significant change with JM in both legs.

**Conclusions:** This study objectively demonstrates that JM increases the angle of movement, confirming the clinical observation of enhanced ankle jerk by JM. Along with the increased angle of movement, there is shortening of the contraction time resulting in increased speed of contraction.

Key words: Ankle jerk, Reflex time, Angle, Jendrassik manoeuvre

## Poster Presentations: Open Category

### PP 06

#### **Causes and different injury patterns among elderly patients admitted to the National Hospital, Galle**

De Rajakaruna DSHZ\*, Warushahennadi J

Department of Forensic Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka

\*Corresponding author: rajakarunahansani11@gmail.com

**Background:** The elderly population has a direct impact on the health care sector of the country. The injuries cause serious health problems for elderly people, which result in higher incidence of hospital admission, lengthy stay and high mortality and morbidity rate.

**Objectives:** To explore the causes and different injury patterns among the elderly people attending the Emergency Trauma Unit (ETU), National Hospital, Galle (NHG).

**Methods:** A descriptive cross-sectional study was conducted on 250 of elderly patients, age over 60 years who attended to the ETU, NHG with injuries. The data was collected during the medico legal examination of the patients. Non-probability convenient sampling method was used as sampling method and a specially designed, pre-tested questionnaire was used as the data collection tool.

**Results:** Total number of 250 elderly patients were included into the study and out of total 131(52.4%) were males. The commonest cause for injuries was accidental falls 96 (38.4%) followed by road traffic accidents 80 (32.0%) and assaults 56, (22.4%). Majority 80 (32.0%) were having injuries on multiple anatomical areas of the body and 52(20.8%) patients had injuries only on lower extremities and 37(14.8%) had on oral maxillary facial area. Most of participants 60 (24%) were having different types of injuries and the abrasions were the commonest injury. Fractures were present on 44(17.6%) patients and majority had fractures on lower limbs 25(10%). The majority 144(57.4%) had the injuries which were categorized as non-grievous according to the Penal Code of Sri Lanka. There were significant associations on gender of participants with injury type ( $p=0.01$ ) and cause of injury ( $p=0.00015$ ).

**Conclusion:** The commonest cause for injuries among elders was accidental fall and had multiple but minor injuries.

**Keywords:** elderly people, non-grievous injuries, accidental fall

## Poster Presentations: Open Category

### PP 07

#### **Nutrition related problems and their associated factors among pregnant women admitted for delivery at Teaching Hospital Mahamodara**

Kulathunga PARI\*, De Silva BVS, Wijesinghe CJ

*Center for Public Health Nutrition, Department of Community Medicine, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: [ruwanthikulathunga1993@med.ruh.ac.lk](mailto:ruwanthikulathunga1993@med.ruh.ac.lk)

**Background:** Pregnancy is a nutritionally important period where nutrition related problems can occur. They can negatively impact on nutrition and lead to deficiencies during pregnancy.

**Objective:** To assess the prevalence of nutrition related problems and their associated factors among pregnant women admitted for delivery in Teaching Hospital Mahamodara.

**Methodology:** A cross-sectional study was carried out in a consecutive sample of 300 pregnant women admitted to Teaching Hospital, Mahamodara for delivery whose period of gestation was 37-40 weeks. A self-developed, pre-tested, interviewer-administered questionnaire was used for data collection. Data were analyzed using SPSS software (Version 25). Chi square test was used to assess the association between variables and followed by multivariate analysis of variance. Pregnant woman's age, parity, educational level, pre-pregnant Body Mass Index (BMI), weight gain during pregnancy, having nutrient supplementation, physical activity level, sleep, stress level and family support during pregnancy were tested as possible associations of the nutrition related problems during pregnancy.

**Results:** Mean age (SD) of the pregnant women was 29 (5.08) years. Nutrition related morbidities before pregnancy were reported in 4.5% of the sample and 32% had them during pregnancy. The reported pre-pregnant morbidities were anemia (2.4%), hyperlipidemia (1.4%) and diabetes mellitus (0.7%). Over 75% of the sample had aversions or cravings, 69.7% had nausea or vomiting, 37.2% had heartburn, 11% had anemia, 21% had gestational diabetes, 34.5% had constipation and 15.5% had food poisoning during pregnancy. Due to those problems, 65.5% had modified their diets during pregnancy in which 34.8% had reduced food intake and 30.7% had increased food intake.

Nutrition related problems during pregnancy were significantly associated ( $p < 0.05$ ) with parity, weight gain during pregnancy, physical activity level, sleep, stress level and family support during pregnancy.

**Conclusions:** Aversions and cravings, nausea and vomiting, heartburn, anemia, gestational diabetes, constipation and food poisoning are the main nutrition related problems found in the sample. Nutrition related problems were associated with parity, weight gain, physical activity level, sleep, stress level and family support during pregnancy. Modification of the possible factors will support to reduce those problems among pregnant women.

**Keywords:** Associated factors, nutrition related problems, pregnant women, Teaching Hospital Mahamodara

## Poster Presentations: Open Category

### PP 08

#### **Measurement of muscle strength of shoulder and its range of motion objectively in patients with bicipital tendinopathy using a hand-held digital dynamometer cum inclinometer.**

De Silva YSH<sup>1\*</sup>, Weerathna TP<sup>2</sup>, Samarawickrama MB<sup>3</sup>, Gunawardena S<sup>4</sup>, De Silva OL<sup>5</sup>, Perera HMD<sup>6</sup>, Perera CK<sup>1</sup>, Thebuwanarachchi ST<sup>1</sup>, Ransara HGS<sup>1</sup>

1. *Sports Medicine Unit, National Hospital Galle,*
2. *Department of Medicine, Faculty of Medicine, University of Ruhuna, Galle,*
3. *Department of Anatomy, Faculty of Medicine, University of Ruhuna, Galle.*
4. *Department of Physiology, Faculty of Medicine, University of Ruhuna, Galle.*
5. *Department of Emergency Medicine, National Hospital of Sri Lanka.*
6. *Sri Lanka Foundation Institute, Colombo.*

\*Corresponding author: drhiman1975@gmail.com

**Background:** Bicipital tendinopathy is a major differential diagnosis of anterior shoulder pain, which is often accompanied by reduced shoulder flexion power and restricted range of motion (ROM). In clinical assessment of the shoulder joint, muscle power and range of motion is measured subjectively using Medical Research Council scale (MRC scale) and visual assessment respectively, giving rough estimates which are subjective. Kinesiology tape is a form of physiotherapy used to rehabilitate musculoskeletal injuries.

**Objectives:** To objectively measure the effect of treatment of bicipital tendinopathy using kinesiology tape, on muscle strength of shoulder flexion and ROM.

**Methods:** 30 patients with bicipital tendinopathy were tested on day 1 for muscle strength of shoulder flexion and ROM using novel method of dual-purpose handheld digital dynamometer cum inclinometer. Then kinesiology tape was applied on the biceps brachii followed by obtaining the same two measurements. Intervention followed by measurements was repeated on day 5 and day 10. Repeated Measures of ANOVA with Bonferroni post-hoc test was used to determine the statistical significance.

**Results:** Mean age of patients was  $34.3 \pm 12.7$  years with 23 males and 7 females. Muscle strength in day 1 ( $153.7 \pm 68.2$  N) increased to  $165.3 \pm 65.9$  N on day 5 and to  $168.5 \pm 67.1$  N on day 10 ( $p=0.0029$ ). ROM of day 1 ( $158.9 \pm 33.6^\circ$ ) increased to  $163.4 \pm 28.7^\circ$  on day 5 and to  $165.9 \pm 27.7^\circ$  on day 10, ( $p=0.005$ ).

**Conclusions:** Handheld digital dynamometer cum inclinometer can be used to objectively assess the muscle strength of shoulder flexion and the range of motion. These small percentage improvements would be difficult to measure subjectively. Kinesiology tape is less resource-intensive and effective in improving the clinical features of bicipital tendinopathy.

**Key words:** kinesiology tape, bicipital tendinopathy, dynamometer cum inclinometer

## Poster Presentations: Open Category

### PP 09

#### Perception on dengue prevention practices among adults in the Galle Medical Officer of Health area

Gamage ISW<sup>1\*</sup>, Wickramarachchi BI<sup>1</sup>, Mallawaarachchi B<sup>2</sup>

1. *Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.*
2. *Department of Health Services, Southern Province.*

\*Corresponding author: gamage2019596@uahs.ruh.ac.lk

**Background:** Dengue is a major public health concern, particularly in the Galle Medical Officer of Health (MOH) area. Despite the continuous dengue prevention programs conducted by the MOH, there are still a high number of cases detected in the region. Understanding the public perception on dengue prevention is crucial for expanding preventive practices in a new direction.

**Objectives:** To assess the perception on dengue prevention practices among adults in the Galle MOH area based on perceived susceptibility, severity, benefits, and barriers.

**Methods:** A descriptive cross-sectional study was conducted, involving 422 adults residing in the Galle MOH area using convenience sampling. Data collection was done in areas that had a high dengue incidence throughout 2023. Data was collected through a self-administered questionnaire consisting of Likert scale data under HBM constructs; perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and associations were analyzed using ANOVA and T-test.

**Results:** The study included 422 participants, predominantly females (75.4%, n = 318) and majority being (56.6%) Muslim. The mean $\pm$ SD for perceived susceptibility was (1.99 $\pm$ 4.039) and perceived barriers were (0.87 $\pm$ 4.040). Mean $\pm$ SD score for various perceptions include perceived severity (5.61  $\pm$ 2.575) and perceived benefits (8.32 $\pm$ 2.940). There was a significant association between residency and perceived susceptibility (p = 0.05) and other demographic factors did not represent significant association with the constructs. Participants perceived (60%) that dengue prevention may help to improve overall health and well-being. Among the participants, 49.3% believed that heavy rain increases susceptibility, while 59.2% viewed dengue as severe due to potential complications and followed by the body aches (57.8%). Additionally, 50.5% perceived a lack of government support as a barrier.

**Conclusion:** Participants perceived and expressed significant concern about severity other than susceptibility and the valued benefits over barriers. Tailored prevention programs considering severity and benefits are needed to reduce the dengue incidence rate.

**Keywords:** Perception, Health Belief Model, Dengue prevention, Galle MOH area

## Poster Presentations: Open Category

### PP 10

#### Trends in risk habits among oral cancer patients: A ten-year experience at a single centre

Peiris HH<sup>1\*</sup>, Attanayake AP<sup>2</sup>, Dias DK<sup>3</sup>, Gamage LMP<sup>1</sup>, Attanayake E<sup>1</sup>

1. *Department of MLS, Faculty of Allied Health Sciences, University of Ruhuna, Galle*

2. *Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Galle*

3. *Department of Oral and Maxillo-facial Surgery, Teaching Hospital Karapitiya, Galle*

\*Corresponding author: [harshinipeiris@ahs.ruh.ac.lk](mailto:harshinipeiris@ahs.ruh.ac.lk)

**Background:** Oral squamous cell carcinoma (OSCC) is a major oncological problem in different areas in Sri Lanka. It is one of the leading cancers among males and the incidence of oral cancer has increased over the past 10 years very rapidly. Betel chewing, use of tobacco, and high alcohol consumption are the main risk factors for OSCC.

**Objective:** This study aimed to determine the trends of risk habits among OSCC patients.

**Methodology:** A retrospective study was conducted by enrolling histologically proven OSCC patients who visited for treatments in the Oral and Maxillofacial Surgery Unit of the National Hospital Galle from January 2010 to December 2020. Clinic records were perused to gather information on habits. Bivariate Pearson correlation and chi-square test were used with SPSS for data analysis and  $p < 0.05$  was considered as significant. Ethical approval was obtained before commencing the study (Ref. no.112.03.2022).

**Results:** A total of 766 patients with OSCC were recruited, with 85% being males. Mean age of the study cohort was 62 ( $\pm 11$ ) years. Among the cohort, 84% reported betel chewing, 74% used tobacco and 65% consumed alcohol. Only two patients did not exhibit any of these habits while 43.5% of the cohort exhibited all three habits. A significant decreasing trend in betel chewing ( $r = -0.081$ ;  $p = 0.025$ ) and tobacco use ( $r = 0.313$ ;  $p = 0.000$ ) was observed over the study period. Additionally, a significant association was found between age groups ( $\leq 50$  years and  $> 50$  years) and alcohol consumption ( $p = 0.000$ ). Male patients were significantly more likely than females to engage in betel chewing, tobacco use, and alcohol consumption ( $p = 0.000$ ).

**Conclusion:** This study highlights a high prevalence of risk habits among patients with OSCC with a predominance among males. These findings emphasize the need for targeted preventive measures and public health interventions addressing high risk behaviors among males, to reduce the burden of OSCC.

**Key words:** Cancer, Habits, Oral squamous cell carcinoma, Risk factors

## Poster Presentations: Open Category

### PP 11

#### **Effectiveness of Thera-band exercise programme in improving strength and reducing pain in school football athletes with iliotibial band syndrome**

Thebuwanaarachchi ST<sup>1\*</sup>, De Silva YHS<sup>1</sup>, Dissanayake AS<sup>2</sup>, Samarawickrama MB<sup>3</sup>, Gunawardena S<sup>4</sup> Perera CK<sup>1</sup>, Ransara HGS<sup>1</sup>, Minhan MAM<sup>1</sup>

1. *Sports Medicine Unit, National Hospital Galle,*
2. *Department of Medicine, Faculty of Medicine, University of Ruhuna,*
3. *Department of Anatomy, Faculty of Medicine, University of Ruhuna,*
4. *Department of Physiology, Faculty of Medicine, University of Ruhuna*

\*Corresponding author's email address: sankatheekshana@yahoo.com

**Background:** Iliotibial Band Syndrome (ITBS) is an overuse injury among school football players, causing pain and diminished muscle strength.

**Objectives:** To compare the effectiveness of Thera band exercise programme (intervention group) with that of the standard electro physiotherapy (control group) in football players with ITBS. Both groups received the standard non-steroidal anti-inflammatory treatment.

**Methods:** Sixty school football players with ITBS were recruited. They were randomly assigned to the control (n=30 with 19 males and 11 females) or to the intervention group (n=30 with 20 males and 10 females). Muscle strength and pain were assessed using a hand-held dynamometer (HHD) and visual analog scores (VAS), respectively, on days 1, 14, and 28. Statistical significance was determined using repeated measures of ANOVA (RM-ANOVA).

**Results:** Mean age in the control and experiment groups were  $17.16 \pm 1.35$  and  $17.88 \pm 1.01$  years. The mean abductor strength in the control group on day 1, 14 and 28 were  $103.45 \pm 21.87\text{N}$ ,  $112.45 \pm 29.67\text{N}$  and  $119.63 \pm 31.46\text{N}$ , respectively. The mean abductor strength in the intervention group on day 1, 14 and 28 were  $102.53 \pm 20.71\text{N}$ ,  $148.89 \pm 18.59\text{N}$  and  $178.45 \pm 21.76\text{N}$ , respectively. There was no statistically significant difference between the two groups on day 1 ( $p=0.896$ ) while there was a statistically significant difference on day 14 ( $p<0.001$ ) and day 28 ( $p<0.001$ ). The mean pain score in the control group on day 1, 14 and 28 were  $8.37 \pm 0.876$ ,  $7.13 \pm 0.979$  and  $6.98 \pm 1.87$ , respectively. The mean pain score in the intervention group on day 1, 14 and 28 were  $8.44 \pm 0.856$ ,  $4.24 \pm 1.34$  and  $1.5 \pm 0.876$ , respectively. There was no statistically significant difference between the two groups on day 1 ( $p=0.769$ ) while there was a statistically significant difference on day 14 ( $p<0.001$ ) and day 28 ( $p<0.001$ ).

**Conclusion:** The intervention with Thera band proved significantly more effective than the standard EPT treatment in ITBS.

**Keywords:** Iliotibial band syndrome, Thera band exercise programme, Visual analog scale, Electro-physiotherapy, Hand-held digital dynamometer



## Poster Presentations: Open Category

### PP 12

#### Use of the BIOFIRE® FILMARRAY® Pneumonia plus Panel to characterize the etiology of lower respiratory tract infections in Southern Sri Lanka

Dilshan UHBY<sup>1\*</sup>, Weishampel ZA<sup>4</sup>, Nagahawatte ADS<sup>1,2,5</sup>, Wijayaratne WMDGB<sup>1,2</sup>, Wickramasinghe SS<sup>1,2</sup>, Nicholson BP<sup>1,8</sup>, Anderson J<sup>4</sup>, Vanderburg S<sup>6,7</sup>, Fonseka CL<sup>1,3</sup>, Premamali MHM<sup>1</sup>, Kurukulasooriya MRP<sup>1</sup>, Piyasiri B<sup>9</sup>, Østbye T<sup>1,4,5</sup>, Woods CW<sup>1,4,5</sup>, Abusalem L<sup>4</sup>, Obale A<sup>1,4</sup>, Tillekeratne LG<sup>1,3,4,5</sup>, Bodinayake CK<sup>1,3,5</sup>

1. *Ruhuna-Duke Centre for Infectious Diseases, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka*
2. *Faculty of Medicine, Department of Microbiology, University of Ruhuna, Galle, Sri Lanka*
3. *Faculty of Medicine, Department of Medicine, University of Ruhuna, Galle, Sri Lanka*
4. *Duke University, Durham, North Carolina, United States of America*
5. *Duke Global Health Institute, Durham, North Carolina, United States of America*
6. *Pulmonary and Critical Care, Montage Health, Monterey, California, United States of America*
7. *University of California San Francisco, San Francisco, California, United States of America*
8. *Institute for Medical Research, Durham Veterans Affairs Medical Center, Durham, North Carolina, United States of America*
9. *National Hospital Galle, Galle, Sri Lanka*

\*Corresponding author: dilshan.yaz@gmail.com

**Background:** Lower respiratory tract infections (LRTIs) cause a significant burden of illness in low-and middle-income countries, with unknown etiology in many cases. This study applied BIOFIRE® FILMARRAY® Pneumonia plus (PN<sub>plus</sub>) Panel, a multiplex PCR assay targeting bacterial, viral, and antibacterial resistance gene markers, to sputum samples to evaluate the etiology of community-acquired LRTI among hospitalized patients in southern Sri Lanka.

**Methods:** We enrolled children and adults hospitalized with LRTIs at a public tertiary care hospital in southern Sri Lanka from 2019 to 2021. Demographic and clinical data were collected. Sputum samples were tested by sputum culture and the PN<sub>plus</sub> Panel. Fisher's exact test analyzed associations between viral/bacterial targets detection on the PN<sub>plus</sub> Panel and 1) pneumonia-consistent radiographic findings and 2) bacterial genomic concentration. Assay results were compared with sputum bacterial culture to assess test performance.

**Results:** Among 267 patients, PN<sub>plus</sub> Panel detected *Klebsiella pneumoniae* (41.9%), *Staphylococcus aureus* (34.5%), and *Acinetobacter calcoaceticus-baumannii* complex (32.6%) as the most common bacteria, and human rhinovirus/enterovirus (19.5%) and influenza A (10.9%) as the most common viruses. Gram-negative bacteria were detected in

211 (79.0%) patients, gram-positive in 139 (52.1%), carbapenem-resistance genes in 96 (40.0%), extended-spectrum beta-lactamase genes in 56 (21.0%), and methicillin-resistance genes in 42 (15.7%). No significant associations were found between the type of bacterial/viral organism and the 49 opacities/interstitial patterns observed in chest radiographs. PNplus panel results revealed that *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Pseudomonas aeruginosa* had high genomic copies ( $10^7$ /mL), while *Klebsiella aerogenes*, *Enterobacter cloacae* complex, and *Acinetobacter baumannii* complex had low genomic copies ( $10^4$ /mL). Only 15 (5.6%) patients had matching PNplus Panel and sputum culture results. The most common bacteria detected in sputum culture were *Pseudomonas* and *Enterobacteriaceae*.

**Conclusions:** LRTI patients in Southern Sri Lanka have a high prevalence of gram-negative bacteria and antimicrobial resistance genes in sputum. However, distinguishing colonizers from true pathogens using BIOFIRE® FILMARRAY® PNplus Panel on sputum is challenging.

**Key words:** BIOFIRE® FILMARRAY® Pneumonia plus Panel, Lower respiratory tract infections, Gram-Negative Bacteria, Antimicrobial Resistance

## Poster Presentations: Open Category

### PP 13

#### **The co-occurrence of multimorbidity and polypharmacy among young adults, middle-aged and older adults in Galle, Sri Lanka: A cross-sectional study**

Mendis SA<sup>1\*</sup>, Pathirana RM<sup>1</sup>, Sinhabahu TK<sup>1</sup>, Sewvandi RAW<sup>1</sup>, Hannibal GD<sup>1</sup>, Vithanage NVNN<sup>1</sup>, Liyanage PLGC<sup>1</sup>

*1. Department of Pharmacology, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: sahan@med.ruh.ac.lk

**Background:** There is an increasing prevalence of multiple conditions (multimorbidity) and multiple medications (polypharmacy) affecting the quality of life across many populations, even though advances in medicine allow individuals to live longer. Most studies focus on the prevalence of these factors separately without investigating their co-occurrences.

**Objective:** The study was based on determining the prevalence and impact of multimorbidity and polypharmacy among young adults, middle-aged and older adults.

**Methodology:** Using a consistent methodology, we conducted a cross-sectional analysis of 195 patients from Galle in 2024. This study reported multimorbidity (>2 co-morbidities) and polypharmacy (use of >5 medications) among patients aged 18 and above. This adult age group was further divided into young (18 to 35), middle (36 to 59), and old (60 years and above). Patients presenting to the OPD medical clinics at the National Hospital Galle were recruited using a pretested interviewer- based questionnaire.

**Results:** Of 195 patients, the prevalence of multimorbidity and polypharmacy was noted as 87.7% (n=171) and 20% (n=39), respectively. All patients with polypharmacy (n=39) had multimorbidity.

There was no statistical significance between polypharmacy with age or gender and multimorbidity with age or gender.

**Conclusions:** All patients with polypharmacy had multimorbidities, with the older population having the highest percentage. This is an important finding when designing future research and for policymakers. However, additional research is necessary to gain a comprehensive understanding.

**Key Words:** Polypharmacy, Multimorbidity, Young adults, Middle-aged adults, Older adults

## Poster Presentations: Open Category

### PP 14

#### Postnatal distress among mothers in the first postpartum year: Insights from Maternal and Child Health clinics in Galle

De Silva B.V.S\*, Wijesighe C.J

*Department of Community Medicine, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: bvsdesilva@med.ruh.ac.lk

**Background:** Depression, anxiety, and stress are significant negative emotional states in postpartum mothers which result in impaired functioning. Though postpartum depression receives considerable attention and is routinely screened for under maternal care programme, anxiety and stress in the postpartum period is studied relatively less.

**Objective:** To assess the prevalence and associated factors of depression, anxiety, and stress in the first postpartum year among mothers attending Maternal and Child Health clinics in Bope-Poddala and Galle Medical Officer of Health areas, Galle.

**Methodology:** A cross-sectional study was conducted among a consecutive sample of 256 postpartum mothers, using an interviewer-administered questionnaire. Maternal psychological status was assessed with the validated Sinhala version of the Depression Anxiety Stress Scale-21. Predictors of psychological status were determined using logistic regression analysis.

**Results:** The mean age $\pm$ SD of the sample was 30.0 $\pm$ 4.1 years, 16.0% were primi mothers and 38.3% were unplanned pregnancies. Nearly 93% of the mothers had some form of a psychological problem. A considerable proportion had severe depressive symptoms (44.5%), severe anxiety symptoms (62.5%), and high stress levels (20.3%). The majority of the mothers (90.5%) had screened negative for depressive symptoms at one month postpartum. Depressive symptoms were associated with normal vaginal deliveries (NVD) ( $p=0.03$ ) and anxiety symptoms were associated with younger maternal age ( $p=0.02$ ), NVD ( $p=0.03$ ), and planned pregnancies ( $p=0.03$ ). High-stress levels were associated with younger maternal age ( $p<0.05$ ) and postpartum weight retention ( $p=0.006$ ). After controlling for confounders, only younger maternal age remained a significant predictor of high-stress symptoms (OR=2.304,  $p<0.05$ ) and depressive symptoms (OR=3.273,  $p<0.05$ ).

**Conclusions:** A significant proportion of postpartum mothers suffer from psychological distress during the first year postpartum. Younger maternal age is a significant predictor of symptoms of stress and anxiety. Routine screening and active management of maternal distress are recommended during the pregnancy, continuing into the first postpartum year, focusing more on younger mothers.

**Keywords:** postpartum, depression, anxiety, stress, psychological problems

**Acknowledgment:** We would like to express our sincere gratitude to Dr. Rekha Aththidiye and the Institute of Research and Development in Health and Social Care for granting permission to use the Sinhala versions of the Depression Anxiety Stress Scale -21 and Multidimensional Scale of Perceived Social Support, respectively.

## Poster Presentations: Undergraduate Category

### SPP 01

#### Usefulness of platelet indices and morphology in dengue haemorrhagic fever in predicting disease progression and recovery

Dilanka IDI<sup>1</sup>, Wickramaratne KAC<sup>2\*</sup>, Wijewickrama DC<sup>3</sup>

1. *Department of Medical Laboratory Science, Faculty of Allied Health Science, University of Ruhuna*
2. *Department of Pathology, Faculty of Medicine, University of Ruhuna*
3. *Department of Physiology, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: [kacw@med.ruh.ac.lk](mailto:kacw@med.ruh.ac.lk)

**Background:** A platelet count reaching  $100 \times 10^9/L$  in a patient with dengue haemorrhagic fever (DHF) signifies onset of critical phase. This phase is characterized by plasma leakage that peaks in the first 24 hours (early leakage), slows down in the subsequent 24 hours (late leakage). This is followed by fluid equilibrium during early recovery (during 48-72 hours) and reabsorption in late recovery (after 72 hours). This study aimed to evaluate the usefulness of platelet indices and morphologies in predicting the progression of DHF.

**Methodology:** The study was conducted on DHF patients at the National Hospital, Galle. Platelet indices were obtained from full blood count reports, while blood smears were examined for the presence of large platelets, giant platelets, and platelet anisocytosis. Assessments were performed during the critical and recovery phases of the disease.

**Results:** Among 35 patients who entered the critical phase, the platelet-large cell concentration (P-LCC) was significantly lower during the late leakage phase compared to the early leakage phase. P-LCC levels subsequently increased significantly during the early and late recovery phases ( $p < 0.005$ ). No significant changes were observed in other platelet indices throughout the disease progression. However, the number of patients with giant platelets was significantly higher in the early recovery phase compared to the late leakage phase ( $p < 0.05$ ).

**Conclusions:** P-LCC exhibited significant phase-dependent changes. Large cells are immature cells thus indicates marrow response. Its trends, along with the presence of giant platelets, may serve as valuable markers for monitoring disease progression during critical and recovery phases of DHF.

**Keywords:** Dengue haemorrhagic fever, Critical phase, P-LCC, Giant platelets

## Poster Presentations: Undergraduate Category

### SPP 02

#### **Variations in red cell and platelet indices, and blood cell morphology in type 2 diabetes mellitus: Impact of glycaemic control**

Malwenna MHSN<sup>1</sup>, Wickramaratne KAC<sup>2\*</sup>, Wijewickrama DC<sup>3</sup>

1. *Department of Medical Laboratory Science, Faculty of Allied Health Science, University of Ruhuna*
2. *Department of Pathology, Faculty of Medicine, University of Ruhuna*
3. *Department of Physiology, Faculty of Medicine, University of Ruhuna*

*\*Corresponding author: kacw@med.ruh.ac.lk*

**Background:** Chronic hyperglycaemia leads to functional and structural alterations in blood cells. This study was aimed to evaluate red cell and platelet indices, and blood cell morphology in patients with type 2 diabetes mellitus.

**Methodology:** A cross-sectional descriptive study was conducted on patients with Type 2 diabetes mellitus attending the diabetic clinic at National Hospital, Galle. Data were collected from consenting volunteers using an interviewer-administered questionnaire and clinic records. Patients were classified into good glycaemic control (GGC) (HbA1C <7%) and poor glycaemic control (PGC) (HbA1C >7%) based on HbA1C levels. Red cell and platelet indices, including MCV, MCH, MPV, PDW, and P-LCR, were extracted from full blood count reports. Blood smears were evaluated for acanthocytes, echinocytes, teardrop cells, spherocytes, schistocytes, and target cells and quantified according to ICSH criteria. The presence of hypersegmented neutrophils, neutrophils with toxic granules, giant platelets, and platelet anisocytosis were also assessed.

**Results:** Of the 138 participants, 39 (28.3%) had GGC, while 99 (71.7%) had PGC. All red cell and platelet indices were within normal limits, except for MCH, which was significantly lower in PGC group compared to GGC group ( $p<0.05$ ). In the GGC group, 30.7% had hypersegmented neutrophils, 82% showed a left shift in neutrophils, 17.9% had neutrophils with toxic granules, 97.4% exhibited platelet anisocytosis, and 51.2% had giant platelets. In the PGC group, the respective percentages were 32.3%, 88.8%, 12.1%, 98.9%, and 67.6%. No significant differences in red cell morphology were observed between the two groups.

**Conclusions:** Hypochromia observed in poor glycaemic control aligns with anaemia of chronic disease. Hypersegmented neutrophils, neutrophils left shift, platelet anisocytosis, and giant platelets were more prevalent in patients with poor glycaemic control, whereas neutrophils with toxic granules were more prevalent in those with good glycaemic control. Further research is needed to clarify the contributing aetiopathological factors.

**Keywords:** Diabetes mellitus, Glycaemic control, Platelet indices, Red cell indices

## Poster Presentations: Undergraduate Category

### SPP 03

#### **Social Media Addiction and its Impact on Academic Performances and Sleep of Medical Undergraduates in the Faculty of Medicine, University of Ruhuna**

Wickramaratne WST<sup>1</sup>, Ranasinghe WBP<sup>1</sup>, Wickramasinghe N<sup>1</sup>, Wickramasinghe BP<sup>1</sup>, Fernando WVD<sup>1</sup>, Rahman MRA<sup>1</sup>, Wickramasinghe SP<sup>1</sup>, Jayawardene AJPM<sup>2\*</sup>

1. 43<sup>rd</sup> Batch of Medical Students, Faculty of Medicine, University of Ruhuna, Sri Lanka.
2. Medical Education Unit, Faculty of Medicine, University of Ruhuna, Sri Lanka.

\*Corresponding author: avindraajaya@med.ruh.ac.lk

**Background:** Social media addiction (SMA) is a growing concern among university students, and medical students are no exception. This study focused on evaluating it among Ruhuna Medical Students (RMS).

**Objective:** Evaluation of SMA and its impact on the academic performances and sleep pattern of RMS

**Methodology:** A descriptive cross-sectional study was done using the Social Networking Addiction Scale (SNAS) to measure SMA levels, Sleep Timing Questionnaire (STQ) to assess sleep quality and duration, and a questionnaire to obtain other descriptive statistics associated with SMA. Data were collected via a Google® form using convenient sampling method. The association of SMA with the Academic performance of RMS was evaluated. RMS were divided into two groups. RMS never repeated formed one group while RMS who got repeated formed another group. The association between SMA and academic performance was calculated using chi square test at a significance level of 0.05.

**Results:** Among RMS 387 participated in this study. According to SNAS 50.4% RMS were addicted to social media. A Significant association was found between SMA and academic performance of RMS ( $X^2=3.952$ ,  $p=0.047$ ), time wastage on social media (TWSM) during study leave ( $X^2=5.357$ ,  $p=0.021$ ), and RMS perception of getting distracted by social media while studying ( $X^2=21.937$ ,  $p=0.001$ ). There were no significant associations between SMA and sleep duration, time taken to fall asleep and sleep distraction. There was no significant association between sleep duration and academic performance of RMS. The most preferred social media platform was WhatsApp (75%), followed by YouTube (10%).

**Conclusion:** More than 50% of RMS in the study were addicted to social media with SMA affecting their academic performance with repeats in main exams. There was significant TWSM by RMS during study leave according to their perception. This study highlights the need for intervention among RMS to wean them off SMA.

**Keywords:** Social media addiction, medical students, academic performance, social media addiction scale, sleeping time

## Poster Presentations: Undergraduate Category

### SPP 04

#### Patterns and associated factors of self-poisoning among patients admitted to Teaching Hospital, Karapitiya

Dias SARG<sup>1\*</sup>, Kodithuwakku MY<sup>1</sup>, Kulasekara MU<sup>1</sup>, Kumarathunga TKIS<sup>1</sup>, Lakshani HGB<sup>1</sup>, Lakshini HDM<sup>1</sup>, Warushahennadi J<sup>2</sup>

1. 43<sup>rd</sup> Batch, Faculty of Medicine, University of Ruhuna

2. Department of Forensic Medicine, Faculty of Medicine, University of Ruhuna

\*Corresponding author: ravindu5745@umed.ruh.ac.lk

**Background:** "Self-poisoning" refers to the act of self-consuming toxic substances. It is a significant global public health concern, posing a serious threat to individuals' lives and placing additional strain on the country's healthcare system.

**Objective:** To evaluate the patterns and associated factors of self-poisoning such as socio-demographic characteristics, underlying causes, potential risk factors and motivations, among self-poisoned patients admitted to the Teaching hospital, Karapitiya.

**Methodology:** A descriptive cross-sectional study was conducted among 276 patients, aged 18 years and above, admitted to Teaching Hospital, Karapitiya, following self-poisoning. The sample was selected using a convenient sampling method based on patients' registrations, and data was collected using a self-developed, pre-tested interviewer-administered questionnaire within 6 months in 2023/2024. Data was analyzed using SPSS software version 25.

**Results:** A total of 276 self-poisoned patients, there was a slightly higher percentage of females which was 142 (51.4%). The most prevalent age group was 18-24 years, which was 117 (42.4%). A comparatively higher percentage was from rural areas 149 (54%). Therapeutic agents such as anti-diabetic drugs, anti-hypertensive drugs etc. were the most commonly ingested substance which was 160 (58%), and from those therapeutic agents, Paracetamol accounted for 101 (36.6%). Family problems were the leading cause in 130 (47.1%) and relationship problems in 61(22.1%). According to the data extracted from clinical records, liver damage in 98 (30.3%) was the most common complication, followed by kidney damage in 92 (28.5%). There was a statistically significant association between knowledge of complications of poisoning and whether they would consume the poison or not ( $p<0.05$ ). Regardless of socio-demographic status, only 9.1% of the research population were aware of complications of the poison before the ingestion, and 207 (75%) did not receive any first-aid before hospital admission.

**Conclusion and recommendations:** Self-poisoning was most common among young adults, with a higher incidence in rural areas and associations with low socioeconomic status, family conflicts, and suicidal intent. Paracetamol and pesticides were frequently used, causing liver and kidney damage. Strengthening mental health programs, regulating toxic substances, improving first-aid awareness, and ensuring systematic follow-up care are essential to reduce recurrence and complications.

**Keywords:** Self-poisoning, patterns, associated factors, therapeutic agents



## Poster Presentations: Undergraduate Category

### SPP 05

#### **Exploring the Impact of Digital Device Usage on Advanced Level Students in the Galle District: Frequency, Benefits and Awareness of Adverse outcomes**

Hirushan GAE<sup>1\*</sup>, Sarathchandra IDND<sup>1</sup>, Sathsarani AN<sup>1</sup>, Seevarathnam A<sup>1</sup>, Samarasekara RT<sup>1</sup>, Senadeera NGSP<sup>1</sup>, Kommalge M<sup>2</sup>

1. 43<sup>rd</sup> batch, Faculty of Medicine, University of Ruhuna
2. Department of physiology, Faculty of Medicine, University of Ruhuna

\*Corresponding author: eranga5817@umed.ruh.ac.lk

**Background:** Exploring the impact of digital device usage on advanced level students in the Galle District is an important aspect as it can affect the health status of future generation.

**Objective:** The study was carried out to assess the impact of digital device usage on advanced level students in the Galle district with frequency, benefits and awareness of adverse outcomes.

**Methodology:** A cross-sectional study was carried out at advanced level tuition classes in different subject streams in selected private educational institutions in the Galle district by recruiting 369 participants. Data were obtained through a self-administered questionnaire and analyzed with chi-square test using SPSS version 25.0.

**Results:** High level of usage was observed among 51.8% (n=191) students with high level of educational benefit in 32% (n=118). Access to educational materials and resources is the key benefit gained by the majority of the students (n=235, 63.7%). Most of them are not aware about the hearing (54.7%), mental (50.1%) and social (56.1%) problems that can be occurred during usage of digital devices. The proportion of students who have not implemented precautions in each subcategory exceeds that of those who have.

A significant association was found between the level of benefit regarding education and the frequency of usage for educational purposes ( $p=0.003$ ). Visual problems ( $p=0.041$ ), other physical problems ( $p=0.000$ ), mental problems ( $p=0.001$ ) and social problems ( $p=0.017$ ) were found to be associated with level of usage of digital devices. Subject stream and precautions taken to avoid visual problems ( $p=0.035$ ) were found to be associated.

**Conclusions:** High level of usage of digital devices without taking proper safety precautions was observed among advance level students in Galle district. Awareness regarding adverse outcomes with the safety precautions to avoid them should made extensively and further studies need to be implemented to elaborate more on this area.

**Key words:** Usage of digital devices, frequency, benefits, awareness of adverse outcomes

## Poster Presentations: Undergraduate Category

### SPP 06

#### **Parental awareness and patterns of detection of childhood disabilities, their attitudes towards the disability and utilization of services among children receiving special care services in Sri Lanka**

Anjana AGN<sup>1</sup>, Athapaththu HDS<sup>1</sup>, Jayawardhana SS<sup>1</sup>, Perera ANM<sup>1</sup>, Abeyasekera CD<sup>1\*</sup>  
Abeysirigunawardana TS<sup>1</sup>, Wijesinghe CJ<sup>2</sup>

*1 43<sup>rd</sup> Batch, Faculty of Medicine, University of Ruhuna*

*2 Department of Community Medicine, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: charushi5641@umed.ruh.ac.lk

**Background:** Childhood disabilities have profound effects on the lives of affected children and their parents. Early interventions addressing the care needs of these children can escalate their quality of life.

**Objectives:** To assess parental awareness and patterns of detection of childhood disabilities, their attitude towards disability and utilization of services by children with special needs attending selected special care institutions in Sri Lanka.

**Methodology:** A cross-sectional study was conducted recruiting 319 caregivers of children with Down syndrome, Autism Spectrum Disorder and cerebral palsy attending National Hospital Galle and two selected special care institutions in Galle and Kandy. Data were obtained through an interviewer-administered questionnaire and analyzed using SPSS software. Parental attitude was assessed using a scale while Chi square test was used to assess the association between variables.

**Results:** The greatest share of participants was female out of which 84.3% were biological mothers. Most parents had satisfactory levels of education and income. Most parents were aware of their child's condition (84%) and most cases were detected after birth (98.7%). Most children (32%) were diagnosed between one to six months of age. Specialist doctors were the main personnel involved in detecting 74% of the cases. Only 5.7% of the cases were detected through developmental screening by community level healthcare professionals. Majority of the parents showed a good attitude towards disability (62.7%) and were aware of health and social services available for their children. Most services were used regularly except for occupational therapy, psychological therapy, funds/grants and parent support. Higher parental educational status ( $p=0.000$ ), high monthly income ( $p=0.014$ ), being employed ( $p=0.005$ ) and the child being currently schooled ( $p=0.081$ ) were significantly associated with better parental awareness. High monthly income ( $p=0.026$ ), and caregiver being female ( $p=0.001$ ) were associated with satisfactory parental attitude towards disability.

**Conclusion and recommendations:** Despite high parental awareness and favourable attitudes, early detection of disabilities is not satisfactory at primary care level. Limited use of selected services was observed. Addressing gaps in awareness can enhance early detection and encourage families to seek the necessary care.

**Keywords:** Parental awareness, patterns of detection, parental attitudes, utilization of services, childhood disability

## Poster Presentations: Undergraduate Category

### SPP 07

#### Foot care behaviour among patients with diabetes mellitus attending diabetes or medical clinics in National Hospital Galle

Kavirathna JRM<sup>1</sup>, Akmeemana AOMPH<sup>1</sup>, Aluthge RT<sup>1</sup>, Kolambage ALI<sup>1</sup>, Amarasekara AHS<sup>1</sup>, Amarathunga MKTC<sup>1</sup>, Liyanage A<sup>2</sup>

1. 43rd Batch, Faculty of Medicine, University of Ruhuna
2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna

\*Corresponding author: rusika5644@umed.ruh.ac.lk

**Background:** Effective foot-care behaviour is crucial for patients with diabetes to prevent complications such as diabetes foot ulcers, gangrene, and amputations. To effectively implement foot-care behaviour of the patients, it is important to assess their current practices and knowledge on it.

**Objectives:** This study was carried out to evaluate foot care behaviour among patients with diabetes mellitus attending diabetes and medical clinics in National Hospital Galle (NHG).

**Methodology:** A cross-sectional study was conducted among 276 patients with diabetes mellitus attending diabetes and medical clinics at National Hospital Galle. According to the frequency of different foot care behaviour, a score was given. The final score and its mean were calculated at the end. Participants with a total score above the mean were considered patients with satisfactory foot care behaviors and vice versa. A score was given according to their knowledge. The final score and its mean were calculated at the end. Participants with a total score above the mean were considered patients with satisfactory knowledge on diabetes foot disease and vice versa. The visible foot complications such as blisters, diabetes foot ulcers, abscesses, etc during the last three months, and different sensations including burning sensation, numbness, pins and needle sensation and loss of sensation in the foot during the last two weeks were considered as foot complications. Previous amputations due to diabetes mellitus were taken as another major foot complication. Data were obtained through an interviewer-administered questionnaire and analyzed using SPSS version 26.0.

**Results:** Of 276 patients, the mean ( $\pm$  SD) age was 58 ( $\pm$ 11) years and 59.2% were males. A majority (54.37%) of the participants had satisfactory knowledge on diabetic foot disease while most (55.72%) of the participants had unsatisfactory foot care behaviour. More than half (55.26%) of patients had low complications. The most common foot complication was callus (27.5%) with 30 (10.9%) amputations. Satisfactory foot care behaviour was associated with male gender ( $p=0.001$ ), education only up to secondary education ( $p=0.001$ ), low social class ( $p=0.006$ ), mean blood sugar levels above 140 mg/dl ( $p=0.006$ ) and satisfactory knowledge on diabetes foot disease ( $p=0$ )

**Conclusions and recommendations:** The association between satisfactory knowledge on foot diseases and better foot care behaviour was statistically significant. Patients with higher education and higher social status pay less attention on their foot care behaviour practices probably because of their busy lifestyle and patients with high blood sugar levels pay more attention on foot care behaviors. Emphasizing proper foot care behaviour in clinical and community settings is essential to prevent complications. Further research is needed to explore the barriers to effective foot care practices in this vulnerable population.

**Keywords:** Diabetes mellitus, complications, foot care behaviour, knowledge

## Poster Presentations: Undergraduate Category

### SPP 08

#### **Knowledge, attitudes, practices on stoma care and quality of life among patients with enteral stoma attending National Hospital Galle**

Weeramunda NKG<sup>\*1</sup>, Wellala MDW<sup>1</sup>, Wickramanayake WTRM<sup>1</sup>, Gamage DJ<sup>1</sup>,  
Weerasooriya WMNK<sup>1</sup>, Weerawansha HMPS<sup>1</sup>, Weerawansha WDMS<sup>1</sup>, Alwis G<sup>2</sup>

1. 43<sup>rd</sup> Batch, Faculty of Medicine,

2. Department of Anatomy, Faculty of Medicine, University of Ruhuna,

\* nipun5869@umed.ruh.ac.lk

**Background:** The creation of enteral stoma significantly affects the patients' life causing burden to the patient, family, health sector and economy of the country. Identification of individual's knowledge, attitudes and practices on stoma care facilitate a better pathway to improve their health status.

**Objectives:** To assess knowledge, attitudes, practices, quality of life (QOL) and factors associated with stoma care among patients with stoma bags attending the National Hospital Galle (NHG).

**Methodology:** A descriptive cross-sectional study was conducted among enteral ostomates attending oncology clinics and wards of NHG for four months using an interviewer-administered questionnaire adapted from two validated research after modifications to matching with Sri Lankan context. The questionnaire retrieved patients' information on demographic status, knowledge, attitudes, practices and QOL indicators, mainly diet, clothing, occupation and depression. Attitude score was obtained and analyzed dividing them into physical, psychological, social and spiritual subscales.

**Results:** There were 63 (56.3%) males, 95 colostomies and 17 ileostomies. The stoma care knowledge was 64.5%. The mean attitude score of having a stoma was  $4.79 \pm 0.78$  out of 10. Highest score was taken by physical wellbeing subscale ( $5.36 \pm 1.62$ ) while lowest score by social wellbeing subscale ( $4.24 \pm 1.05$ ). The mean self-care efficacy was  $46.26 \pm 9.44$  (out of 65). 61.6% of patients had changed their dietary style due to stoma. After the surgery, 35% of patients resumed sexual activity. Location of stoma, depression, change in diet for flatus passing issues and change in clothing style had significant effects on overall attitude and its subscales ( $P < 0.05$ ).

**Conclusion:** Knowledge and practices among ostomates attending NHG are satisfactory. Relatively poor attitudes highlight the need of strong patient counselling in order to improve QOL.

**Key words:** knowledge, attitude, practices, Quality of life, stoma

## Poster Presentations: Undergraduate Category

### SPP 09

#### **Prevalence and Severity of Nomophobia (NO Mobile PHOne phoBIA) and its Associated Factors among Undergraduate Students of the University of Ruhuna (UoR), Sri Lanka**

Sakunthala LAAK<sup>1\*</sup>, Salgado MGI<sup>1</sup>, Jayathissa KSN<sup>1</sup>, Samadhi DLR<sup>1</sup>, Samaranyake PDVN<sup>1</sup>, Samarasinghe DS<sup>1</sup>, Yahathugoda TC<sup>2</sup>, De Silva NL<sup>2</sup>

1. 43rd Batch, Faculty of Medicine, University of Ruhuna

2. Department of Parasitology, Faculty of Medicine, University of Ruhuna

\*Corresponding author: kavindi5803@umed.ruh.ac.lk

**Background:** The modern world individuals are heavily relying on mobile phones, but excessive usage can lead to nomophobia—a pathological fear or anxiety of losing mobile connectivity. Driven by excessive smartphone reliance, it is particularly relevant among the University students who face unique academic and social pressures.

**Objectives:** To assess the prevalence and severity of nomophobia and its associated factors among undergraduate students of UoR, Sri Lanka.

**Methodology:** A descriptive cross-sectional study was conducted among 504 undergraduates at the UoR. The prevalence and severity of nomophobia were assessed using a linguistically validated Nomophobia Questionnaire (NMP-Q). Data were collected via a Google Form<sup>®</sup>, which included demographic details and the NMP-Q (in Sinhala, English & Tamil). It was distributed through WhatsApp<sup>®</sup> to students across all faculties and academic years of UoR. Student contact information was obtained through the Senior Assistant Registrar. Data analysis was performed using SPSS v.25, applying descriptive statistics and chi-square/Fisher's exact tests, with  $p < 0.05$  as the significance level.

**Results:** The prevalence of nomophobia (any degree) was 100% among UoR undergraduates. Based on the NMP-Q which categorizes nomophobia into 4 degrees, 15.9% of students had severe nomophobia, 53.6% moderate, and 30.6% mild. Significant associations were found between nomophobia and over 2 hours of daily mobile use ( $p=0.011$ ) and female gender ( $p=0.046$ ). Factors such as age, academic year, faculty, distance from hometown to the faculty, mobile usage duration, romantic relationships, and family size showed no significant effect on nomophobia.

**Conclusions and Recommendations:** This study found that all UoR undergraduates exhibited some level of nomophobia, with nearly 70% experiencing moderate to severe levels. This highlights a high dependency on mobile phones, potentially impacting academic and personal well-being. Interventions like awareness campaigns, counselling, promoting healthy mobile usage, and further research are recommended.

**Keywords:** Prevalence, severity, nomophobia, undergraduate, NMP-Q

## Poster Presentations: Undergraduate Category

### SPP 10

#### Depressive symptomatology, suicidal ideation and help-seeking behaviour among junior medical undergraduates in a Southern University in Sri Lanka

Abeyesundara PS<sup>1\*</sup>, Kulasinghe KBMS<sup>1</sup>, Amnah MNF<sup>1</sup>, Liyanage D<sup>1</sup>, Anuththara SMT<sup>1</sup>, Apsara MGN<sup>1</sup>, Perera B<sup>2</sup>

1. 43<sup>rd</sup> Batch, Faculty of Medicine
2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna.

\*Corresponding author: [pasan5655@umed.ruh.ac.lk](mailto:pasan5655@umed.ruh.ac.lk)

**Background:** Numerous stresses that are associated with medical education make many medical undergraduates susceptible to suffer psychological problems including depression and suicidal ideation. Student support services should be equipped with evidence-based mental health services to needy students for effective and sustainable outcomes.

**Objective:** To determine the prevalence and associated factors of depressive symptomatology and suicidal ideation among medical undergraduates at University of Ruhuna and their usage of student support services.

**Methodology:** A descriptive cross-sectional study was conducted using a convenient sample of 246 (Female 61.7%) medical undergraduates in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year using a Google form to obtain data. The Centre for Epidemiological Studies – Depression scale (CES-D) (Cut-Off Value = 16), validated in Sri Lanka, was used to assess depressive symptomatology. Data analysis was done using Microsoft Excel and SPSS version 26. Chi-square test was used to assess associations and significance level was considered as 0.05.

**Results:** Prevalence of elevated depressive symptomatology & suicidal ideation were 58.5% and 11.7% for males and 64.5% and 10.5% for females respectively. Talking to others (92.3%) and off to bed (89.8%) were the common coping mechanisms reported by the participants with elevated depressive symptoms. Those with elevated depressive symptoms only 20.3% had utilized students support services available in the faculty. Family conflicts (5.7%), economic problems (50.8%) and English language barriers (49.7%) were the most prominent stressors. Economic problems ( $p = 0.035$ ) and English language barriers ( $p = 0.003$ ) were significantly associated with elevated depressive symptomatology. Family conflicts ( $p = 0.007$ ) were significantly associated with suicidal ideation.

**Conclusion:** Depressive symptomatology and suicidal ideation are more prevalent among female medical students. The utilization of student support services was unsatisfactory. Student mentors should be educated and trained to identify vulnerable students and do the needful to lessen their stressors. User-friendly support services are needed to attract and support vulnerable students.

**Keywords:** Depressive Symptomatology, Suicidal Ideation, CES – D, University of Ruhuna, Medical Students, Sri Lanka

## Poster Presentations: Undergraduate Category

### SPP 11

#### **Pain severity and Pain management of inward cancer patients in the Oncology Unit of Teaching Hospital, Karapitiya**

Eranda Lakshika HG<sup>1</sup>, Jayarathna KDDRS<sup>1</sup>, Karunaratne KVCJ<sup>1\*</sup>, Athukorala DADN<sup>1</sup>, Senaratne WAMN<sup>1</sup>, Aaqil AHS<sup>1</sup>, Ellawala EHSM<sup>1</sup>, G Piyasiri<sup>1</sup>, T Ponnampereuma<sup>2</sup>

1. 43<sup>rd</sup> batch, Faculty of Medicine, University of Ruhuna
2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna

\*Corresponding author: chan5899@u med.ruh.ac.lk

**Background:** Pain is a common and debilitating symptom in cancer patients, yet research on the severity of pain and the effectiveness of pain management strategies for hospitalized cancer patients remains limited in Sri Lanka.

**Objectives:** To describe pain severity, pharmacological pain relief methods, non-pharmacological pain relief techniques, and the factors associated with pain severity among patients treated at oncology unit.

**Methodology:** A cross-sectional study was conducted among conveniently selected sample of inward cancer patients treated at the Oncology Unit of Teaching Hospital, Karapitiya. Data on pain management and pain severity were obtained by a self-administered questionnaire. Pain severity was assessed using numerical pain scale.

**Results:** There were 392 patients with a mean age of 60.74 (SD  $\pm$ 11.516). A majority (86%) was experiencing pain. Among them, 47.45% were experiencing mild pain while 27.3%, 25.26% were experiencing moderate and severe pain respectively. The most frequently used pharmacological pain-relieving medication was paracetamol (PCM) (85.2%), followed by Ibuprofen, Celecoxib and Fentanyl. Non-pharmacological methods were not used by 65% of the patients. Among them meditation was the commonly practised method (17.9%). The pain severity was significantly associated with gender, where males experienced more pain than females ( $p=0.03$ ). The pain severity had no association with age ( $p=0.087$ ), educational level ( $p=0.104$ ), and socio-economic status ( $p=0.168$ ).

**Conclusion:** The study revealed that a significant number of cancer patients experience pain, underscoring the importance of regular monitoring of pain levels using standardized pain scales. While many patients relied on pharmacological methods for pain relief, some also utilized non-pharmacological approaches, highlighting the need for an integrated pain management strategy.

**Keywords:** Pain severity, Pharmacological pain relief method, non-pharmacological pain relief methods

## Poster Presentations: Undergraduate Category

### SPP 12

#### **Knowledge, attitude and experience towards menopause among menopausal women, in selected Public Health Midwife areas in Bope-Poddala Medical Officer of Health area.**

Shamla MFF<sup>1\*</sup>, Sandaruwan KKWN<sup>1</sup>, Silva TPV<sup>1</sup>, Sirisinghe WNM<sup>1</sup>, Sirithunga JGDN<sup>1</sup>, Senevirathna VI<sup>1</sup>, Rajakaruna VPC<sup>2</sup>

<sup>1</sup>43<sup>rd</sup> Batch, Faculty of Medicine, University of Ruhuna.

<sup>2</sup>Department of Community Medicine, Faculty of Medicine, University of Ruhuna.

\*Corresponding Author: shamla2223544@gmail.com

**Background:** Menopause is a physiological phenomenon of aging, occurring in women between 45-55 years of age, manifested as cessation of menstruation, without definitive pathological or physiological causes, due to attenuated ovarian follicular activity. The mean age of menopause in Sri Lankan women is around 51 years. Hormonal transition during this period, pose a threat to physical and mental functioning comprising overall health of women.

**Objective:** In this study, we intended to assess knowledge, attitude and experience towards menopause, among menopausal women in selected Public Health Midwife areas in Bope-Poddala Medical Officer of Health area.

**Methodology:** A Descriptive cross-sectional study was carried out among 152 menopausal women, between the ages of 45-60, who confirmed that they did not have a menstrual period for at least a full year, in selected Public Health Midwife areas in Bope-Poddala Medical Officer of Health area. We obtained a 100% response rate, employing convenience sampling method and a pretested, interviewer administered questionnaire.

**Results:** Majority of the population (55.3%, n=84) were in between 55-60 years age group and 43.4% (n=66) have completed A/Ls. Although most of the participants (84.9%) were aware of the term “Menopause”, 67.1% (n=102) of them exhibited insufficient knowledge, distinctively pertaining to the definition, hormonal changes and duration of menopausal symptoms. Education and occupational status were favorably associated with knowledge towards menopause (p<0.05). Positive attitude towards menopause was ubiquitous among 59.2% (n=90) of the population, had a significant association with the marital status (p<0.05). The prevalence of having at least one menopausal symptom was high (92.1% n=140), where 58.6% (n=89) had less than half of the symptoms. Joint and muscle discomfort (74.3%) was the most experienced symptom. Due to menopause, most of them (59.2%) had problems with concentration in day-to-day life. High incidence of symptoms was observed among individuals who were employed and having non-healthy BMI.

**Conclusion:** Regardless of positive attitude, considerable discrepancies in knowledge towards menopause prevail. Health education is essential to enhance the knowledge and to mitigate the influence of menopause on quality of life.

**Key words:** knowledge, attitude, symptoms, menopause



## Poster Presentations: Undergraduate Category

### SPP 13

#### Parental awareness of food allergies in Pediatric ward admissions at National Hospital Galle

Dharmathilaka P.A.S.G<sup>1</sup>, Dilshara L.G.S<sup>1</sup>, Dinithi L.B.D<sup>1</sup>, Manuppriya S.A.I<sup>1</sup>, Dissanayake G.N.G.K<sup>1\*</sup>, Dissanayake P.H.W<sup>1</sup>, Liyanarachchi N.D.<sup>2</sup>

1. *Medical Undergraduates, 43<sup>rd</sup> Batch, Faculty of Medicine, University of Ruhuna.*
2. *Department of Pediatrics, Faculty of Medicine, University of Ruhuna.*

\*Corresponding author: nethmi5693@umed.ruh.ac.lk

**Background:** Food allergies significantly affect the daily lives of children, impacting their mental, physical, and social well-being. There is limited research in Sri Lanka regarding parents' knowledge of food allergies, and the influence of factors such as gender, education, and social background.

**Objective:** This study aimed to describe the knowledge of food allergies among parents of children admitted to the pediatric wards at National Hospital Galle.

**Methodology:** A descriptive cross-sectional study was conducted among 413 parents of children admitted to the pediatric wards at National Hospital Galle. Data was obtained through an interviewer-based questionnaire and analyzed using SPSS and Microsoft Excel. The knowledge level was assessed using scoring: below-average (<50%), average (50%-60%), above-average (60%-70%) and excellent (>70%). The descriptive data was presented as frequencies and proportions. The chi-squared test was used to assess the association between the dependent and the independent variables.

**Results:** Most parents were females (78.7%) and married (94.9%). Thirty-nine percent had completed their A/L education, and a significant proportion reported a monthly income of Rs. 25,000-50,000 (36.6%). Their primary source of food allergy information was through others (78.9%). Urticarial rash and itching were identified as the most common symptoms of food allergies in children (92.3%). Pineapple emerged as the most frequently known allergenic food item among the parents (85.4%). The Majority knew about food allergies (98.5%). The majority didn't know how to manage and treat food allergies at home (69.7%). Only 36.6% of parents demonstrated an above-average level of knowledge about food allergies. Better knowledge levels were significantly associated with predominantly female gender ( $p=0.011$ ), higher educational status ( $p=0.002$ ), and higher monthly income ( $p=0.019$ ).

**Conclusions:** While most parents had knowledge about food allergies, their understanding of management and treatment options was lacking. This highlights the need for targeted education on emergency responses and common allergy triggers.

**Keywords:** Parental awareness, Food allergy, Knowledge, National Hospital Galle

## Poster Presentations: Undergraduate Category

### SPP 14

#### Accessibility, availability and affordability of healthy foods among the adults residing in Bope-Poddala Medical Officer of Health Area

Chamarindu KPV<sup>1</sup>, Sirimalwaththa SMN<sup>1\*</sup>, Gnanarathna GRP<sup>1</sup>, Gunarathna KGCL<sup>1</sup>, Gunasekara MBPM<sup>1</sup>, Ranepura RIBP<sup>1</sup>, Kulathunga PARI<sup>2</sup>

1. Medical undergraduates, 43<sup>rd</sup> batch, Faculty of Medicine, University of Ruhuna,
2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna

\*Corresponding author: [nilhan5712@umed.ruh.ac.lk](mailto:nilhan5712@umed.ruh.ac.lk)

**Background:** Food environment, access to healthy food, availability and affordability of nutritious foods influence food consumption patterns and nutritional status in adults.

**Objective:** This study was carried out to assess the accessibility, availability and affordability of healthy foods among the adults residing in the Bope-Poddala Medical Officer of Health (MOH) area.

**Methodology:** A descriptive cross-sectional study was conducted among a conveniently selected sample of 344 adults residing in Bope-Poddala MOH area. A judgmentally validated, pre-tested, interviewer administered questionnaire was used to assess the accessibility, availability and affordability of healthy food options. Data were analyzed using SPSS 26<sup>th</sup> Version 1 software. Descriptive statistics were used in data analysis.

**Results:** The mean age (SD) of the participants was 43.7 (13.5) years. Majority were females (55.8%), Sinhalese (95.6%) and Buddhists (91.9%).

Identified food sources of the residents were groceries (26.7%), fairs (16.9%), own garden (15.3%), supermarkets (14.7%) and bakeries (12.4%). According to the majority of participants perception healthy food such as fresh fruits, vegetables, rice, fish and meat were available (57.6%) and fast foods like bakery products, deep fried food, instant noodles, carbonated drinks and junk food were readily available (54.7%) in the area. Majority resided at a distance less than 500m from healthy food sources (56.4%) and fast-food sources (50.8%).

Majority (48.2%) found it difficult to afford healthy food options. Over 41% received food subsidies. High price and low income were the commonly reported barriers affecting affordability of healthy foods.

**Conclusion:** Based on our research, food affordability and geographic accessibility significantly influence nutritional status, food availability and economic accessibility do not appear to have the same effect.

**Keywords:** Accessibility, adults, affordability, availability, Bope Poddala

## Poster Presentations: Undergraduate Category

### SPP 15

#### **Patient-practitioner orientation and patient satisfaction on health care services received by patients with non-communicable diseases attending medical clinics in a Primary Care Hospital, Galle**

De Zoysa DMKM<sup>1</sup>, Mohotti SCH<sup>1</sup>, Dewandi MGA<sup>1</sup>, Dharani TAT<sup>1\*</sup>, Bandara LDC<sup>1</sup>, Mihiran KRL<sup>1</sup>, De Silva BVS<sup>2</sup>

1. *Faculty of Medicine, University of Ruhuna,*

2. *Department of Community Medicine, Faculty of Medicine, University of Ruhuna*

\*Corresponding author-thiloka5685@umed.ruh.ac.lk

**Background:** Patient satisfaction and patient-practitioner orientation play a major role in establishing a good doctor-patient relationship and help to improve compliance and adherence to treatment and follow-up of patients with non-communicable diseases (NCDs).

**Objectives:** To assess patient-practitioner orientation and patient satisfaction with health care services received by patients with NCDs attending medical clinics at Divisional Hospital Baddegama, Galle.

**Methodology:** A descriptive cross-sectional study was carried out among 420 patients with NCDs attending medical clinics in Divisional Hospital Baddegama. Patients with psychiatric illness were excluded. A self-administered questionnaire created by the investigators was used to assess patient satisfaction. Patient orientation was assessed with the validated Sinhala version of the Patient Practitioner Orientation Scale. Data was analyzed with Chi-square test using SPSS version 27.

**Results:** The mean age of the patients attending clinics was 65 years. The majority of the clinic attendees were females (63.8%), unemployed (76.2%), and married (78.8%). Most of the patients were satisfied with the healthcare services they received (71%) and 80.7% believed that the care is patient centered. Distance to the hospital ( $p=0.014$ ), waiting time for consultation ( $p=0.026$ ), staff punctuality ( $p=0.038$ ), use of harsh words by attendants ( $p=0.000$ ), availability of drinking water ( $p=0.009$ ), and availability of all medicine at the pharmacy ( $p=0.021$ ) showed a significant association with patient satisfaction. The presence of Bronchial asthma ( $p=0.011$ ) and a lesser consultation duration ( $p=0.007$ ) were significantly associated with practitioner-oriented care. A weak negative correlation ( $r=-0.025$ ) was observed between patient satisfaction and patient-practitioner orientation which was not statistically significant ( $p=0.614$ ).

**Conclusions:** The majority of patients with non-communicable diseases attending medical clinics were satisfied with the service and found it to be more patient oriented. Better access to medical care and the availability of essential medications were significantly associated with higher levels of patient satisfaction. Thus, it is recommended to improve clinic services and infrastructure at the primary care centers. Further, training healthcare personnel to provide patient-centered care and to maintain a good attitude toward patients will enhance a better continuum of care.

**Key words:** Patient satisfaction, Patient-practitioner orientation, Patient-centeredness, Primary care, divisional hospital.

**Acknowledgement:** The authors would like to acknowledge Prof. Rasnayake M. Mudiyanse for granting permission to use the validated Sinhala version of the Patient Practitioner Orientation Scale for the study.

## Poster Presentations: Undergraduate Category

### SPP 16

#### Assessment of distress and associated factors among cancer patients followed up at Oncology Unit, Teaching Hospital Karapitiya

Sobana RD<sup>1</sup>, Somarathna RDRD<sup>1</sup>, Hansaja WAD<sup>1</sup>, Subasinghe SMIS<sup>1\*</sup>, Sudarshanie BU<sup>1</sup>, Thamalka JGD<sup>1</sup>, Darshana ILAN<sup>2</sup>.

1. 43<sup>rd</sup> batch, Faculty of Medicine, University of Ruhuna
2. Dept. of Community Medicine, Faculty of Medicine, University of Ruhuna

\*Corresponding author: sachitra5842@umed.ruh.ac.lk

**Background:** Distress in cancer patients may be triggered by the diagnosis, symptoms, treatment or complications of cancer. It significantly affects quality of life, treatment compliance, and treatment outcomes. Identification of distress-associated factors will ensure optimal care for patients.

**Objective:** To assess the distress and associated factors among cancer patients followed up at the Oncology unit, Teaching hospital Karapitiya.

**Methodology:** A cross-sectional study was carried out among a convenient sample of 389 cancer patients followed up at Oncology Unit, Teaching Hospital Karapitiya. Data were obtained through an interviewer-administered questionnaire. Distress was assessed using the Edmonton Symptom Assessment Symptom (ESAS) by scoring nine symptoms from zero to ten. Patients scoring at least one symptom a seven or more were considered as distressed. Chi-square test was used to identify factors associated with distress at 0.05 significance level.

**Results:** The mean (SD) age of the sample was 56.8 (13.7) years. Out of the total sample, 54.8% (n=213) were males. Breast cancer (n=101, 26.0%) was the commonest cancer in the sample. The remaining participants had colorectal cancer (n=40, 10.3%), oral cancer (n=40, 10.3%), lung cancer (n=32, 8.2%), thyroid cancer (n=26, 6.9%), oesophageal cancer (n=22, 5.7%) and other cancers (n=128, 32.9%). The majority (n=278, 71.5%) of the participants were identified to be in distress. Lack of appetite was the most common symptom (n=146, 37.5%) rated seven or more on the ESAS by the participants. Depression (n=132, 33.9%), poor wellbeing (n=127, 32.6%) and anxiety (n=119, 30.6%) were also rated seven or more by significant proportion. Sinhala ethnicity (p=0.016), low income (p=0.002), currently receiving treatment (p=0.011), needing caregivers (p=0.001), having financial issues (p=0.000), having relationship issues (p=0.005), and having social problems (p=0.012) were found to be associated with higher levels of distress.

**Conclusion:** A majority of cancer patients suffer from distress which is associated with several socio-demographic, patient and disease related factors. The study recommends psychological support to be integrated into routine cancer care.

**Keywords:** Cancer patients, Distress, Edmonton Symptom Assessment System (ESAS), Sri Lanka

## Poster Presentations: Undergraduate Category

### SPP 17

#### The awareness and practices of the teachers in Galle educational division in creating Health Promoting Schools

Arshad UM<sup>1</sup>, Muthukumarana HTSV<sup>1</sup>, De Silva DWM<sup>1</sup>, De Silva MRV<sup>1</sup>, Nawagamuwa CW<sup>1</sup>, De Silva SASA<sup>1\*</sup>, De Silva J<sup>2</sup>

1. 43<sup>rd</sup> batch, Faculty of Medicine, University of Ruhuna
2. Department of community medicine, Faculty of Medicine, University of Ruhuna

\*Corresponding author: seneli5682@umed.ruh.ac.lk

**Background:** Teachers play a key role in promoting the health and development of school children other than education. The concept of health promoting schools (HPS) is a globally accepted concept.

**Objective:** To describe the awareness and practices of teachers in creating HPS in the Galle educational division.

**Methodology:** A cross-sectional study was conducted among 309 teachers in the schools of the Galle educational division. Data were obtained through a self-administered questionnaire and were analyzed using SPSS version 26.0. A scoring system and chi square test were used for the analysis. Teachers who were teaching in grades 1,4,7,10 in schools in Galle educational division were included and Teachers who had less than 6 months experience in teaching were excluded. The questionnaire was pretested prior to the data collection. Ethical approval to conduct the study was obtained from the Ethical Review Committee of the Faculty of Medicine, University of Ruhuna.

**Results:** The majority of the teachers were >40 years of age (n=170, 55%), females (n=247, 79.9%) and Sinhalese (n=265, 85.5%). The mean percentage score on awareness of teachers on HPS was 78.27%. The awareness of HPS among teachers was significantly associated with the type of school they are working, and gender ( $p<0.05$ ) while there was no significant association with the other socio-demographics. The majority of the teachers had the challenge of inadequate knowledge of HPS concept (n=191, 61.8%), not having adequate time to engage in health-promoting activities (n=173, 56%) and not having a well-defined guideline to manage the students with the health-promoting school concept (n=150, 48.5%).

**Conclusion:** The majority of the teachers in Galle educational division are found to have a satisfactory awareness on HPS (87.7%), hence taking measures to improve awareness on HPS among teachers would help to uplift the health status of the schools as health promoting centers.

**Keywords:** Health promoting schools, teachers, Galle educational division, awareness, practices

## Poster Presentations: Undergraduate Category

### SPP 18

#### Receipt of preconception care package among primipara admitted to antenatal wards at Teaching Hospital Mahamodara

Bandara W.M.D.J.<sup>1</sup>, Wickrama W.B.D.S.<sup>1</sup>, Fernando B.I.D.<sup>1\*</sup>, Gajanayake P.M.T.<sup>1</sup>, Gamage P.U.K.<sup>1</sup>, Gamage R.H.S.K.<sup>1</sup>, De Silva K.K.W.J.C.<sup>2</sup>

1. Medical undergraduates, 43<sup>rd</sup> batch, Faculty of Medicine, University of Ruhuna
2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna

\*Corresponding author: imesha5705@umed.ruh.ac.lk

**Background:** Preconception care (PCC) is essential for the optimization of the health status of both partners before pregnancy. Preconception Care Package (PCCP) was developed in Sri Lanka in 2012 under RMNAYCH (Reproductive, Maternal, Newborn, Child, Adolescent, and Youth Health) Program.

**Objective:** This study was executed to assess the awareness and receipt of the services of PCCP by primipara admitted to antenatal wards at Teaching Hospital Mahamodara (THM).

**Methodology:** A cross-sectional study was carried out with a convenient sample of 416 primipara admitted to antenatal wards of THM. Data was obtained through an interviewer-administered questionnaire and analyzed using SPSS version 25.0. A scoring system was used to assess the awareness of the PCCP. Descriptive statistics were used to assess the data sources and receipt of the services of PCCP. X<sup>2</sup> analysis were used to assess the factors associated with awareness and receipt of PCCP. P<0.05 was considered as the significance level.

**Results:** The majority were Sinhalese (n=399, 95.9%). Mean age was 28 years (SD=+5.312). According to the assessment of awareness of PCCP, 57.9% of the study population had a satisfactory awareness. Out of the primipara who were aware on PCCP, the majority had obtained information from Public Health Midwives (n=266, 87.5%). Age (p=0.000), ethnicity (p=0.037), religion (p=0.005) was associated with awareness on PCCP. Considering the receipt of services of PCCP, receipt of invitation card was 37%, receipt of preconception screening tool was 62% and receipt of the booklet was 33%.

**Conclusions:** The awareness and receipt of PCCP among the mothers at THM were moderate. Strengthening of programs to increase awareness and receipt of PCCP should be considered.

**Keywords:** Preconception care package, Preconception care, awareness, receipt, Teaching Hospital Mahamodara.

## Poster Presentations: Undergraduate Category

### SPP 19

#### **Disease severity and antibiotic prophylaxis usage among leptospirosis patients admitted to National Hospital Galle**

Kalansooriya TP<sup>1\*</sup>, Jayawickrama JAML<sup>1</sup>, De Silva GWLR<sup>1</sup>, Jayawardana HGMSS<sup>1</sup>, Jayawardana MMHM<sup>1</sup>, Jayawardana NWLAAN<sup>1</sup> Chandana GJ<sup>2</sup>

*1 Faculty of Medicine, University of Ruhuna*

*2 Department of Community Medicine, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: tharushi5738@umed.ruh.ac.lk

**Background:** Leptospirosis is a zoonotic infection caused by *Leptospira interrogans* icterohaemorrhagiae, with possible life-threatening complications. Even Though prophylactic antibiotics are used for disease prevention in Sri Lanka, cases have been reported even after prophylaxis use.

**Objectives:** The study aimed to describe the patterns and associations between antibiotic prophylaxis methods and disease severity in patients managed as leptospirosis at the National Hospital Galle (NHG).

**Methodology:** A descriptive cross-sectional study was conducted among 108 leptospirosis patients admitted to NHG. The study sample included patients aged between 18 and 80, the majority residing in the southern province. Data was collected on demographics, symptoms, and prophylaxis use through a pre-tested, interviewer-administered questionnaire. Severe disease was defined as the occurrence of acute kidney failure, shock managed with vasoactive medications, alveolar haemorrhage, bleeding, respiratory insufficiency, ICU admission or death. Data was analysed via Statistical Package for the Social Sciences software, and the statistical significance of associations was determined using the chi-square test.

**Results:** Of the participants, 96 (88.9%) were males, and 76 (70.4%) were aware of leptospirosis prophylaxis. While 25 (23.15%) had taken the prophylaxis, only 3 (2.78%) had taken it within the recommended time frame. Severe disease was observed in 31(28.70%) cases. Jaundice (58.06%) and Acute kidney injury (AKI) (51.61%) were most prevalent. Disease severity showed statistically significant association with hospital stay ( $P=0.001$ ), the presence of cough ( $p\text{-value} = 0.010$ ), and the absence of rash ( $p\text{-value} = 0.023$ ) as initial symptoms. However, no significant association was observed between disease severity, delayed first medical contact, gender, previous leptospirosis exposure, and comorbidities. There was no significant association between prophylaxis and disease severity.

**Conclusions:** Most patients with leptospirosis had not taken prophylaxis as recommended. Disease severity was not associated with prophylaxis usage. We recommend community studies to assess the effectiveness of prophylaxis antibiotics for leptospirosis prevention.

**Keywords:** leptospirosis prophylaxis, disease severity, prophylaxis effectiveness

## Poster Presentations: Undergraduate Category

### SPP 20

#### Intravenous antibiotic consumption in in-patient care at a tertiary care hospital

Hewage RIY<sup>1</sup>, Vithana ID<sup>1</sup>, Kamalasinghe VA<sup>1</sup>, Adhikari AMDS<sup>1</sup>, Nanediri NADA<sup>1</sup>, Savindya DWS<sup>1</sup>, Bandara WMCH<sup>1</sup>, Gunarathna WKNM<sup>1</sup>, Ranasinghe SS<sup>1</sup>, Dinbara DT<sup>1</sup>, Akashmi D<sup>1</sup>, Wijenayaka DP<sup>2</sup>, Egodage UK<sup>1</sup>, Sinhabahu T<sup>1</sup>, Fonseka CL<sup>1\*</sup>

1. *Faculty of Medicine, University of Ruhuna*

2. *National Hospital, Galle*

\*Corresponding author: lakmalfonseka@med.ruh.ac.lk

**Introduction:** The prolonged or inappropriate use of antibiotics has led to the rise of antibiotic resistance, which is now a major global health issue.

**Objectives:** This study aimed to quantify the intravenous antibiotic consumption in the in-patient care setting at National Hospital Galle to optimize antibiotic prescribing practices.

**Methods:** Retrospective data of antibiotic consumption in Medicine, Surgical, Paediatric and intensive care units, from January to June 2023 were extracted from the Central Drug Stores at National Hospital Galle. Antibiotics were classified under 'Access', 'Watch,' and 'Reserve' according to the 2024 circular of AWaRe classification of antibiotics published by the Ministry of Health. Data on antibiotic consumption and cost were analysed by multiplying the unit cost by the number of doses.

**Results:** Out of the 187217 doses of intravenous antibiotic doses surveyed 'Access' group accounted for 47421 (25.33%) doses; 'Watch' group accounted for 139796 (74.67%) doses. Colistin and levofloxacin were the commonly prescribed reserve group of antibiotics. Flucloxacillin (57.75%), metronidazole (32.75%), and gentamicin (9.00%) were the most commonly used 'access' group antibiotics. Meropenem (66.8%) and piperacillin-tazobactam (15.21%) were the most commonly used 'watch' group antibiotics. The total cost for six months of antibiotics measured was LKR 77,526,063.93. The costliest antibiotic was piperacillin-tazobactam 4.5g, taking 28.20% of the total cost, followed by meropenem 500mg, taking 22.91% of the cost.

**Conclusions:** There was a high use of meropenem in the hospital setting, despite it being in the 'watch' group. Steps should be taken to reduce the usage of carbapenem antibiotics due to the increasing carbapenem resistance and the limited availability of options for carbapenem resistance.

**Keywords:** Antibiotic Surveillance, AWaRe Classification, Antibiotic utilization, Antibiotic prescribing practices



## Poster Presentations: Undergraduate Category

### SPP 21

#### Effects of on-going economic crisis on nutritional status of older adults in Bope-Poddala Medical Officer of Health area

*Sumanasekera PN<sup>1</sup>, Handunhewa JN<sup>1\*</sup>, Harshika BWK<sup>1</sup>, Imalka YBU<sup>1</sup>, Jayasinghe JMTM<sup>1</sup>, Wathukarawaththa VT<sup>1</sup>, Samarakoon SMCN<sup>1</sup>, Perera B<sup>2</sup>*

1. 43<sup>rd</sup> Batch of Students, Faculty of Medicine, University of Ruhuna, Galle.
2. Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Galle.

\*Corresponding author: nethadi5931@umed.ruh.ac.lk

**Background:** Older adults in Sri Lanka are an economically vulnerable group and economic crisis poses an increased malnutrition risk for them. Proper nutrition is crucial for maintaining health, preventing diseases, and improving quality of life. The Sri Lankan Government declared an economic crisis in the country in 2021. So, it is important to focus on how the nutritional status of older adults has been changed over this period.

**Objectives:** To describe the current nutritional status of older adults over 60 years of age in Bope-Poddala Medical Officer of Health (MOH) area, Galle and assess the effect of 2021 economic crisis on their food purchasing power.

**Methodology:** A cross-sectional study was conducted among 323 adults older than 60 years in Bope-Poddala MOH division, Galle. Data were obtained through an interviewer-administered questionnaire and analysed using SPSS. The nutritional status of the participants was gathered using Mini Nutritional Assessment (MNA) which has been validated in Sri Lanka. Food purchasing power of the people was assessed by 20 questions of the questionnaire prepared by the research team.

**Results:** The MNA showed that 4.3% elderly were undernourished and 33.4% were at risk of undernutrition at present. Due to ongoing economic crisis started in 2021, food purchasing power has been decreased jeopardizing their nutritional status. Shortage and price increase in food items, loss of income and problems in getting grants are the main reasons for the low purchasing power they have experienced.

**Conclusion:** The economic crisis resulted in lowering of food purchasing power of older adults in Bope-Poddala MOH division that would probably negatively affect their nutritional status. Research findings will provide information to authorities do necessary interventions to overcome undernutrition and to support purchasing power of older adults.

**Key words** - Economic crisis, Nutritional status, older adults, Mini Nutritional Assessment

## Poster Presentations: Undergraduate Category

### SPP 22

#### **Purchasing pattern of antibiotics, oral hypoglycemic and antihypertensive drugs in community pharmacies in a selected rural area in Matara district**

H N W Malawalaarchchi<sup>1</sup>, M Kommalage<sup>2\*</sup>

1. *Nursing study program, Faculty of Allied health,*

2. *Department of Physiology, Faculty of Medicine, University of Ruhuna*

\*Corresponding author: mahinda1@gmail.com

**Background:** The inappropriate use of medicinal drugs could have serious implications. Only Schedule I and IIA are considered as over-the-counter drugs and all other drugs are prescription-only medicine (POM). Even though regulations have been established to prevent medicinal drug misuse when purchasing, the purchase of POM without a prescription is a common occurrence in community pharmacies.

**Objective:** The study aimed to assess the behavior of the customers in purchasing medications in community pharmacies.

**Methods:** A descriptive cross-sectional study was conducted by observing the medication purchasing behavior of 422 customers who purchased medicines in community pharmacies in a rural area in Matara district. Data were collected using a data collection table by observing the customers and their prescriptions when available.

**Results:** From total drug purchases, 79.4% were made without prescriptions. Antibiotics and drugs for chronic conditions were among the commonly bought drugs without prescriptions. 65.06% of antibiotic purchases were made without a prescription. Similarly, 59.5% and 65.9% of oral hypoglycemic drugs and antihypertensive drugs were purchased without prescriptions. 60.9% of customers purchased only part of medicine from the list in the prescription.

**Conclusions:** The study found a concerning trend of purchasing POMs such as antibiotics and drugs used for hypertension and diabetes without a prescription. This can lead to many adverse health outcomes such as antibiotic resistance and poor control of chronic diseases. The study highlights the need of public education on safe medicinal use, prescription adherence, stricter enforcement of regulations, and improved access to affordable healthcare services.

**Keywords:** Prescription adherence, drug purchase, community pharmacy, purchase of antibiotics

## Poster Presentations: Undergraduate Category

### SPP 23

#### Practices of seeking health information from online sources among school teachers in Galle educational zone of southern Sri Lanka

Hansika KBD<sup>1\*</sup>, Abeygunasekara T<sup>1</sup>, Chandrasiri A<sup>2</sup>

1. *Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna*

2. *Department of Health Services, Southern province*

\*Corresponding author: [hansika2019601@uahs.ruh.ac.lk](mailto:hansika2019601@uahs.ruh.ac.lk)

**Background:** Teachers can encourage better health practices among children and their families by spreading correct health information to prominent community members. This may lead to better public health outcomes. Therefore, knowing how school teachers use online sources to find health-related information is vital.

**Objectives:** This study aimed to assess practices of seeking health information from online sources among school teachers in the Galle educational zone of Southern Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among school teachers using a stratified cluster randomized sampling method in the Galle educational zone. Data were collected using a self-administered questionnaire. The association was assessed using chi-squared test to determine contributing factors for seeking health information via online sources.

**Results:** The study included 422 school teachers. The majority were females (n=334) and the mean age was 42.9 (SD±9.9) years. A significant number of teachers (89.1%) were seeking health information from online sources. The majority of the respondents were seeking health information when their family member was ill (66.4%). Other reasons for seeking health information were personal hygiene measures (60.9%), children's physical health issues (58.8%), and mental health-related topics (50.9%). The majority accessed the internet using smart phones (85.5%) and YouTube (64.9%) was the most often used social media platform. A significant number of participants (70.1%) assessed the reliability and credibility of health information via verifying with several sources. There was a significant association between age ( $p<0.001$ ), gender ( $p<0.001$ ), teaching experience ( $p=0.009$ ) of the participants, and whether they seek health information from online sources.

**Conclusion:** Higher levels of online information seeking were noted and the practice of seeking health information from different types of online sources among school teachers was satisfactory as majority assessed reliability. More studies are required to further characterize the practice.

**Keywords:** Health information, Online sources, School teachers