



30TH SEPTEMBER 2022
FACULTY OF MEDICINE
UNIVERSITY OF PERADENIYA



BOOK OF PROCEEDINGS
PeMSARC'22

**PERADENIYA MEDICAL SCHOOL ANNUAL
RESEARCH CONFERENCE**

TABLE OF CONTENTS

| | |
|---|----|
| Organizing Committee..... | 2 |
| Academic Staff..... | 2 |
| Students..... | 3 |
| Programme | 6 |
| Message from the Vice Chancellor | 8 |
| Message from the Dean..... | 9 |
| Message from the Chief Guest..... | 10 |
| Message from the Guest of Honour..... | 11 |
| Message from the Co-Chairs..... | 12 |
| Message from the Secretary | 13 |
| Message from the Student Chair | 14 |
| Keynote Address..... | 15 |
| Pre-Congress Workshop | 17 |
| Thematic Research Presentations | 18 |
| Hypertension Updates | 18 |
| Advanced Paediatric Thoracoscopic Surgery: Inception of a Novel Paradigm..... | 19 |
| Maternal & Foetal Outcome of Respiratory Diseases in Pregnancy..... | 20 |
| Epidemiology of Unintentional School Injuries..... | 21 |
| Systemic Lupus Erythematosus: Status in Sri Lanka | 22 |
| List of Oral Presentations | 23 |
| List of Poster Presentations..... | 31 |
| Oral Presentation Abstracts..... | 32 |
| Poster Presentation Abstracts | 63 |
| Inventions and Innovations by Non-Academic Staff..... | 71 |

ORGANIZING COMMITTEE

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CONGRESS CO-CHAIRPERSONS

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Dr Duminda Yasaratne

CONGRESS SECRETARY

Dr Sakunthala Jayasinghe

TREASURER

Dr Padmini Dahanayake

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Dr Lakshika Pathirana

Dr Keerthi Dissanayake

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STUDENT EXECUTIVE COMMITTEE MEMBERS

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Mr Chandika Kavinda Athukorala

STUDENT SECRETARY

Miss Janusha Udapamanuwa

STUDENT TREASURER

Mr Shakthi Senaratne

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Miss Sachini Hettiarachchi | Editorial

Mr Malaka Samarasinghe | Media & IT

Mr Chathuka Suvimal | Logistics

Mr Samadhi Ekanayake | Food & Beverages

Miss Gayathri Bandaranayake | Social

STUDENT SCIENTIFIC COMMITTEE

| | |
|--------------------|----------------------|
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| Mr. Rushdi Hassen | Mr. M.F.M. Zinhath |

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| | |
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| Miss Jayani Kariyawasam | Mr Anupa Liyanage |
| Miss Navodya Ekanayake | Mr Nadarasa Ganashiam |
| Miss Nisuri Ranasinghe | Miss Nauchali Herath |
| Mr Melaka Jude | Mr Shavindu Hettirachchi |
| Miss Thisari Walawage | Mr Mohamed Fazlan |

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Miss Navodya Kularathna
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Miss Madara Welagedara
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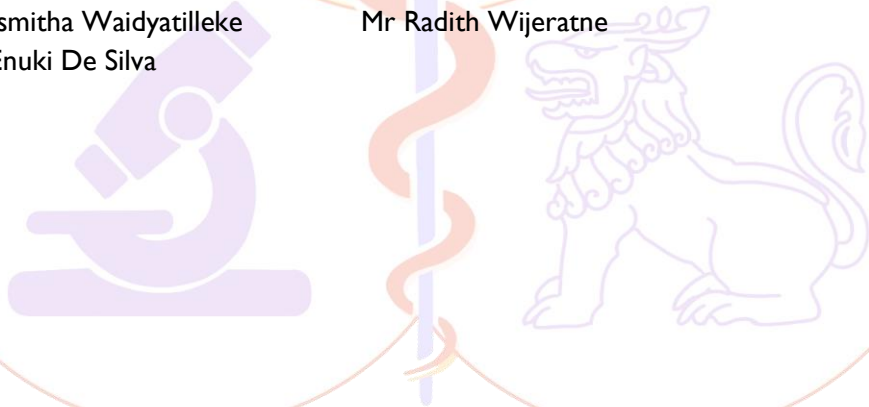
Miss Chamini Jayawarna
Miss Thisari Karunatilake
Mr Adithya Ilangasinghe
Miss Sammani Upsala
Miss Sanduni Pathirana
Mr Shanilka Jayathilaka
Mr Azhar Mansoor
Miss Sandulie Gamage
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Mr Thathsara Hettiarachchi
Miss Ishanthi Priyanjala
Mr Sandeep Wattuhewa
Mr Chathura Kariyakarawana
Miss Samadi Ranatunge
Mr N.M. Arshith
Miss Omeesha Piyathilake

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Miss Sarasi Dissanayake
Miss Niklesha Medagedara
Mr Sasmitha Waidyatilleke
Miss Enuke De Silva

Miss Sathya Tharundi
Miss J.M. Shazeen
Miss Oshadhi Ananda
Mr Radith Wijeratne



PROGRAMME

PeMSARC'22

Friday, September 30, 2022.

Faculty of Medicine, University of Peradeniya

| | | |
|----------|---|--|
| 07.45 AM | Arrival of Guests | Poster Presentations / Non-Academic Staff Inventions / Innovations (Pillared Area) |
| 08.00 AM | Ceremonial Procession | |
| 08.15 AM | Inauguration Ceremony – <i>Lighting of the Oil Lamp, University Anthem, National Anthem & Pooja Dance</i> | |
| 08.30 AM | Welcome Address by Co-Chairperson, PeMSARC'22 <i>Dr. Samidi Navaratna</i> | |
| 08.35 AM | Address by Dean, Faculty of Medicine <i>Prof. Vasanthi Pinto</i> | |
| 08.40 AM | Address by Vice Chancellor, University of Peradeniya <i>Prof. M.D. Lamawansa</i> | |
| 8.45 AM | Message from the Guest of Honour <i>Emeritus Prof. Channa Ratnatunge</i> | |
| 08.50 AM | Introduction of Chief Guest <i>Dr. Duminda Yasaratne Co-Chairperson, PeMSARC'22</i> | |
| 08.55 AM | Address by the Chief Guest <i>Vidya Jyothi Emeritus Prof. Rohan Jayasekara</i> | |
| 09.25 AM | Faculty Awards Ceremony | |
| 09.35 AM | Address by Student Chairperson, PeMSARC'22 <i>Mr Chandika Kavinda</i> | |
| 09.40 AM | Staff Research Awards Ceremony | |
| 09.55 AM | Introduction of Keynote Speaker <i>Dr. Duminda Yasaratne Co-Chairperson, PeMSARC'22</i> | |
| 10.00 AM | Keynote Address by Prof. Tissa Wijeratne <i>Professor in Neurology, University of Melbourne, Victoria, Australia</i> | |
| 10.25 AM | Vote of Thanks by Secretary, PeMSARC'22 <i>Dr Sakunthala Jayasinghe</i> | |
| 10.30 AM | Conclusion of the Inauguration Ceremony | |

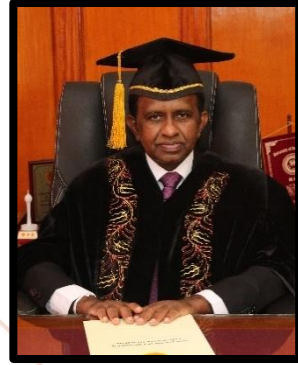
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| 10.30 AM | Morning Tea | | |
| 11.00 AM | Thematic Research Presentations | | |
| 12.00 AM | Parallel Sessions (A and B) | | |
| | Venue: Physiology Lecture Theatre | Venue: East Lecture Theatre | |
| | Research Presentations Session 1A | Research Presentations Session 1B | |
| 12.45 PM | Lunch | | |
| 01.30 PM | Research Presentations Session 2A | Research Presentations Session 2B | |
| 03:00 PM | Afternoon Tea | | |
| 03:20 PM | Research Presentations Session 3A | Research Presentations Session 3B | |
| 04.00 PM | Conference concludes | | |



MESSAGE FROM THE VICE CHANCELLOR

Prof M.D. Lamawansa

It is with much pleasure and pride that I wish to congratulate the Dean, Faculty of Medicine, University of Peradeniya and her staff and students for organizing the PeMSARC 2022 – an initiative that had been a long-felt need, which, through your dedicated effort, has finally come to fruition. It will enable students to acquire confidence in presenting their research output to an audience comprising eminent peers of the respective research areas.



An event of this nature provides ‘visibility’ of the quality of research carried out by the staff and students of the Faculty. Furthermore, it reflects the planning and implementation aspects of research in order to provide possible solutions to local health issues as well as to increase the knowledge in the respective areas. These are almost always carried out through interdisciplinary team work and in many cases in collaboration with and in partnership between the staff and the students international institutes, thus promoting the adoption of novel techniques/methods in a range of important areas.

The PeMSARC will provide a platform for the students and staff to share their scholarly research output with fellow scientists and for disseminating the outcomes to the public, especially the decision-makers who will be able to use such in future national planning programmes. Moreover, this high quality, medical research outputs, outcomes and impacts will support the country’s economic, environmental, cultural and social development as well, which will drive the Medical Faculty, University of Peradeniya towards being one of the country’s leaders in medical research.

Prof. M.D. Lamawansa, MS, FRCS (Edin), PhD
Chair Professor of Surgery
Vice Chancellor
University of Peradeniya

MESSAGE FROM THE DEAN

Prof Vasanthi Pinto

On behalf of the Faculty of Medicine, please allow me to extend my heartiest congratulations to the First Peradeniya Medical School Annual Research Conference – PeMSARC'22, a platform for the undergraduates, Academic staff as well as holders of higher degrees to present and discuss research.

As an alumnus of this faculty and now the incumbent dean, I would like to say that we all are privileged to have been affiliated with our faculty, with its rich academic history, not to mention being the alma mater of some of the finest clinicians and researchers our country boasts, who have contributed in measure to global efforts toward advancing medicine and patient care to superlative standards.

We are proud of our growing number of research projects, publications and citations and the global impact created in our respective fields.

The faculty is committed to conducting impactful research and conforming to international standards of excellence. Research at our faculty primarily attempts to identify and find solutions to significant health problems in our country and the region. We aim to expand our collaborative, translational research areas by exploring new avenues of investigation, innovation and fostering the growth of a healthy research culture while nurturing a future generation of young scientists.

Research is “formalized curiosity”, which as scientists, we ought to do.

I wish you a very productive conference with exciting and encouraging discussions and interactive exchange of knowledge so that together we can anticipate a future of groundbreaking knowledge, research, and technology for humanity.

I am glad that the idea of framing a platform to execute collaborative broad-based research related to the faculty has been accomplished, and I am grateful to the higher authorities specially our Vice Chancellor Professor M.D. Lamawansa, inclusive of the academic staff and student body, for the support provided to carry forward this idea. I must especially mention that the students have been very much involved in organizing this event, and I appreciate their initiative in spearheading these efforts that translate to continually enriching dividends. This constitutes the first ever-pioneering activity of the Peradeniya Medical Undergraduates' Research Club. I hope this will be a continuing annual event on our medical faculty calendar, and I am glad that three prestigious awards will be bestowed on the Best Research Papers at these research sessions, namely PeMSARC Research Award and two exclusive undergraduate awards - PeMSAA Research Award and The KSM Research Price for undergraduates.

I wish this event all success!

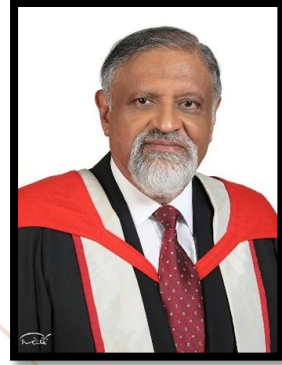
Prof. Vasanthi Pinto, MD, FRCA, FCARCSI
 Professor of Anesthesiology & Critical Care
 Dean of the Faculty of Medicine
 University of Peradeniya



MESSAGE FROM THE CHIEF GUEST

Prof Rohan Jayasekara

Having basked in the glory of its Diamond Anniversary, this hallowed institution the Faculty of Medicine Peradeniya, now leaps forward towards its Sapphire Anniversary with a revitalized vigour to fulfil its stated vision - "To produce scientifically trained, socially responsible, compassionate doctors and instil in them a spirit of inquiry and learning". The spirit of inquiry and learning or simply research of a high quality is the epicentre of a rich and thriving university research ecosystem.



My sincere congratulations to the Dean Prof. Vasanthi Pinto and her team for spearheading this thrust to achieve these institutional aims by organizing PeMSARC22, which is the cradle that rocks our young scientists and helps them to grow and mature and reach those dizzy heights of success in the years ahead. It is notable that the creation of this annual conference for research dissemination for undergraduate and postgraduate students will provide a conducive forum for academics and students alike to share debate and collaborate their research outputs and outcomes. It will also serve as a golden opportunity for the student of research to receive exposure and experience in a professional realm in a true conference scenario. An excellent opportunity to hone their relevant professional, social and networking skills under the guidance of the senior researchers.

It is my fervent wish that this academic event will, through its free deliberations and candid exchanges of thoughts, ideas, and constructive contributions, achieve its goals in the practice of medicine in Sri Lanka.

Vidya Jyothi Emeritus Prof. Rohan Jayasekara
 MBBS, PhD (Newcastle), C.Biol, FRSB (London), Hon. FCSSL, FCOph. S.L. (Honours)
 Emeritus Professor – Department of Anatomy Genetics & Medical Bioinformatics
 University of Colombo
 Chief Guest of PeMSARC'22

MESSAGE FROM THE GUEST OF HONOUR

Prof Channa Ratnatunge

I wish the PeMSARC my sincere best. Research and opportunities for presentation of such research are very necessary in a university setting. I am delighted that the Medical Faculty of Peradeniya subscribes to this concept.

Staff and students will benefit from opportunities afforded by this inter-change, and with luck might inspire additional research or direction change, by the questions asked at this interaction.

Wishing the scientific deliberations all success,

Emeritus Prof. Channa Ratnatunga
FRCS (Eng)
Emeritus Professor – Department of Surgery
Faculty of Medicine
University of Peradeniya
Guest of Honour of PeMSARC'22



MESSAGE FROM THE CO-CHAIRS

Dr Samidi Navaratna
Dr Duminda Yasaratne



We feel privileged and honoured to be the co-chairpersons of the first and foremost Peradeniya Medical School Annual Research Conference (PeMSARC'22). We believe that this conference will be the first of many to aspire students and academia in research excellence.

We consider ourselves extremely fortunate to have with us Vidya Jyothi, Emeritus Prof. Rohan Jayasekara as our chief guest, and Prof. Tissa Wijeratne as our keynote speaker. We appreciate their participation and valuable contribution to this important endeavour. They will undoubtedly enrich the conference and motivate the students and early-career researchers in attendance, as they are our alumni and top experts in their respective disciplines.

We know that the success of any conference depends hugely on the inspiration, motivation and dedication of those who are involved in planning and implementing the conference activities. Hence, we are thankful for the constant support and advice rendered by our Vice-chancellor, Prof. M.D. Lamawansa, and our Dean, Prof. Vasanti Pinto. Furthermore, we acknowledge and appreciate the efforts of our outstanding and easy-going organisation team, including all the students and the academic and non-academic staff members, who were actively involved in all the processes of planning and implementation of the preliminary and ongoing activities of this conference.

We thank all the presenters at the conference for elevating the inaugural PeMSARC by sharing their research and innovations. We hope that PeMSARC will eventually be a medical conference of international standards.

Dr. Samidi Navaratna, DCH, MSc, MD
 Senior Lecturer in Community Medicine
Conference Co-Chair

Dr. Duminda Yasaratne, MD, MRCP
 Senior Lecturer in Medicine
Conference Co-Chair

MESSAGE FROM THE SECRETARY

Dr Sakunthala Jayasinghe



I write this message with immense pleasure on the occasion of the first Peradeniya Medical School Annual Research conference; PeMSARC'22 which marks an important landmark in undergraduate research activities. It is an honour for me to be an active part of this conference, which is a result of the toil of both the staff and the students alike.

The aim of this conference is to inculcate the culture of research data presentation and publication in the students. The research studies the students carry out in the 4th year, even though presented on a designated 'Research Day' in the previous years, did not happen as a formal conference so far. In addition to the learning outcomes required in the curriculum, we expected several other results by organizing it in this manner. One such aim was to give an opportunity for the students to develop certain soft skills while working side by side with the academic staff. Students played a big role in organizing this conference, hence there were opportunities for them to sharpen and shine their leadership qualities, teamwork abilities, organization, time management, communication, and IT skills.

In addition, they could further develop their knowledge and experience in research, by writing abstracts, presenting research in a conference setting, and poster making and even could take a glimpse into how research writing is reviewed.

Furthermore, eminent researchers of the staff and outside could pass on valuable knowledge in different aspects of research through a pre-congress workshop and the talks at the inauguration ceremony.

We saw many students excel in one or more of these areas and were truly proud of the younger generation who will be entering the academic and research fraternity of Sri Lanka. While expressing my sincere gratitude to the staff members and the students who worked hard to organize this event, I wish this conference great success and hope to see one hundred percent participation of the students in this and future events.

Dr. Sakunthala Jayasinghe, MD, D.Path
Senior Lecturer in Pathology
Secretary of PeMSARC'22

MESSAGE FROM THE STUDENT CHAIR

Mr Chandika Kavinda Athukorala



I am delighted to extend this message on behalf of the student body of Peradeniya Medical School Annual Research Conference. As a part of the medical undergraduate curriculum, students have been working on active research projects for a while now. In addition, the Peradeniya Medical Undergraduates' Research Committee (PeMURC) was recently founded by students with the intention of giving a platform for individuals who wanted to broaden their research interests.

PeMSARC is one of the best opportunities for students to showcase their findings to a large audience. Additionally, students got the opportunity to actively participate in PeMSARC'22 planning efforts, which exposed them to another aspect of the research culture. We have undoubtedly gained important experience from this.

I would like to take this opportunity to thank the entire PeMSARC'22 committee for the invaluable advice they provided to students starting with the simplest activity. Finally, I want to acknowledge the whole student committee for their tireless efforts throughout PeMSARC'22, which certainly contributed to the event's success.

I believe that this will be a remarkable occasion that lives up to the high standards and expectations of all participants. In the years to come, I genuinely hope that PeMSARC will prosper and grow.

Mr. Chandika Kavinda Athukorala
President of PeMURC
Student Chairperson of PeMSARC'22

KEYNOTE ADDRESS & SPEAKER

KEYNOTE SPEAKER INTRODUCTION

Prof Tissa Wijeratne

MBBS MD PhD FRACP FRCP FAAN FAHA FEAN
 Global Health Leader | Educator | Researcher | Advocate
 Editor-in-Chief, Neurology International MDPI
 President, Asian Regional Consortium for Headache
 Co-Chair, World Brain Day Committee, WFN
 Co-Chair, Advocacy & Public Awareness, WFN
 Chair, James Lance-Peter Goadsby Annual Migraine Symposium
 Director, Academic Medicine & International Affairs
 Director, Department of Neurology & Stroke Services
 Department of Medicine – Western Health, Melbourne Medical School
 University of Melbourne, Victoria 3010 Australia



Prof. Tissa Wijeratne is a proud alumnus of the Faculty of Medicine University of Peradeniya. Entering the faculty in 1987, after his graduation, he went on to achieve great academic heights internationally.

Prof. Tissa Wijeratne is a senior Neurologist, Professor in Neurology, Director of Academic Medicine and Head of the Department of Neurology and Stroke at Western Health (Victoria, Australia). He has been and is the Chair and Co-Chair for numerous fraternities some, which being the brainchild of his insatiable curiosity.

He is the first Sri Lankan neurologist to be elected as a member of the International Committee with the American Academy of Neurology (2018 – present) and was awarded the prestigious Donald M Palatucci Advocacy Leadership in 2008 for his contribution to global neurological education and leadership among young neurologists.

He became one of the first neurologists in the world to be bestowed the Ted Munsat Award (World Federation of Neurology, 2017). He is also the inaugural recipient of the prestigious Priscilla Kincaid-Smith award (AMA, Australia, 2019) for his outstanding contribution as an academic neurologist, mentor, and advocate. Furthermore, he is a recipient of the A.B. Baker Teacher Recognition award (AAN 2020, USA).

Prof. Tissa Wijeratne is a proficient publisher and accomplished international speaker with his translational research in clinical neurology generating 256 publications and 128 invited presentations. He has more than 77,000 citations (h-index = 73) and maintains a fulltime clinical commitment as a leader of the fastest growing stroke & headache service in Australia (Western Health).

He founded the David Marsden Memorial Annual Movement Disorders Symposium and successfully advocated free membership for neurologists from low to middle-income countries to the Movement Disorders Society. He successfully advocated free membership for all medical students worldwide to the American Academy of Neurology.

Prof. Wijeratne is a popular supervisor trainer for the Royal Australasian College of Physicians, Australia & New Zealand since 2008. He trained 1800 physicians from Australia and New Zealand on supervision through RACP online supervisor training throughout the pandemic.

He launched the world's first Global Migraine Bill of Rights at Genova (WFNR in March 2019). He led the 2019, 2020, 2021, 2022 WBD campaigns with a huge impact worldwide. He is the only Asian nominee and Secretary General of the WFN (first Australian Neurologist) and was the President of the Asian Regional Consortium for Headache from 2022-2025.

KEYNOTE ADDRESS

Healthcare is in peril globally. Clinician-scientists are becoming an endangered species today. Already a rare breed, the species, under immense pressure, either seek extinction of their own choice or evolve into bit data analysts (There is nothing wrong with epidemiological research work. This type of work is becoming attractive among young players. I fear the increasing difficulties in clinical science research role and shelf life of the discovery aspect of future health is under threat now).

This oration will attempt to define the clinician-scientist. The speaker will use the topic of brain health as an example to demonstrate the critically important role of clinician-scientists today, more than ever.

The oration will explore the role of implementation science, knowledge translation (from discovery to the community/bedside practice), and key eco systems.

How can academic institutions play a major role in this area on the back of a rich tradition of generating high-calibre clinician-scientists in the past? (Please watch the WFN YouTube channel for our interview series as examples)

Create Clinician-Scientist training opportunities. Encourage medical students and clinicians at all career levels to consider research training at academic centres, including short-term placements and programs such as funded clinician PhD studies.

Create targeted opportunities for medical students. Medical Student/Postgraduate Student Vacation Scholarships: Academic Institutions could offer paid research placements for interested medical students.

MBBS/MD Research Skills: Academic institutions could create a new breed of students studying for MBBS/MD programs. This is a component of the MBBS/MD course with a six month (can be part-time with 50% clinical exposure) research project.

Master of Clinical Research: The Master of Clinical Research Course is similar to any master's program in the field of clinical research.

Clinician PhD Studies: A PhD is the highest level of research training degree. Clinician PhD students will undertake original research projects with support from leading researchers and clinician-scientist mentors nationally and internationally.

PRE-CONGRESS WORKSHOP

PeMSARC'22 Pre-congress workshop was held at the Faculty of Medicine, University of Peradeniya as a hybrid event on 18th of August 2022 with the participation of more than 300 students. The session was aiming towards expanding the knowledge of students on scientific writing and publication of research.

| Time | Topic | Resource Person |
|----------------------------|--|---|
| 01.00 p.m. – 01.30 p.m. | Introduction to Scientific Writing | Dr. Samidi Navaratna <i>Senior Lecturer in Community Medicine, Department of Community Medicine, Faculty of Medicine, University of Peradeniya.</i> |
| 01.30 p.m. – 02.00 p.m. | Case Reports in Medicine – How to select and Report | Dr. Duminda Yasaratne <i>Senior Lecturer in Medicine, Department of Medicine, Faculty of Medicine, University of Peradeniya.</i> |
| 02.00 p.m. – 02.30 p.m. | How to Publish Your Research | Prof. Tharaka Dassanayake <i>Professor in Neurophysiology, Department of Physiology, Faculty of Medicine, University of Peradeniya</i> |
| 02.30 p.m. – 03.00 p.m. | REFRESHMENTS | |
| 03.00 p.m. – 03.30 p.m. | Pearls in Abstract Writing | Dr. Chamara Dalugama <i>Senior Lecturer in Medicine, Faculty of Medicine, University of Peradeniya.</i> |
| 03.30 p.m. – 04.00 p.m. | Responsible Conduct in Scientific Writing | Prof. Faseeha Noordeen <i>Chair Professor of Microbiology, Department of Microbiology, Faculty of Medicine, University of Peradeniya.</i> |

THEMATIC RESEARCH PRESENTATIONS

HYPERTENSION UPDATES

Prof. Udaya Ralapanawa

Professor in Medicine, Department of Medicine, Faculty of Medicine,
University of Peradeniya, Sri Lanka

Despite improvements in antihypertensive medications and advances in hypertension research, hypertension continues to be the primary global risk factor for ischemic heart disease, stroke, heart failure, chronic kidney disease, and vascular dementia. The term "hypertension paradox" refers to the rising incidence of both uncontrolled illness and hypertension despite this improvement in antihypertensive treatment. Given this, hypertension research and developing therapeutic approaches for hypertension remains a top priority on a global scale, with a particular emphasis on combining current treatments with developing new ones.

The rising usage of antihypertensive medications in the single-pill combination (SPC) form during the past few years represents significant and discernible advancement in the pharmacotherapy of arterial hypertension associated with improved blood pressure control in patients. They come in a variety of dosages and are available globally as combination preparations. Still, SPC is more expensive than its constituents, even in the generic form, making it less popular among patients in developing countries, including Sri Lanka.

Apart from the SPCs which are currently available for treatment, new drug classes, eg, inhibitors of vasopeptidases, aldosterone synthase and soluble epoxide hydrolase, agonists of natriuretic peptide A and vasoactive intestinal peptide receptor 2, and a novel mineralocorticoid receptor antagonist are in phase II/III of development, while inhibitors of aminopeptidase A, dopamine β -hydroxylase, and the intestinal Na⁺/H⁺ exchanger 3, agonists of components of the angiotensin-converting enzyme 2/angiotensin(1–7)/Mas receptor axis and vaccines directed toward angiotensin II and its type I receptor are in phase I or preclinical development. The two main interventional approaches, transcatheter renal denervation and baroreflex activation therapy are used in clinical practice for severe treatment-resistant hypertension in some countries.

However, in a developing country like Sri Lanka, the cost of these novel antihypertensive medications and the poor purchasing power will be the principal limiting factors, when these advanced treatment modalities are ready for therapeutic usage.

ADVANCED PAEDIATRIC THORACOSCOPIC SURGERY: INCEPTION OF A NOVEL PARADIGM

Dr. Mathula Hettiarachchi

Senior Lecturer in Surgery, Department of Surgery, Faculty of Medicine,
University of Peradeniya, Sri Lanka

Minimally invasive thoracoscopic surgical techniques are increasingly being applied in paediatrics for a multiplicity of conditions. It has been shown to minimize thoracic musculoskeletal deformity and to improve pulmonary mechanics compared to open procedures. Primarily, it's being used in congenital diaphragmatic hernia (CDH) and eventration repair, thoracoscopic treatment for empyema and treatment of lung abscess, intrathoracic tumour resections, lung resections etc. We started an advanced thoracoscopic surgery program in 2020 in Sirimavo Bandaranaike Specialized Children's Hospital (SBSCH), Peradeniya, with the introduction of thoracoscopic congenital diaphragmatic hernia and eventration repair. With advancing experience in thoracic anaesthesia and critical care, more and more advanced thoracoscopic procedures like tumour resections could be accomplished safely in our setting

All the children who underwent advanced thoracoscopic procedures from July 2020 up to December 2021 at SBSCH were retrospectively evaluated and reviewed with regard to outcome and complications. Techniques of thoracoscopic diaphragmatic hernia repair and decortication for empyema were standardized in our series.

There were 27 children who underwent advanced thoracoscopic procedures, out of which 14 were neonates having congenital diaphragmatic hernia and eventration. In addition, there were five children having infective pathologies, namely four empyemas and one lung abscess. All children with complicated empyemas had successful thoracoscopic interventions. There were six children who had thoracic neoplastic lesions including four neurogenic tumours. Out of neurogenic tumours, 2 were neuroblastoma, one was a ganglioneuroblastoma, and the other was a neurofibroma. Neurogenic tumours have a promising outcome following thoracoscopic resections in children, substantiated by world literature as well as our results. Thoracoscopic diaphragmatic hernia repair was showing good post-operative outcome while repair of congenital eventration was reported to have 75% recurrence following thoracoscopic repair. Intraoperative and post-operative hypercapnia leading to acidosis following CDH and eventration repair needs further elaborative research. In our setting there were no detrimental effects of intraoperative hypercapnia when measured indirectly by End Tidal CO₂ measurements

Thoracoscopic techniques could be successfully utilized to treat several conditions in children. Case selection by predefined criteria and standardized technique in congenital diaphragmatic hernia repair have contributed for improved postoperative outcome. The technique of thoracoscopic repair of diaphragmatic eventration must be revisited due to its higher recurrence rate in our setting probably due to technical difficulty. Thoracoscopic tumour resections have shown promising outcomes in our series.

MATERNAL & FOETAL OUTCOME OF RESPIRATORY DISEASES IN PREGNANCY

Dr. Duminda Yasaratne

Senior Lecturer, Department of Medicine, Faculty of Medicine,
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Respiratory diseases during pregnancy are known to affect pregnancy outcome. Airway diseases such as asthma, sleep related breathing difficulties, respiratory infections and pleural diseases are commonly encountered. Usage of biomass fuel (BF) contributes to household air pollution which adversely affects pregnancy outcome. Here we discuss some studies done among mothers attending the routine antenatal clinics at Teaching Hospital, Peradeniya, on the impact of respiratory disease and household air pollution on pregnancy and foetal and maternal outcomes.

Mothers with pre-pregnant asthma have a 57.6% risk of becoming symptomatic. 80% and 54% of mothers developed asthma in the first pregnancy and in subsequent pregnancies, respectively. Development of asthma was associated with a family history of asthma (39%), allergic rhinitis and food allergies (39%). All symptomatic mothers responded to steroid inhalers. 20% of symptomatic and 9% of asymptomatic mothers required nebulization during delivery. 40% of symptomatic and 5% of asymptomatic mothers developed symptomatic wheezing in puerperium. 10% and 5% of the babies born to symptomatic and asymptomatic mothers, respectively, developed wheezing in early life. Therefore, mild to moderate asthma during pregnancy adversely affects mothers while the new-borns are at a higher risk of developing wheezing in early life.

BF is used for cooking in rural areas. A study done among mothers in rural communities of the Central Province of Sri Lanka found that exposure to BF during pregnancy was associated with an increased risk of delivering low birth weight and small for gestational age babies. The risk was higher for traditional stoves compared to improved stoves and with kitchens without a chimney compared to those with a chimney. Household air pollution due to BF is associated with adverse foetal outcomes when compared to using clean energy.

Sleep related breathing difficulties increase significantly with increasing gestational age. Poor sleep quality is associated with pregnancy related maternal complications and foetal growth restriction. The Pittsburgh Sleep Quality Index was used to assess the quality of sleep and the Epworth sleepiness scale was used to assess excessive day time sleepiness among third trimester mothers admitted to Teaching Hospital, Peradeniya. 59.6% of women had poor sleep quality including poor duration and efficiency, increased sleep latency and day-time dysfunction. Poor sleep duration was associated with the presence of one or more pregnancy related complications and advanced maternal age over 35 years. Increased sleep latency was seen in mothers over 34 weeks gestation and over 10kg of weight gain.

Pregnancy is affected by respiratory diseases and household air pollution resulting in poor maternal and foetal outcomes. Identifying them could alleviate the risk to the mother and foetus by applying appropriate corrective measures.

EPIDEMIOLOGY OF UNINTENTIONAL SCHOOL INJURIES

Dr. Samidi Navaratna

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Unintentional injuries are the leading cause of mortality and morbidity globally, with a disproportionate number occurring in developing countries. Schools account for a substantial number of paediatric injuries. Most school injuries are preventable, making schools a logical site for injury research. Studying the epidemiology of school injuries is the key to setting safety standards. A Student Injury Reporting System (SIRS) helps to obtain more accurate information. Environmental safety assessment is another aspect of injury prevention.

Cross-sectional studies in the primary, middle and upper schools of the Gangawatakorale education zone using a multi-stage cluster sampling method revealed event-based injury incidences of 29.4%, 25.37%, and 13.78%, respectively. In all three samples, boys sustained more injuries than girls. Most of the injuries in the primary schools occurred during unsupervised periods like recess, whilst middle and upper school injuries occurred during sports. Most injuries were due to falls. Overexertion and starvation were contributory factors. Running during recess was the main cause in primary and middle schools, while it was rugby in upper schools. Abrasions and lacerations were frequent in primary and middle schools, while abrasions and sprains were common in upper schools. The lower extremities were mostly injured in all three samples. The severity of injuries measured by the Abbreviated Injury Score revealed that most injuries belonged to AIS 1 and 2, with AIS 3 injuries only reported in upper schools.

Unexpectedly, the analysis of SIRS surveillance data revealed injury rates lower than in cross-sectional studies. However, the injury pattern and characteristics were similar in all 3 groups. First aid was given after most injuries; however, informing parents needs improvement. Government hospitals were the popular option for treatment. In the evaluation of the SIRS, the main drawback was record keeping.

Case-control studies using conditional regression models revealed that primary school injuries were significantly associated with several risk factors that are outlined in the presentation with different risk factors identified for the middle and upper school groups.

In an environmental safety assessment, many schools were in hazardous locations. When analysed using lot quality assessment, none of the components under 'buildings', 'doors', 'windows', 'roof', 'furniture', 'stairways', 'gymnasium', 'swimming pool', 'athletic field', 'playground', and 'electricity' were accepted. Laboratory safety measures, cleanliness of toilets, and safety policies were substandard. Animals in schools were a huge threat.

The high injury rates, hazardous environment of schools, and identified risk factors imply that SIRS is a very timely intervention.

SYSTEMIC LUPUS ERYTHEMATOSUS: STATUS IN SRI LANKA

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Systemic lupus erythematosus (SLE) is a chronic autoimmune connective tissue disease involving multiple systems, sometimes with devastating outcomes. The condition is uncommon as well as heterogeneous, thus making formation of uniform management guidelines a difficult task. The challenges multiply by several-fold in the unique setting of Sri Lanka.

The disease phenotype among Sri Lankans is observed to be more severe compared to Caucasian counterparts on whom most current treatment guidelines are based. Lack of a structured primary care setting often leads to delays in clinical suspicion, diagnosis, and referral to specialty care often with poor outcomes. Unavailability of immunological diagnostics make diagnosis and monitoring of disease activity challenging. In addition, the abundance of tropical infectious diseases that mimic the clinical picture of SLE also leads to diagnostic and therapeutic dilemmas. Once the diagnosis is made, treatment is often challenged by non-uniform access to health care, problems with uninterrupted availability of medications, patient perceptions in a unique sociocultural landscape that still heavily depends on native treatment as well as the high risk of infections in this immunosuppressed patient cohort.

SLE is a largely unexplored area in Sri Lanka with great potential both for improvement of care locally and to contribute to international research. Local research would assist better understanding of the disease and would elaborate the need for a customized national guideline for the diagnosis, referral, and management of SLE in Sri Lanka. To pave the path for this, the first national-scale multi-centre study of patients with SLE in Sri Lanka is currently underway.

LIST OF ORAL PRESENTATIONS

PARALLEL SESSION IA

| ID | TITLE | ABSTRACT |
|---------|---|----------|
| OP – 01 | <p>IDENTIFICATION OF STAPHYLOCOCCI CONTAMINATING CLINICAL WHITE COATS OF 4TH YEAR MEDICAL STUDENTS.</p> <p>Daraniyagala D.H.U. *, <u>Dahanayaka K.K.O.S.</u>, Dasanayake K.M.A.P., Dayarathna D.M.M.P., Dayarathna W.A.S.N., Dayasiri H.D.K.G., De Silva G.P.D.N., De Silva K.H.S.A., De Silva L.A.N.U., De Silva U.T.D., De Zoysa D.D.S., Vidanapathirana G., Dissanayake U.P.R.U., Ekanayake A.W.M.A., Liyanapathirana V.</p> | 32 |
| OP – 02 | <p>ANTIBIOTIC MISUSE AND DRIVERS OF ANTIBIOTIC MISUSE AMONG MEDICAL UNDERGRADUATES AT UNIVERSITY OF PERADENIYA.</p> <p><u>Jayawardhana H.A.S.Y.</u> *, Jayasundara J.M.S.S., Kalpani W.E.S., Jayawardhane I.J.K.G.B., Jayawarna C.A., Jeewanthi J.G.S., Jayawardhana K.H., Johnsan R., Jayasundara J.M.C.D.B., Liyanapathirana L.V.C.</p> | 33 |
| OP – 03 | <p>ASSESSING THE KNOWLEDGE ON CORONA VIRUS DISEASE 2019 - PREVENTION AMONG SCHOOL TEACHERS OF A GIRLS' SCHOOL IN KANDY, SRI LANKA.</p> <p><u>Udapamunuwa J.B.K.</u> *, Theekshana H.K.D., Thennakoon T.M.S.K., Thiruchelvam J., Thirukketheeswaran M., Ubaysiri D.A.L., Umasha M.A.H., Uyanahewa N.T., Velmurugu G., Vikkinesvararasa D., Dharmaratne S.D.D.</p> | 34 |
| OP – 04 | <p>PNEUMOCOCCAL COLONIZATION IN A COHORT OF VACCINE NAÏVE SRI LANKAN CHILDREN AGED BETWEEN 2 MONTHS TO 2 YEARS.</p> <p><u>Vidanapathirana G.</u> *, Angulmaduwa A.L.S.K.L., Munasinghe T.S., Ekanayake E.W.M.A., Harasgama P., Kudagammana S.T., Dissanayake B.N., Liyanapathirana L.V.C.</p> | 35 |

PARALLEL SESSION 1B

| ID | TITLE | ABSTRACT |
|---------|---|----------|
| OP – 05 | <p>PREVALENCE AND CONTROL OF BRONCHIAL ASTHMA AND ALLERGIC RHINITIS AND ITS IMPACT ON MEDICAL STUDENTS AT THE UNIVERSITY OF PERADENIYA.</p> <p><u>Madhusanka R.B.D.*</u>, Maduranga W.M.B., Madushani H.A.L., Manamperi B.A., Manupriya U.G.D., Mathushobiga T., Moganalakshan M., Mudunkotuwa M.S.P., Muhandiram S.M.R.M.K., Munasinghe D.R., Sonam Jamtsho, Senevirathne H.M.T.W.</p> | 36 |
| OP – 06 | <p>HOUSE DUST MITE SENSITIVITY AMONG MEDICAL STUDENTS WHO HAVE BRONCHIAL ASTHMA AND ALLERGIC RHINITIS IN FACULTY OF MEDICINE, UNIVERSITY OF PERADENIYA.</p> <p>Dhanapala D.M.D.N.D., <u>Dissanayake H.M.Y.*</u>; Dilshan M.A., Dilhani K.A.C., Dissanayake D.M.W.D.K., Gurusinghe W.G.G.A., Diluxan S., Dilshan M.A., Dissanayake D.M.V.C., Devindi A.C., Seneviratne T.</p> | 37 |
| OP – 07 | <p>COMPARISON OF THE OCCURRENCE OF HYPERSENSITIVITY REACTIONS TO FOOD, DRUGS AND INSECT STINGS IN ASTHMATIC AND NON-ASTHMATIC ADULTS ATTENDING TEACHING HOSPITAL PERADENIYA IN THE YEAR 2021/2022.</p> <p><u>Kokulan S.*</u>, Kandasamy P., Kapparage D.O.O., Kariyawasam A.M., Kariyawasam K.A.M.J., Kodagoda K.G.K.D., Kumarathunga L.N., Kumarawadu Y.M., Kumari K.A.D.S., Gawarammana I.B.</p> | 38 |
| OP – 08 | <p>RESIDENT SCREENING TO ASSESS THE EXPOSURE TO HANTAVIRUS INFECTION IN SELECTED DIVISIONAL SECRETARIATS OF TWO DIFFERENT AGRO ECOLOGICAL ZONES OF SRI LANKA: A SEROLOGICAL STUDY.</p> <p><u>Senarathne K.M.P.H.</u>, Karunarathne K.M.S.S., Rathnayake N.S., Vijeykumaran R., Bandara R.M.V.V., Muthusinghe B.D.S., Yoshimatsu K.Y., Gamage C.D.*</p> | 39 |

PARALLEL SESSION 2A

| ID | TITLE | ABSTRACT |
|---------|--|----------|
| OP – 09 | <p>A CROSS-SECTIONAL STUDY ON KNOWLEDGE AND ATTITUDE ABOUT ADULT BASIC LIFE SUPPORT AMONG MEDICAL STUDENTS OF THE UNIVERSITY OF PERADENIYA.</p> <p>Liyanage H.S.S.* , Kumari M.M.W.I., Kumarihami A.V.H.D., Lakmini U.M., Lakshitha W.A.N.W., Lanka T.B., <u>Liyanage A.D.</u>, Liyanage D.L.D.H.S., Madhubashana W.G.O.L., Maduhansi U.K.S., Wasala W.M.A.S.B.</p> | 40 |
| OP – 10 | <p>RESILIENCE AND ASSOCIATED FACTORS AMONG MEDICAL STUDENTS AT THE UNIVERSITY OF PERADENIYA.</p> <p><u>Adikari A.A.V.*</u> , Abeykoon A.I., Adikari A.A.W., Abeyratna N.M.N.I., Ahamed I.A., Amirthesasarma P., Anhettigama A.G.N.S., Arachchi A.M.H.L., Wickramaarchchi W.A.T., Ariyawansa U.T., Wangmo P., Navaratna S.</p> | 41 |
| OP – 11 | <p>EVALUATION OF DISABILITY IN LOW BACK PAIN AND IT'S KNOWN RISK FACTORS IN A TERTIARY CARE CENTRE IN SRI LANKA: A CROSS SECTIONAL STUDY.</p> <p><u>Gunawardhana T.A.S.M.*</u> , Hettiarachchi S.M., Gobyprasath R., Gunarathna H.W.V.K., Gunawardana A.D.C.G., Hamsaryini M., Hasna H.F., Herath E.T.R.N., Herath H.M.L.C., Weerasinghe V.S.</p> | 42 |
| OP – 12 | <p>KNOWLEDGE AND PRACTICES ON HEALTHY LIFESTYLE AMONG MEDICAL STUDENTS AT THE UNIVERSITY OF PERADENIYA, SRI LANKA.</p> <p><u>Kumara G.P.J.*</u> , Kodippili G.M., Kothalawala I.S., Kularatne S.A.M.D.A., Kularatne W.L.R., Kumamayake T.T., Kumara T.A.S.P., Kushan G.R.S., Lakmali W.G.N., Lakshan G.M.D., Navaratna S.</p> | 43 |

| | | |
|---------|--|----|
| OP – 13 | <p>USE OF PORTABLE ELECTRONIC DEVICES AMONG MEDICAL STUDENTS AT UNIVERSITY OF PERADENIYA AND THEIR KNOWLEDGE AND PRACTICES TO MINIMIZE ADVERSE PHYSICAL HEALTH EFFECTS RELATED TO ITS USE.</p> <p><u>Dissanayake D.M.T.S.K.</u>*, De Silva J.P.W.C., Deshika D.V.D., Dissanayake D.M.S.L., De Silva L.P.S.D., Dilshani Zainul Z., Dilmi K.A.D.N., Dushantha N.W.L., Dissanayake D.M.S.P., Dinalankara D.M.M., Edirimanna M.A., Dissanayake D.S.</p> | 44 |
| OP – 14 | <p>ASSESSMENT OF PREVALENCE AND RISK FACTORS OF EYE STRAIN AND HEADACHE AMONG MEDICAL STUDENTS IN THE UNIVERSITY OF PERADENIYA WHO ARE ENGAGED IN ONLINE LEARNING DURING COVID-19 PANDEMIC.</p> <p>Minindu P., Madushanka A.D.S., Mahenthiran T., <u>Maleeha M.A.F.</u>, Malwatta M.A.G.M., Mirihagalla M.K.K.N.S., Miyurangi A.P.N., Munasinghe P.M.I.L., Muramudalige D.*, Tamang K.C., Aarchchi S.P.U., Nanayakkara S.D.I., Nanayakkara P.S.K.</p> | 45 |
| OP – 15 | <p>VIEWS AND ATTITUDES TOWARDS E-LEARNING METHODS IN COMPARISON TO FACE-TO-FACE LEARNING METHODS AMONG 3RD-YEAR MEDICAL STUDENTS OF THE UNIVERSITY OF PERADENIYA.</p> <p><u>Wanigasekara D.A.E.</u>*, Welagedara R.W.M.D., Weerasinghe H.A.W., Wickramaarachchi W.A.R.M., Weerasekara K.H.G., Weerasinghe J.C., Wanigarathna I., Wanniarachchi W.K.P.M.K., Weerasinghe N.M.P., Weliwita W.V.D.A., Marambe K.N.</p> | 46 |
| OP – 16 | <p>HEALTH CARE SEEKING BEHAVIOUR AMONG STUDENTS OF UNIVERSITY OF PERADENIYA; A CROSS SECTIONAL STUDY.</p> <p><u>Jayashan R.H.T.</u>*, Hewa M.P.H., Hewage G.H.S.M., Hindagoda H.M.T.R.B., Ilangaratne T.M.Y.R., Ishara P.G.S., Jagoda M.A., Jashan M.I.M., Jayaratne E.H.K.A., Jayasinghe J.D.H.R., Pethiyagoda K.</p> | 47 |

PARALLEL SESSION 2B

| ID | TITLE | ABSTRACT |
|---------|--|----------|
| OP – 17 | <p>KNOWLEDGE, ATTITUDE AND PRACTICES ABOUT BEE, WASP AND HORNET STINGS AND THEIR COMPLICATIONS AMONG FIRST AND SECOND YEAR MEDICAL STUDENTS OF FACULTY OF MEDICINE, UNIVERSITY OF PERADENIYA.</p> <p><u>Rajapaksha T.C.</u>*, Pelpola P.H.W., Perera E.L.R.C., Prasandika P.G.U., Rajakeerthikan V., Rajapaksha R.P.D.R.C., Rajapaksha R.P.L.V., Ramakrishnan K., Ranasingha R.D.M.H., Rathnayake J.M.I.S., Thaye L., Ratnatunga C.N.</p> | 48 |
| OP – 18 | <p>IMPACT OF COVID-19 PANDEMIC ON DIETARY PATTERNS AND EXERCISE HABITS OF MEDICAL STUDENTS AT UNIVERSITY OF PERADENIYA</p> <p><u>De Silva A.M.A.M.</u>*, Chandrasekara S.H., Dayananda A.K.M., Damayanthi A.P.N., De Silva H.S.C., De Silva H.S.G., De Silva G.A.G.S., Bogahawatta B.A.V., Chrishan Pillai J.G., Chandrasena H.A.V.B., Yangden C., Navaratna S.</p> | 49 |
| OP – 19 | <p>ASSESSMENT OF MEDICAL STUDENTS' SATISFACTION, EXPECTATIONS REGARDING THE SERVICE AND OVERALL QUALITY OF CANTEENS OF UNIVERSITY OF PERADENIYA.</p> <p><u>Seneviratne T.W.M.C.S.</u>*, Senavirathna M.H., Sivapalan J., Somathilaka H.M.D.D., Shanaka L.G.I., Shakeela M.H.F., Shehani N.A., Sifara M.F.F., Sivanesanathan N., Simenthiran S., Navaratna S.</p> | 50 |
| OP – 20 | <p>PREVALENCE AND POTENTIAL RISK FACTORS OF MEDIAL TIBIAL STRESS SYNDROME AMONG THE NEWLY RECRUITED OFFICER CADETS AT KOTELAWALA DEFENCE UNIVERSITY, SRI LANKA.</p> <p>Praveena S.*, Liyanage E., De Silva T.H.E.S.J., Weerasekara I., <u>Amaratunga H.A.</u></p> | 51 |

| | | |
|---------|--|----|
| OP – 21 | <p>DETERMINANTS OF COMPLIANCE BEHAVIOUR AMONG PATIENTS UNDERGOING HAEMODIALYSIS; A DESCRIPTIVE STUDY IN TWO IN-CENTRE DIALYSIS UNITS AT A MAJOR TERTIARY CARE MEDICAL INSTITUTION IN SRI LANKA.</p> <p><u>Atapattu A.M.M.P.</u>*, Nanayakkara N., Dassanayake H.D.W.T., Dharmarathne S.D.</p> | 52 |
| OP – 22 | <p>PREVALENCE OF DEPRESSION AND ASSOCIATED FACTORS IN PATIENTS ON MAINTENANCE HAEMODIALYSIS; A DESCRIPTIVE STUDY IN TWO IN-CENTRE DIALYSIS UNITS AT A MAJOR TERTIARY CARE MEDICAL INSTITUTION IN SRI LANKA.</p> <p><u>Atapattu A.M.M.P.</u>*, Nanayakkara N., Dassanayake H.D.W.T., Dharmarathne S.D.</p> | 53 |
| OP – 23 | <p>HEALTH RELATED QUALITY OF LIFE IN PATIENTS ON MAINTENANCE HAEMODIALYSIS; A DESCRIPTIVE STUDY IN TWO IN-CENTRE DIALYSIS UNITS AT A MAJOR TERTIARY CARE MEDICAL INSTITUTION IN SRI LANKA.</p> <p><u>Atapattu A.M.M.P.</u>*, Nanayakkara N., Dassanayake H.D.W.T., Dharmarathne S.D.</p> | 54 |



PARALLEL SESSION 3A

| ID | TITLE | ABSTRACT |
|---------|--|----------|
| OP – 24 | <p>KNOWLEDGE, ATTITUDES AND PRACTICES ON RISK FACTORS OF TYPE 2 DIABETES MELLITUS AMONG SRI LANKAN PRE-CLINICAL STUDENTS OF THE FACULTY OF MEDICINE UNIVERSITY OF PERADENIYA. <u>Wijesekara H.N.*</u>, Wijesekara G.A.P.L., Wickramasinghe K.D.T.P., Wickramasinghe M.D.R.K., Wickramasinghe N.N.V.P., Wijegunawardana W.D.W.R., Wijesiri N.K.G., Wijesooriya H.N.H., Wijethunga W.M.R.G.K.M.B., Wijewansha I.K.H.C., Yapa Y.M.J.K., Thennakoon S.</p> | 55 |
| OP – 25 | <p>COMPLIANCE TO ORAL ANTIDIABETIC THERAPY AMONG TYPE 2 DIABETES MELLITUS PATIENTS IN DIABETIC CLINIC OF TEACHING HOSPITAL PERADENIYA. <u>Sumanadasa A.M.C.I.*</u>, Suvimal S.A.D.K.C., SubasingheV.S., Srinath A.M., Srimali P.S., Sooriyakmar S., Subanethra S., Subhasinghe S.M.M.P., Tharuka R.K.K., Sugathadasa K.G.L.M.K., Tharshini E., Tennakoon S.U.B.</p> | 56 |
| OP – 26 | <p>AWARENESS AND ADHERENCE TO DIETARY MODIFICATIONS IN HYPERTENSION AMONG HYPERTENSIVE PATIENTS ATTENDING A TERTIARY CARE FACILITY. Samadarshi S.M.S.D.*, <u>Sandaru G.L.G.</u>, Sadeepa W.G.P., Sahana J.F., Sahla M.Y.F., Sandakelum S.D.D.L., Samaranayake C.D., Sankalpa Y.H.U., Sarathchandra P.W.S.D., Chamani S.W.K.K., Abeygunawardena S.</p> | 57 |
| OP – 27 | <p>PERCEPTION OF A SUBURBAN COHORT OF SRI LANKANS ON COVID-19 VACCINATION AND USE OF INDIGENOUS MEDICINES FOR PREVENTION OF COVID-19. Edirisinghe G.E.A.S.G.*, Ekanayaka E.M.A.A., EkanayakaE.M.H.S.B., Ekanayake D.Y.S.S., Ekanayake E.M.K.K., Ekanayake E.M.P.K., <u>Fernando W.N.D.</u>, Galahitiyawa H.S., Gamage W.G.S.P., Pinto V.</p> | 58 |

PARALLEL SESSION 3B

| ID | TITLE | ABSTRACT |
|---------|---|----------|
| OP – 28 | <p>BURDEN OF CONGENITAL MALFORMATIONS IN CHILDREN: ONE-YEAR RETROSPECTIVE REVIEW IN A PAEDIATRIC SURGICAL CENTRE. <u>Athukorala K.A.D.C.K.*</u>, <u>Bandara H.M.C.D.</u>, Arudsvam A., Athauda A.A.S.D., Ayman S.M.M., Balasinghe S.T., Bandara C.M.N.M., Banu M.N.N., Benaragama K.N., Hettiarachchi H.C.M.</p> | 59 |
| OP – 29 | <p>KNOWLEDGE, SOURCES OF KNOWLEDGE AND BARRIERS TO GAIN KNOWLEDGE ABOUT EXCLUSIVE BREASTFEEDING PRACTICE IN PRIMIGRAVIDA PRESENTING TO AN ANTENATAL CLINIC AT THE THIRD TRIMESTER. <u>Resitha K.S.A.*</u>, Rathnayake R.R.M.T.H., Rathnayake B.M.G.B., Rathnayake I.R.D.S., Rathnayake R.M.C.J., Rathnayake R.M.D.D., Rifka M.I.F., Rishimenan K., Rupasinghe M.L.P.P., Rusith H.K.D., Ruwini E.K.P.T.R., Kandauda C.</p> | 60 |
| OP – 30 | <p>THE EFFICACY OF ULTRASOUND GUIDED HYDROSTATIC REDUCTION IN THE MANAGEMENT OF CHILDHOOD INTUSSUSCEPTION AND ITS RELATIONSHIP TO TIME LAPSE AT PRESENTATION. <u>Bandaranayake B.M.G.K.*</u>, Hettiarachchi M., Erandika H., Kiriwattuduwa K.S.U.</p> | 61 |
| OP – 31 | <p>PROBLEMS AND SYMPTOMS RELATED TO MENSTRUATION AND ITS IMPACT ON THE DAILY ROUTINE OF MEDICAL UNDERGRADUATES OF UNIVERSITY OF PERADENIYA. <u>Neelawathura N.W.T.S.K.*</u>, Muthukumarana L.S., Nimashi U.D.P., Paranavithana D.S.S., Nettikumara N.A.N.A., Nisansala G.S., Nusha M.P., Nithushan M.J., Peiris M.D.S., Nishshanka N.R.D.S., Muzna M.M.F., Kandauda I.C.</p> | 62 |

LIST OF POSTER PRESENTATIONS

| ID | TITLE | ABSTRACT |
|---------|---|----------|
| PP – 01 | TREND ANALYSIS OF OVERWEIGHT OR OBESITY AMONG ANTENATAL WOMEN AT THE BOOKING VISIT IN SRI LANKA (2007-2019) <u>Ekanayake E.M.D.S.*</u> , Gunawardane D.A. | 63 |
| PP – 02 | SYMPATHETIC RESPONSE TO ISOMETRIC HANDGRIP TEST: AGE AND GENDER RELATED VARIATION IN A NORMAL POPULATION <u>Ekanayake E.M.N.K.*</u> , Withana W.R.L., Nanayakkara S.D.I. | 64 |
| PP – 03 | DEMOGRAPHIC AND BIOMEDICAL PARAMETERS OF PATIENTS PRESENTING WITH ANDROGENETIC ALOPECIA: AN OBSERVATIONAL STUDY Bandara G.D.D.J.* , Gunawardane B.G.W.J.N., <u>Dassanayake D.M.S.N.B.</u> , Athauda A.M.I.R.K., Fonseka S. | 65 |
| PP – 04 | BENIGN AND MALIGNANT BRAIN TUMOR CLASSIFICATION BY ANALYSING TEXTURE FEATURES OF MRI-ADC IMAGES USING MACHINE-LEARNING TECHNIQUE Jayatilake M.L.* , <u>Vijithananda S.M.</u> , Hewavitharana P.B., Goncalves T.C., Rato L.M., Weerakoon B.S. | 66 |
| PP – 05 | RED CELL FRAGILITY OF NON-DIABETIC AND DIABETIC RATS FED WITH VIRGIN COCONUT OIL, SOYA OIL AND WATER <u>Perera M.C.N.</u> , Fernando P.H.P.* , Alles C.N.R.A., Yalegama C. | 67 |
| PP – 06 | SOCIOECONOMIC BACKGROUND AND CLINICAL PARAMETERS OF HOSPITALIZED PATIENTS WITH COPD EXACERBATION <u>Wimalaratne N.A.D.S.*</u> , Withana W.R.L., Wijesinghe W.M.C.N., Wijesinghe W.M.T.M., Wijesinghe W.P.L.Y.K., Wijetunga R.G.T.M., Wimalaratna N.S., Wimalasiri J.A.K.H., Witharana P.L., Yatapana N.A., Yogeswaran S. ¹ , Rafzan M., Kularathne S.A.M. | 68 |
| PP – 07 | DIPLOPIA IN MIGRAINE – OPHTHALMOPLEGIC MIGRAINE <u>Yatapana N.A.*</u> , Gawarammana I.B. | 69 |
| PP – 08 | STERILE PYURIA WITHOUT TYPICAL TUBERCULOSIS – RENAL TUBERCULOSIS <u>Yatapana N.A.*</u> , Gawarammanal.B. | 70 |

ORAL PRESENTATION ABSTRACTS

OP - 01

IDENTIFICATION OF STAPHYLOCOCCI CONTAMINATING CLINICAL WHITE COATS OF 4TH YEAR MEDICAL STUDENTS

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Background: Clinical white coats worn by medical students can be contaminated during clinical training at hospitals and may act as a potential reservoir for transmission of pathogens including antibiotic-resistant bacteria. *Staphylococcus aureus* and its common antibiotic resistant type, Methicillin-Resistant *Staphylococcus aureus* (MRSA) are such potentially pathogenic bacteria that may contaminate clinical white coats.

Objectives: To identify the rate of contamination of clinical white coats worn by medical students with *S. aureus* and MRSA.

Methods: A cross-sectional study was done with the participation of 4th year medical students of Faculty of Medicine, University of Peradeniya in September 2020. Swabs from pockets and sleeves of the clinical white coats were taken and routine microbiological methods were used to identify of *S. aureus*. Disc diffusion based cefoxitin sensitivity test was used to identify MRSA isolates among the *S. aureus*.

Results: Out of 151 participants, 53 (35.1%) had coats contaminated with *S. aureus*. *S. aureus* contamination was found in pockets of 21 (13.9%) participants, sleeves of 19 (12.6%) participants and both sites of 13 (8.6%) participants. Fifteen participants (9.9%) had coats contaminated with MRSA. Factors analysed, including sex, type of clinical appointment and frequency of washing white coats were not associated with contamination by either of bacteria.

Conclusions: There was a considerably high rate of contamination of clinical white coats worn by medical students with *S. aureus*. Such coats can be a vehicle of transmission of these pathogens between patients. Their use and cleaning need to be streamlined.

OP – 02

ANTIBIOTIC MISUSE AND DRIVERS OF ANTIBIOTIC MISUSE AMONG MEDICAL UNDERGRADUATES AT UNIVERSITY OF PERADENIYA

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Introduction: Antibiotic resistance is a silent pandemic. Misuse of antibiotics is a key contributor for this, leading to a high mortality and morbidity, and increased cost of healthcare.

Objectives: To identify the prevalence of antibiotic misuse and drivers for antibiotic misuse among medical undergraduates of University of Peradeniya in 2021.

Methods: A validated, self-administered Google forms-based questionnaire was used to gather information from 347 medical students on practices related to antibiotic use, and possible associated factors including demographics, knowledge, and perceptions towards antibiotic use. Data were collected in May and June of 2021. Practice score was calculated along with a knowledge score. Practice score was compared with the demographic details. Knowledge score was compared with practices and demographic details.

Results: The practice score ranged from 33% to 100% (median 87%; IQR 80.0-93.3). On misuse patterns, 46.4% took antibiotics without a prescription, 21.3% used left-over antibiotics, 14.7% had “prescribed” antibiotics to family, 17.6% to animals and 23.3% generally do not complete a course of antibiotics. On last recalled antibiotic use, 17.6% used for sore throat, 13.5% for common cold and 11.5% had taken antibiotics without prescription. Knowledge score ranged from 4% to 100% (median 87%; IQR 71.5-95.4) with highest percentage of incorrect answers given to the statement “antibiotics are essential for any sore-throat”. Practice scores did not differ with sex or batch. However, higher percentage of males had taken antibiotics without a prescription ($p=0.027$, Chi-square test). Those who had a family member related to healthcare prescribed less to others ($p=0.013$, Chi-square test). Knowledge score differed according to the batch with two clinical batches having the highest median scores.

Conclusions: While overall scores implicated favourable practices, antibiotic use without prescription is high among medical students and is a reason for concern.

ASSESSING THE KNOWLEDGE ON CORONA VIRUS DISEASE-2019 PREVENTION AMONG SCHOOL TEACHERS OF A GIRLS' SCHOOL IN KANDY, SRI LANKA.

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Introduction: With the reopening of schools' teachers remain a vulnerable population to contracting Corona Virus Disease-2019 (COVID-19). Equipped with accurate knowledge teachers can play a vital role in preventing the spread of the disease. While many studies have been conducted among the general population, there is inadequate information regarding the knowledge of teachers on COVID-19.

Objectives: This study assesses the knowledge on preventive measures against COVID-19 among school teachers of a national girls' school and describes the association between the knowledge and other related variables.

Methodology: A cross-sectional survey was conducted using a self-administered questionnaire on 192 school teachers. Univariate and bivariate analyses for identified variables were carried out. The cut-off point for having good knowledge was considered 75%.

Results: There were 158 responses (82.3% response rate). The majority were female (67.7%;107), in the 40-50 age group (43.7%; 69) and had not received a postgraduate level of education (61.4%; 97). The mean number of years of total teaching experience was 19.5 (SD = 9.25) and the mean number of years teaching at the current school was 5.83 (SD = 4.56). Most of the teachers (81%) are teaching more than one grade and are teaching non-science-related subjects (68.4%). 80.4% (127) of the study group scored over 75% on the questionnaire and therefore have good knowledge. There is a significant relationship between having good knowledge and having a postgraduate level of education ($p=0.041$). Nonetheless, there was no significant relationship between having good knowledge and teaching multiple grades or teaching science-related subjects nor a significant difference in the number of years teaching in those who have good knowledge and those who do not.

Conclusion: School teachers showed a good level of knowledge on COVID-19 preventive measures in the study cohort which will be of value in the prevention of disease transmission in schools.

OP – 04

PNEUMOCOCCAL COLONIZATION IN A COHORT OF VACCINE NAÏVE SRI LANKAN CHILDREN AGED BETWEEN 2 MONTHS TO 2 YEARS

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Introduction: *Streptococcus pneumoniae* is a leading cause of mortality and morbidity of children less than 5 years worldwide. Pneumococcal colonization is considered a pre-requisite for disease.

Objectives: To identify nasopharyngeal pneumococcal colonization rates, circulating serotypes and their antibiotic susceptibility patterns in healthy children and children with respiratory tract infections in central Sri Lanka.

Method: Nasopharyngeal swabs (NPS) were collected from children aged between 2 months and 2 years in two groups; healthy children (480) and children hospitalized with respiratory symptoms (450). NPS were processed using conventional laboratory techniques to isolate *S. pneumoniae*. Antibiotic susceptibility patterns of pneumococcal isolates were identified using disc diffusion method and minimum inhibitory concentration (MIC) was determined by micro-broth dilution method. Serotyping of the identified pneumococcal isolates was performed using the sequential multiplex PCR protocol recommended by the CDC. RT-PCR targeting *lytA* gene was done to identify the pneumococcal colonizing density.

Results: Pneumococcal colonization rate among healthy children was 32.1% (154/480) and pneumococcal colonization among hospitalized children was 40% (180/450). All isolates were susceptible to levofloxacin, vancomycin, linezolid and rifampicin. Erythromycin and tetracycline non-susceptibility rates were >50% in both groups. The predominant serotypes identified were 19F (19.7%), 6B (12.8%), 6A (8.9%), 23F (9.2%) and 14 (6.2%). Serotypes 19F, 6B, 6C, 23F and 14 had over 90% non-susceptibility rates for penicillin at meningitis breakpoint while all five serotypes had over 60% non-susceptibility to cefotaxime at meningitis breakpoint. Highest non-susceptibility for both drugs at non-meningitis breakpoints were shown by serotype 19F.

Mean genomic DNA copy numbers detected in children with respiratory symptoms was log₁₀ 7.49 (SD 1.07) while it was log₁₀ 7.30 (SD 0.23) in healthy children.

Conclusion: Pneumococcal colonization rates were considerably higher in both study cohorts and the commonest serotypes were 19F, 6B, 6A, 23F and 14. Antibiotic resistance rates were also relatively higher among the pneumococcal isolates.

OP – 05

PREVALENCE AND CONTROL OF BRONCHIAL ASTHMA AND ALLERGIC RHINITIS AND ITS IMPACT ON MEDICAL STUDENTS AT THE UNIVERSITY OF PERADENIYA

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Introduction: Asthma and allergic rhinitis (AR) vary in severity and frequency from person to person. Many environmental conditions or lifestyle changes can trigger or exacerbate asthma and AR. These can affect the academic and non-academic performance of medical students and thus reduce their quality of life.

Objectives: The aim of the study is to find the prevalence and factors related to the exacerbation of asthma and AR and their effects on studies and extracurricular activities among medical students of the University of Peradeniya.

Methods: A descriptive cross-sectional study was performed. All Medical students in the batches 17/18, 16/17, 15/16, 14/15, 13/14, and 12/13 of the faculty of medicine, University of Peradeniya, were involved in the study. A pre-tested questionnaire was used to collect data.

Results: Total participants were 453 with a male-to-female ratio of 0.58 and a mean age of 23.28 years. The prevalence of physician-diagnosed asthma among medical students was 13.68%. Another 16.99% had symptoms positive for asthma. Only 41.7% had good control of Asthma. After coming to the university 78.3% had more asthma exacerbations. The prevalence of physician-diagnosed AR is 26%. Another 44% had symptoms positive for AR. Most of the AR patients suffered from moderate/severe disease. After coming to the university 89% had more exacerbations of AR. Cold environments, dust, outdoor air pollution, and infections were the most common trigger factors for both conditions. Due to Asthma and AR, 70 % of diagnosed and symptoms-positive students, claimed that their studies were affected.

Conclusion: Asthma (30%) and AR (70%) are common conditions among medical students, and this affects their studies significantly in terms of missing classes, dissection sessions, clinicals, and exams. The majority of them had more exacerbations after coming to the University. Cold environments, dust, outdoor air pollution, and infections were the most common triggers.

OP – 06

HOUSE DUST MITE SENSITIVITY AMONG MEDICAL STUDENTS WHO HAVE BRONCHIAL ASTHMA AND ALLERGIC RHINITIS, IN FACULTY OF MEDICINE, UNIVERSITY OF PERADENIYA

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Introduction: Bronchial Asthma (BA) and Allergic rhinitis (AR) are common illnesses that result in frequent flare-ups due to aeroallergen sensitization. House Dust Mite (HDM) is a common triggering factor, tested by performing the skin prick test (SPT).

Objectives: The study aimed to assess the HDM sensitivity among medical students at the University of Peradeniya, who have been diagnosed with BA or AR.

Methods: Medical students who had partially and poorly controlled BA and moderate to persistent AR from all the batches of the faculty participated in the study from November 2020 to February 2021. HDM sensitivity was assessed by performing SPT which used *Dermatophagoides pteronyssinus* reagent. The diameter of the wheal was measured after 15 minutes and ≥ 3 mm was considered positive.

Results: Fifty-one students participated in the study. There were 18 students (35.3%) with AR only, 17 students (33.3%) with BA only, and 16 students (31.4%) with both AR and BA. Thirty-two were females (63%). The majority (70.6%) of the participants were positive for SPT. Among the students having AR only, BA only, and both BA and AR, respectively; 11 (61.1%), 11 (64.7%) & 14 (87.5%) were found to be positive for HDM-DP ($p > 0.05$). A significant proportion of students (55.9%) with AR had more aggravation of symptoms after coming to university hostels than they were at home. Of them, 89.5% had HDM positivity ($p = 0.048$).

Conclusion: The majority of the students with AR or BA showed positivity for HDM. A significantly high percentage of students with AR who had aggravation of symptoms when they are at hostels showed positive results for HDM.

COMPARISON OF THE OCCURRENCE OF HYPERSENSITIVITY REACTIONS TO FOOD, DRUGS AND INSECT STINGS IN ASTHMATIC AND NON-ASTHMATIC ADULTS ATTENDING TEACHING HOSPITAL PERADENIYA IN THE YEAR 2021/2022

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Introduction: A higher proportion of asthmatic individuals have hypersensitivity reactions to food, drugs and insect stings compared to non-asthmatic individuals. However, such a relationship is not established in Sri Lanka, particularly for adults.

Objective: This study is aimed to compare the proportion of individuals having a history of hypersensitivity reactions to food, drugs and insect stings in adult asthmatics attending the respiratory clinic of the Teaching hospital, Peradeniya (THP) and non-asthmatic individuals attending the Out-Patient Department (OPD) of THP in the year 2021 & 2022.

Methodology: The study was done as a two-sample, analytical, cross-sectional study using an interviewer-administered questionnaire. One hundred physician-diagnosed asthmatic adults (age range of 18-60 years) attending the respiratory clinic of THP & 100 non-asthmatic adults attending the OPD of THP were recruited consecutively considering the inclusion and exclusion criteria of the study.

Results: In the study cohort, 25% of asthmatic individuals and 13% of the non-asthmatic individuals had a history of hypersensitivity reactions to food (OR=2.11; 95%CI=1.01 - 4.44; $\bar{X}^2=4.01(>3.81)$; $p=0.045$) while 9% of asthmatics and 4% of non-asthmatics had a history of hypersensitivity reactions to drugs (OR=2.37; 95%CI=0.71 - 7.18; $\bar{X}^2=2.06(<3.81)$; $p=0.15$). Only 24 out of 100 asthmatics and 23 out of 100 non-asthmatics were stung by insects in the past. Among them, 33.33% of the asthmatics and 21.73% of non-asthmatics had a history of hypersensitivity reactions to insect stings. (OR=1.80; 95%CI=0.49 - 6.64; $\bar{X}^2=0.79(<3.81)$; $p=0.37$).

Conclusions: A significantly higher proportion of adults with a history of hypersensitivity reactions to food was seen in asthmatics compared to non-asthmatic individuals. However, a statistically significant difference was not seen in the given sample between adult asthmatic and non-asthmatic individuals having a history of hypersensitivity reactions to drugs and insect stings.

OP – 08

RESIDENT SCREENING TO ASSESS THE EXPOSURE TO HANTAVIRUS INFECTION IN SELECTED DIVISIONAL SECRETARIATS OF TWO DIFFERENT AGRO ECOLOGICAL ZONES OF SRI LANKA: A SEROLOGICAL STUDY

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Introduction: Hantaviruses found in Asian regions cause acute febrile illness with renal involvement. Human pathogenic hantaviruses are naturally maintained in rodent populations and transmitted to humans via inhalation of aerosols contaminated with the virus contained in infected rodent excreta. Human exposure to this infection was first reported in Sri Lanka in 1988 and it appears to be continuing till now. Reports suggest that the infection has spread in different geological areas of Sri Lanka. The extent of the distribution of human exposure in Sri Lanka is still unknown.

Objectives: Screening to identify the exposure to hantavirus infection among residents in selected divisional secretariats of Kegalle and Polonnaruwa districts to understand the extent of distribution in the two different agro ecological regions.

Method: Blood samples and demographic data were collected from randomly recruited 104 and 100 individuals living in Polonnaruwa and Kegalle districts respectively. The serum samples were analysed by an indirect immunofluorescent antibody assay (IFA) to identify the presence of anti-hantavirus IgG antibodies. Percentages and proportion comparisons of the hantavirus infection between the two regions were calculated.

Results: Out of the 104 study participants, 41 (39.4%) and out of 100 participants, 15 (15.0%) were positive for anti-hantavirus IgG antibodies, indicating past exposure to hantavirus infection. Proportion comparison confirmed that the differences (24.4%) between the two proportions are statistically significant. ($P = 0.0001$, 95% CI 12.2763% to 35.5682%)

Conclusions: The recruiters from Polonnaruwa district have a significantly higher exposure than those from Kegalle district to hantavirus infection. Certain areas in Polonnaruwa district are hotspots for the occurrence of chronic kidney disease of unknown aetiology (CKDu) and Kegalle district is considered as a non-CKDu region. Hantavirus infection may be one of the risk factors for the development of CKDu among the residents in endemic regions since high positive rates are being observed among them.

**A CROSS-SECTIONAL STUDY ON KNOWLEDGE AND ATTITUDE
ABOUT ADULT'S BASIC LIFE SUPPORT AMONG MEDICAL STUDENTS
OF THE UNIVERSITY OF PERADENIYA.**

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Background: Basic life support (BLS) is a key step included in the “chain of survival” which is performed in life-threatening medical emergencies. Knowledge of BLS/CPR (Cardiopulmonary Resuscitation) among medical students indicates how much quality CPR they can perform in an emergency. So, as future medical officers and current medical students, it is lifesaving knowledge to know how to perform a good quality CPR/BLS.

Objectives: To assess the knowledge and attitude about adult basic life support among medical students of the University of Peradeniya.

Method: The study was a cross-sectional type of descriptive study. A standardized self-administered questionnaire regarding knowledge and attitude on BLS was distributed via online platform and it was filled by a total of 449 participants who are 1st 2nd 3rd and 4th year medical students of the university of Peradeniya, Sri Lanka. The collected data were analysed using IBM SPSS statistic version 26.

Results: Out of participants only 34.41% have adequate knowledge. There was a significant mean knowledge difference between the 4th year and 1st, 2nd, and 3rd year ($p < 0.001$). While only 28.8% of students have the confidence of performing CPR during emergency situations while 64% of students have a positive attitude toward having adequate knowledge about BLS. 99.35% of students had participated in the BLS training session and 97.1% of them like to participate in another BLS training again.

Conclusion: Most of the medical students demonstrated inadequate knowledge of BLS. The 4th year students had a significant good knowledge level than in other years. The majority of students have a positive attitude toward BLS.

OP – 10

RESILIENCE AND ASSOCIATED FACTORS AMONG MEDICAL STUDENTS AT THE UNIVERSITY OF PERADENIYA

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Introduction: Resilience is an essential aspect of well-being and is protective against the state of burnout that plays a major role in undergraduate medical students. Empirical evidence remains limited regarding resilience and associated social, personal, and demographic factors that affect it among undergraduate medical students in South Asian settings. It has been shown that increased resilience creates positive changes in individuals. Understanding the factors associated with resilience may guide specific actions that are needed.

Objectives: To assess the resilience and associated factors among medical students at the University of Peradeniya.

Methodology: This is an observational, cross-sectional analytic study. The Connor-Davidson Resilience Scale (CD-RISC-25) was used to generate quantitative data in five different areas that affect resilience; gender, ethnicity, residence, attempts at the Advance level examination, and second MBBS results. The association between these variables and the resilience of medical students was tested using the Chi-square test. A Comparison of resilience in students who are in the transition from pre-clinical to clinical training with those who are before and after the said transition was done using the Z test.

Results: Out of 382 respondents, the mean resilience score was 64.35. Resilience was significantly associated with ethnicity ($p=0.037$). Factors that have no significant association with resilience include gender, place of residence, number of attempts at GCE Advanced level, and 2nd MBBS results. There was no significant difference between the resilience of medical students in pre-clinical, pre-clinical to clinical transition, and post-transition states.

Conclusion: The results of this study show that the mean resilience score among medical students in the Faculty of Medicine, University of Peradeniya is 64.35. The variable most closely tied with resilience was ethnicity and the other variables showed no associations.

OP – 11

EVALUATION OF DISABILITY IN LOW BACK PAIN & ITS KNOWN RISK FACTORS IN A TERTIARY CARE CENTRE OF SRI LANKA; A CROSS SECTIONAL STUDY

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Introduction: Oswestry Disability Index (ODI) is a standard self-administered questionnaire designed to evaluate the disability caused by Low Back Pain (LBP), which is a common health problem that interferes with the daily performances of an individual due to pain and disability associated with it. Sinhalese version of ODI has been recently validated. Several risk factors are associated with LBP. Assessing the severity of disability experienced by LBP patients and the association between disability and risk factors is crucial for patient management.

Objectives: To grade the severity of disability caused by LBP, identify the proportions and distribution of the known risk factors of LBP and to assess their association with the ODI.

Methods: A cross-sectional study was conducted on 113 patients, presented with LBP to the Neurophysiology clinic, Teaching Hospital Peradeniya. Their level of disability was measured by validated Sinhalese version of the ODI questionnaire. Assessing the exposure to risk factors of LBP and collecting of demographic data were done using a self-administered questionnaire. The association between ODI and risk factors was analysed with the use of statistical tests; Spearman correlation, t-test, and Chi-square test.

Results: The assessed population of 113 consisted of 80 (70.8%) females. The mean age was 49.37 ± 13.9 and the age distribution of the patients ranged from 15 to 78 years. The mean ODI score of the study population was 36.95 ± 17.70 and the majority (44.2%) were in the ODI category of moderate disability. ODI had a significant positive correlation with age ($r=0.22$, $p=0.02$) but not with other risk factors, gender and smoking habit. Disability was greater among overweight and obese patients who have higher BMI values, although it was not significant.

Conclusions: LBP causes moderate disability as assessed by ODI in the study population. Age correlates significantly with the severity of disability in LBP patients, whereas gender, smoking habit, or BMI, do not.

OP – 12

KNOWLEDGE AND PRACTICES ON HEALTHY LIFESTYLE AMONG MEDICAL STUDENTS AT THE UNIVERSITY OF PERADENIYA, SRI LANKA

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Introduction: One of the main ways of promoting a healthy lifestyle among people is improving their knowledge about healthy practices. However, it had been shown that knowledge acquisition per se does not guarantee the adoption of acquired knowledge into practice.

Objectives: To identify the association between the knowledge of a healthy lifestyle in medical students of the Faculty of Medicine, University of Peradeniya, Sri Lanka with their current practices.

Methods: This cross-sectional study involved 454 medical students belonging to 5 different batches of the Faculty of Medicine, University of Peradeniya, Sri Lanka. A pre-tested questionnaire to assess the knowledge and several close-ended questions to determine the current practices related to healthy lifestyles were administered to the participants. Collected data were analysed using software and the Chi-Square test was used to analyse the association between knowledge of a healthy lifestyle and their current practices.

Results: Of the 454 participants, 49.4 % had adequate knowledge about healthy lifestyles. The prevalence of students engaging in an adequate number of physical activities, having a balanced diet, getting an adequate amount of sleep, refraining from consuming alcohol and smoking was 21.6%, 23.3%, 27.3%, 91.0%, and 96.5% respectively. There were no statistically significant associations between the level of knowledge on healthy practices and engaging in healthy lifestyle practices.

Conclusion: The knowledge about healthy lifestyles is adequate among participants. However, whilst the numbers of students refraining from alcohol and smoking are very high, the number of students engaging in physical activities, having a balanced diet, and getting an adequate amount of sleep is low. There was no statistically significant association between the level of knowledge about healthy lifestyle and their current practices. This may be due to limiting factors for engaging in healthy practices such as time and stress.

OP – 13

USE OF PORTABLE ELECTRONIC DEVICES AMONG MEDICAL STUDENTS IN UNIVERSITY OF PERADENIYA AND THEIR KNOWLEDGE AND PRACTICES TO MINIMIZE ADVERSE PHYSICAL HEALTH EFFECTS RELATED TO ITS USE

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Introduction: PEDs (Portable Electronic Device is a device that is handheld, wireless, has internet connectivity, and can be carried) have become an essential requirement nowadays. Continuous adherence to these devices is associated with adverse physical health effects, but with regular practice of precautions, these adverse effects could be minimized or prevented.

Objectives: To describe the use of portable electronic devices among medical students in University of Peradeniya and to determine their knowledge on adverse physical health effects of its usage, the precautions that could be used to minimize them, practice of those precautions and the gap between the knowledge and practice.

Methodology: This is a descriptive cross-sectional study, done among 413 randomly selected medical students in Faculty of Medicine University of Peradeniya using a pretested self-administered questionnaire. Adequacy of knowledge and practices related to adverse effects from PED and its usage was determined using a scoring system. The gap between the knowledge and practice was assessed using Chi-squared test.

Results: Most widely used PED was smartphone (99%). Sample screen time ranged from 1 to 20 hours a day with a mean of 10 hours 26 minutes. 57.4% and 90.1% of students had adequate knowledge on adverse physical health effects and precautions to minimize those effects due to PED use respectively. Only 25.4% of students were adequately adhering to precautions. Only 27.7% of students who had adequate knowledge on precautions were adhering to good practices (p=0.001).

Conclusions: Use of PED's was high among medical students. Though the knowledge on precautions to minimize adverse health effects from PED use was good, adherence to precautions was unsatisfactory. Therefore, further studies are needed to find out the reasons for not practicing precautions allowing a more practical way to improve healthy behaviour.

OP – 14

ASSESSMENT OF PREVALENCE AND RISK FACTORS OF EYE STRAIN AND HEADACHE AMONG MEDICAL STUDENTS IN THE UNIVERSITY OF PERADENIYA WHO ARE ENGAGED IN ONLINE LEARNING DURING COVID-19 PANDEMIC

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Background: COVID-19 caused a revolutionary transformation from traditional learning methods to online learning. Therefore, it is essential to study the impact of online learning on causing eye strain and headaches.

Objectives: To assess the prevalence and risk factors for eye strain-related symptoms and headaches among medical students at the University of Peradeniya who are engaged in online learning during COVID-19.

Method: A cross-sectional comparative study was done with 422 randomly selected medical students in the University of Peradeniya (study group) and 62 garment factory workers who were not engaged in online learning (control group). Medical students of years 1-4 were included in the study group. A self-administered questionnaire was used for collecting data.

Results: There was no significant association between the eye strain related symptoms ($\chi^2=0.066$, $df=1$, $p=0.492$) and headache ($\chi^2=0.003$, $df=1$, $p=0.912$) in the study and control groups. There was a significant association between eye strain-related symptoms and engaging in more than 3 hours of online learning ($\chi^2=19.946$, $df=8$, $p=0.011$), use of blue light filters ($\chi^2=27.342$, $df=8$, $p=0.001$) and pre-existing refractory errors ($\chi^2=20.555$, $df=8$, $p=0.008$) in the study group. There was also a significant association between headache and posture used for online learning ($\chi^2=12.377$, $df=3$, $p=0.006$) and pre-existing visual problems ($\chi^2=8.369$, $df=1$, $p=0.039$). Moreover, there was a significant association between the eye strain-related symptoms and headache ($\chi^2=64.593$, $df=8$, $p<0.0001$).

Conclusion: There was no significant difference in eye strain-related symptoms and headache in the medical students who were learning online compared to the controls. But longer online learning hours, pre-existing eye problems, posture during learning and use of blue light filters were associated with eye-strain-related symptoms.

VIEWS AND ATTITUDES TOWARDS E-LEARNING METHODS IN COMPARISON TO FACE-TO-FACE LEARNING METHODS AMONG 3RD YEAR MEDICAL STUDENTS OF THE UNIVERSITY OF PERADENIYA

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Background: E-learning is a learning modality that overcomes the limitations of time and space. With the COVID-19 pandemic, medical students in Sri Lanka faced a sudden transition from face-to-face learning methods to E-learning methods. They experienced challenges while adapting to this sudden transition. Therefore, they are in a position to compare both these methods. Further, blended learning methods can consider beneficial in the future.

Objective: To evaluate views and attitudes towards E-learning methods in comparison to face-to-face learning methods among 3rd-year medical students in the Faculty of Medicine, University of Peradeniya.

Methodology: This was a cross-sectional descriptive study. The third-year medical students at the University of Peradeniya during the year 2020 participated in this study. A self-administered online questionnaire with both closed-ended and open-ended questions was distributed among them using Google Forms. Collected data were analysed using attitude scales, chi-square analysis and content analysis.

Results: Out of 177 participants, 62% were female. Overall, the most preferable learning method is face-to-face learning (58.19%). However, there is a statistically significant ($p < 0.05$) difference in preference according to gender. The majority of females (68.8%) prefer face-to-face learning, while the majority of males (58.8%) prefer online learning. Face-to-face learning was preferred due to, the ability to concentrate more, fewer distractions in the working environment and lack of clinical and practical experience and missing the university environment due to online learning. The majority preferred introducing blended learning into medical education in the future (67.23%). Most of the participants preferred 50% online learning in the context of blended learning with examinations held physically.

Conclusions: Most preferable learning method among 3rd-year medical students is face to face learning method. However, they are in favour of continuing blended learning of both components even after the pandemic.

OP – 16

HEALTHCARE SEEKING BEHAVIOUR AMONG STUDENTS OF UNIVERSITY OF PERADENIYA: A CROSS SECTIONAL STUDY

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Introduction: Health care seeking behaviour refers to activities undertaken by ill or perceived ill individuals for finding a remedy. Studying health care seeking behaviour among students will help to understand numerous factors influencing them and the quality of health delivery system.

Objectives: To determine the occurrence of health conditions, assess health seeking behaviours, identify associated health system factors and to assess the influence of sociodemographic factors that affect health seeking behaviour.

Methods: A cross-sectional descriptive study was carried out among third year students of all the faculties of University of Peradeniya. Students' health seeking behaviours and influencing factors were evaluated using a self-administered online questionnaire. Proportionately representative number of students were allocated from each faculty and simple random sampling technique was applied to choose those faculty wise students. The influence of sociodemographic factors with particular health seeking behaviours and related health care system factors were analysed with statistical tests, Chi-square test and Fisher's exact test.

Results: The study sample consisted of 355 students with 0% non-respondents. The students had obtained treatment for; 48% of physical, 22.4% of psychological, 20.7% of social, 3.7% of sexual and 5.2% of addictive conditions. A total of 74.4% had engaged in healthcare with symptoms and 13.8% without symptoms. Allopathic medicine was the most preferred (80%) treatment modality. Trend to use self-medication (Fisher's exact value=16.3, significance=0.02) and busy life schedule (Fisher's exact value=20.1, significance=0.005) as a reason, not to get treatments was significantly associated with increasing age of the study population. The concern about the quality of medicine was significantly associated with monthly family income (Fisher's exact value=18.4, significance=0.003) of study population.

Conclusions: University students suffer from numerous health conditions and majority have sought treatment. Allopathic medicine was most preferred. Busy lifestyle, lower monthly family income had negatively influenced their health care seeking behaviour.

KNOWLEDGE, ATTITUDE AND PRACTICES ABOUT BEE, WASP, AND HORNET STINGS AND THEIR COMPLICATIONS AMONG FIRST AND SECOND YEAR MEDICAL STUDENTS OF FACULTY OF MEDICINE, UNIVERSITY OF PERADENIYA.

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

Objectives: To assess knowledge, attitudes and practices about Hymenopteran stings and their complications among first and second-year medical students of the University of Peradeniya.

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

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

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

OP – 18

IMPACT OF COVID-19 PANDEMIC ON DIETARY PATTERNS AND EXERCISE HABITS OF MEDICAL STUDENTS AT UNIVERSITY OF PERADENIYA

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Introduction: On March 11th, 2020, the World Health Organization declared the COVID-19 outbreak a pandemic. All over the world, governments had to impose travel restrictions and gatherings to contain the disease, which invariably affected the health-related behaviours of people, including food choices and exercise habits. Hence, the objective of this study was to describe the effects of the COVID-19 pandemic on the diet and exercise habits of a sample of medical students studying at the University of Peradeniya.

Methodology: A descriptive cross-sectional study was carried out on a convenient sample of 342 medical students studying at the University of Peradeniya. Perceptions of changes in dietary habits and physical activity after the onset of the pandemic were collected by circulating a Google form. The data were analysed as percentages.

Results: An increase in the intake of rice, yams and jackfruit, meat, and eggs, dhal, gram, fresh fruits, and vegetables was reported, while a decrease in the intake of fresh fish, dairy products, and fast food was reported. In addition, intake of coriander (62.28%) and vitamin C supplements (47.95%) were reported as high. A fall in the use of canteen and restaurant food (66.95%) and mobile food services (51.17%) was also reported. Whilst 54.09% of the study sample claimed that the exercise schedule was not affected by the COVID-19 pandemic, 34.44% claimed that it was affected either positively or negatively. Overall, the total hours of physical activity of 50.88% of the participants were reduced due to the pandemic.

Conclusions: This study shows that there has been a considerable impact of the COVID-19 pandemic on the dietary habits and exercise patterns of our study population.

ASSESSMENT OF MEDICAL STUDENTS' SATISFACTION, EXPECTATIONS REGARDING THE SERVICE, AND OVERALL QUALITY OF CANTEENS OF UNIVERSITY OF PERADENIYA

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Introduction: Canteen foods play a major role in the physical and mental well-being of medical students because most of the university students consume food from university canteens. Therefore, the provision of good quality, nutritious and affordable diet is a major role of university canteens.

Objectives: To assess the medical students' satisfaction, expectations, and the quality of the environment, food, and services rendered by the canteens of the University of Peradeniya.

Methods: This descriptive cross-sectional study was designed by taking a convenient sample of 460 medical students at the University of Peradeniya. Data regarding the students' satisfaction and expectations of food, services, and physical facilities were collected using a Google form. The overall quality of the university canteens was assessed through a checklist.

Results: Of the sample of students, 98% used university canteens, and 51.4%, 56.8%, and 77.6% thought that the canteens fulfilled their expectations for breakfast, lunch, and snacks respectively. Only 16% of the students agreed that food was fresh and hygienic whilst 49.2% didn't feel they got a balanced diet from the canteens.

On inspection of the six canteens, the surrounding environment, internal physical facilities, and the condition of food preparation areas were satisfactory in all canteens. Overall, the utensils, equipment, and furniture used were adequate, but the level of cleanliness, waste management, and maintenance of waste bins was unsatisfactory. Storage of raw and cooked food, storage facilities, housekeeping, the condition of food and raw material and cleanliness of the food was unsatisfactory as per the PHI guideline.

Conclusions: Whilst the majority of the participants used the university canteens, they were unsatisfied with many aspects of canteen services including the quality of the food served. On inspection, the overall quality aspects of the university canteens were unsatisfactory.

OP – 20

PREVALENCE AND POTENTIAL RISK FACTORS OF MEDIAL TIBIAL STRESS SYNDROME AMONG THE NEWLY RECRUITED OFFICER CADETS AT KOTELAWALA DEFENCE UNIVERSITY, SRI LANKA

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Introduction: Medial tibial stress syndrome (MTSS) is a common cause of exercise-induced leg pain and is characterized by a tender and painful area in the distal two-third of the posterior-medial edge of tibia. Military personnel, distance runners and athletes involved in jumping sports incur MTSS with an incidence of 4 to 35%. This study aimed to identify the prevalence and potential risk factors associated with MTSS among the newly recruited officer cadets at Kotelawala Defence University.

Methods: The eligible participants recruited from 15/12/2021 to 15/01/2022 undergone a baseline physical assessment including the measures of height, weight, balance, navicular drop and foot position. Following a 3month physical training they were evaluated for MTSS score using a validated MTSS questionnaire and the presence of MTSS pain. Other variables such as type of shoes and training schedule were also collected. The prevalence and descriptive statistics were calculated. The evaluation of risk factors was conducted with multivariable logistic regression analyses.

Results: In total 319 first year officer cadets were recruited of whom 254 (79.7%) were males and 65 (20.3%) females with a mean age of $21.5 \pm (SD 0.89)$ years. Out of the total sample, 75 (23.5%) participants ($n=20(26.6\%)$ females and $n=55(73.3\%)$ males) were presented with MTSS. Associated risk factors were pronated foot with increased navicular drop (OR=3.89 95% CI 2.5 to 4) increased balance tug test score (OR=9.91 95% CI 5 to 11) and above average running distance per day (OR=2.41 95% CI 2 to 11).

Conclusion: Nearly one fourth of the officers are affected by MTSS and this is comparable to reported prevalence in previous studies. Assessment of fore-said potential risk factors will aid trainers to predict the development of MTSS. Individualized adjustments of the training schedules in terms of duration and intensity and, careful observation of its progression may help to prevent MTSS.

OP - 21

**DETERMINANTS OF COMPLIANCE BEHAVIOUR AMONG PATIENTS UNDERGOING HAEMODIALYSIS:
A DESCRIPTIVE STUDY IN TWO IN-CENTRE DIALYSIS UNITS AT A MAJOR TERTIARY CARE MEDICAL INSTITUTION IN SRI LANKA**

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Introduction: Maintenance haemodialysis is one of the life-saving procedures for patients with end-stage renal disease (ESRD). The majority of patients are on centre-based haemodialysis as their treatment modality, offering a unique opportunity to examine the adherence behaviour to the therapeutic regimen.

Objective: This study was aimed at identifying the determinants of non-adherence behaviour among haemodialysis patients on maintenance haemodialysis at a major tertiary care medical institution in Sri Lanka.

Methods: A total of 317 respondents were recruited from two in-centre dialysis centres in the national hospital, Kandy. Self-reported compliance behaviour was measured by using an end-stage renal disease adherence questionnaire (ESRD-AQ). Multiple linear regression analysis was performed to explore how each socio-demographic, as well as disease-related characteristics, influence compliance behaviour to the recommended treatment modalities.

Results: There was a preponderance of males in the study population (69.4%, N=220). The mean age of the study population was 51.8 ± 12.6 years. A total of 232 (73.2 %) patients had good overall adherence behaviour, 83 (26.2%) had moderate adherence and two patients (0.6%) had poor adherence. Compliance rates for diet, fluid, medication and dialysis were 69.4%, 46.3%, 86.1% and 98.7% respectively. Overall adherence score was significantly greater for females than for males ($U = 9177.0, P = <.045$). Furthermore, screening positive for depression ($U = 7912.5, P = .001$) and having comorbidities ($U = 3389.0, P = .004$) were significantly associated with low adherence scores. Education level ($B = 14.786, P = <0.05$) and presence of comorbidities ($B = -26.148, P = <0.05$) were significant predictors of adherence behaviours.

Conclusions: Adherence to the HD treatment modalities is at a considerably optimum level. Even though the majority of participants had good overall adherence behaviour, compliance with fluid and diet restrictions remains poor.

OP - 22

PREVALENCE OF DEPRESSION AND ASSOCIATED FACTORS IN PATIENTS ON MAINTENANCE HAEMODIALYSIS: A DESCRIPTIVE STUDY IN TWO IN-CENTRE DIALYSIS UNITS AT A MAJOR TERTIARY CARE MEDICAL INSTITUTION IN SRI LANKA

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Introduction: Maintenance haemodialysis is one of the life-saving procedures for patients with end stage renal disease (ESRD). As the majority of patients are on centre-based haemodialysis as treatment modality, thus offering a unique opportunity to examine the prevalence of depression.

Objective: This study was aimed at identifying the prevalence of depression and the associated factors among patients on maintenance haemodialysis at a major tertiary care medical institution in Sri Lanka.

Method: An analytical cross-sectional study included a representative sample of 388 haemodialysis patients. The purposive total population sampling techniques was adopted and finally 317 patients were included to final study. Locally validated Centre for Epidemiologic Studies Depression Scale was used to assess the presence of depression and interviewer administered questionnaires used to obtain the information related to associate factors. Association between selected risk factors and the presence of depression among participants, the categorical variables related to socio-demographic characteristics were analysed separately using chi-square test.

Results: There was a preponderance of males among the study population (69.4%, N=220). Mean age of the study population was 51.8 ± 12.6 years. The screening revealed that 71.3% (N=226) of participants were depressed. Of a total, prevalence of depression among females and males were 21.1% and 50.2% respectively. Chi-square test revealed that being Sinhalese ($p = .007$), low education level ($p = .015$), lower socio-economic state ($p = <.001$), unemployment ($p = .003$) and presence of comorbidities ($p = <.001$) were significantly associated with the presence of depression.

Conclusions: Prevalence of depression among participants was significantly high. Having a Sinhala ethnic background, low educational level, poor income status, unemployment and presence of comorbidities significantly associated with presence of depression.

**HEALTH RELATED QUALITY OF LIFE IN PATIENTS ON MAINTENANCE
HAEMODIALYSIS:
A DESCRIPTIVE STUDY IN TWO IN-CENTRE DIALYSIS UNITS AT A
MAJOR TERTIARY CARE MEDICAL INSTITUTION IN SRI LANKA**

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Introduction: As the majority of end stage renal disease (ESRD) patients are on centre-based haemodialysis as treatment modality, thus offering a unique opportunity to examine the health-related quality of life (HRQOL).

Objectives: This study was aimed at describing the HRQOL and the associated factors among patients on maintenance haemodialysis.

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

Results: There was a preponderance of males among the study population (69.4%, N=220). Mean age of the study population was 51.8 ± 12.6 years. Median KDSC (70.7; inter-quartile range (IQR) 42-79.1), was higher than the median summary scores of PCS (31.9; IQR 16.2-40.7) and MCS (45.5; IQR 35.9-55.7). The results indicated that the HRQOL in relation to KDSC was significantly greater for females than for males ($U = 7840.5, P = <.001$). Screening positive for depression ($U = 7015.5, P = <.001$), having comorbidities ($U = 3200.0, P = .001$) and currently not being employed ($U = 5085.5, P = .021$) were significantly associated with low HRQOL in KDSC. HRQOL in relation to PCS ($U = 7205.5, P = <.001$) and MSC ($U = 7927.5, P = <.001$) were significantly greater for females than for males. Screening positive for depression ($U = 7771.0, P = .001$) was also significantly associated with low HRQOL in MSC.

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

OP – 24

**KNOWLEDGE, ATTITUDES, & PRACTICES ON RISK FACTORS OF
TYPE 2 DIABETES MELLITUS AMONG SRI LANKAN PRE-CLINICAL
STUDENTS OF THE FACULTY OF MEDICINE
UNIVERSITY OF PERADENIYA**

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

Objectives: To assess the knowledge, attitudes, & practices on risk factors of type 2 DM among pre-clinical students of the Faculty of Medicine, University of Peradeniya.

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

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

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

COMPLIANCE TO ORAL ANTIDIABETIC THERAPY AMONG TYPE 2 DIABETES MELLITUS PATIENTS IN DIABETIC CLINIC OF TEACHING HOSPITAL PERADENIYA

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Introduction: Type 2 diabetes mellitus (DM) is a public health problem affecting an estimated 8.5% of Sri Lankan adults. The Diabetes Control and Complications Trial and UK Prospective Diabetes Study showed good compliance to treatment results in good glycaemic control which in turn delays the onset of complications of diabetes.

Aim: To assess the compliance to oral anti-diabetic therapy among type 2 DM patients followed up at the diabetic clinic of Teaching Hospital Peradeniya, describing factors associated with non-compliance and the strategies patients use to remind them to take medications.

Methods: This was a descriptive cross-sectional study, and the study subjects were randomly selected among the type 2 DM patients attending the diabetic clinic who are aged >18 years, on oral hypoglycaemic drugs for more than 3 months and currently not using insulin. The study sample was interviewed with a questionnaire and the compliance was measured using the Medication Compliance Questionnaire (MCQ). The data were analysed using SPSS software.

Results: There were 251 participants in this study. Out of them, 95 (33%) were males and 156 (67%) were females. The majority (61.4%) were not compliant with oral anti-diabetic therapy. Out of the compliant population 62.9% had dyslipidaemia and it showed a significant association ($p=0.009$). Those who had any chronic co-morbidity (81.7%), including hypertension, dyslipidaemia, asthma, chronic kidney disease, cardiovascular disease and other diseases (epilepsy, arthritis, etc.) were more compliant (significance, $p=0.029$). The rank value of compliant patients for total pill number per day was 137.94 and for non-compliant patients it was 118.48. This was statistically significant with a p value of 0.038. Most of the patients took the pills as a daily routine (91.24%).

Conclusion: Oral anti-diabetic drug compliance was quite poor among study participants. Having co-morbidities, dyslipidaemia & taking high total pill number per day were associated with compliance. Majority took the pills as a daily routine.

OP – 26

AWARENESS AND ADHERENCE OF DIETARY MODIFICATIONS IN HYPERTENSION AMONG HYPERTENSIVE PATIENTS ATTENDING A TERTIARY CARE FACILITY

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Introduction: According to World Health Organization (WHO), two-thirds of hypertensive patients live in low- and middle-income countries like Sri Lanka. The recommended dietary modifications for hypertension include reduction of salt intake and following the Dietary Approaches to Stop Hypertension (DASH) diet. Even though increased awareness and adherence to dietary modifications are associated with a reduction in blood pressure, studies carried out on the subject are limited in Sri Lanka.

Objective: To assess the awareness and adherence of dietary modifications in hypertension among hypertensive patients seeking care in a tertiary care facility.

Methodology: A descriptive cross-sectional study was conducted on 300 patients selected from systematic random sampling. The data was collected through an interviewer-administered questionnaire and the analysis was primarily descriptive. The prevalence of awareness and adherence to dietary modifications was calculated as percentages.

Results: 84% of the participants were aware that dietary modifications could be used to control hypertension. Although 90% were aware that salt reduction is important in managing hypertension, only 42% were aware that the daily consumption of salt should be less than 5g. Adherence to a low salt diet was satisfactory. The mean value for DASH diet awareness among the participants was 51%. The adherence to the DASH diet was not satisfactory as more than 50% of adherence was shown only to the food group containing meats, poultry, fish, and the group consisting of fats and oils. Regarding the factors contributing to non-adherence, 48% had found it difficult to prepare food separately from family members.

Conclusions: The awareness and adherence to low salt diet are at a satisfactory level but there is still room for improvement. The awareness and adherence to the DASH diet are not satisfactory and should necessarily be improved. Necessary measures should be taken to correct the factors for non-adherence identified.

PERCEPTION OF A SUBURBAN COHORT OF SRI LANKANS ON COVID-19 VACCINATION AND USE OF INDIGENOUS MEDICINES FOR PREVENTION FROM COVID-19

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Introduction: With the emergence of the COVID-19 pandemic in the world, as a prevention strategy people tend to opt between indigenous medicine and vaccination in addition to other safety precautions

Objectives: To assess the perception of the COVID-19 vaccine and traditional indigenous medicine in a suburban cohort in the central province of Sri Lanka for the prevention of COVID-19.

Methods: Data were gathered through a validated, self-administered questionnaire given to a sample of 422 subjects in Bowalawatta Grama Niladhari Division, Kandy District, from April to June 2021

Results: Out of 422 subjects, 247 were females (58.53%). Of the total population 304(72.0%) individuals preferred vaccination, 73(17.30%) preferred traditional indigenous medicine and 45(10.70%) preferred none of the methods as the preventive method for COVID-19 infection. Majority (82.70%) acknowledged that COVID-19 was caused by a virus, 119(28.19%) had good knowledge about the spread of SARS CoV-2 virus and 138(32.70%) also had good knowledge about symptoms of COVID-19. The majority of individuals (62.32%) adherence to the safety guidelines against the spread of COVID-19 was not satisfactory. Out of the people who preferred vaccines 126(41.44%) were concerned about the adverse effects of it and of those who chose traditional indigenous medicine 57(70.08%) were not fully vaccinated due to the fear of adverse effects of vaccines.

Conclusion: Although the majority perceived vaccines for the prevention of COVID-19 in the study cohort, adherence to safety guidelines was not satisfactory. Vaccination did not meet recommended targets among people who opt for indigenous medicine

OP – 28

**BURDEN OF CONGENITAL MALFORMATIONS IN CHILDREN:
ONE-YEAR RETROSPECTIVE REVIEW IN A
PAEDIATRIC SURGICAL CENTRE**

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Introduction: Congenital Malformations (CMs) are structural or functional anomalies that occur during intrauterine life. They account for 7% of newborn fatalities globally. Currently in Sri Lanka CMs represent about 40.4% of infant deaths while other causes of infant mortality have significantly reduced. Thus, CMs require more attention due to the burden on the health system.

Objectives: To review and analyse types, risk factors and detection of congenital malformations presenting to surgical services at Sirimavo Bandaranaike Specialized Children's Hospital (SBSCH) in the year 2020.

Methods: A Retrospective cross-sectional study was carried out at SBSCH on a random sample of 97 patients who presented to surgical wards with one or more CMs in the year 2020.

Results: In 2020, 1145 patients presented with CMs out of 18658 total admissions (6.13%), with males affected predominantly. The highest number of anomalies were reported in the cardiovascular system, followed by genital and digestive systems. On the analysis of study sample, malformations involving the genital system were more frequent and 85.6% had isolated defects while 14.4% had multiple defects. The antenatal case detection rate was 7.4%. Most of the postnatal cases were detected during the neonatal period where 74.2% were born at term while 28.9% had low birth weight. When assessing risk factors among mothers, there were 66% multipara mothers, 6.4% of consanguineous marriages, 10.4% with gestational diabetes mellitus, 6.3% with hypertension, 26% without pre-conception folic acid supplements, 11.5% exposed to passive smoking and 22.1% used any kind of medication during pregnancy.

Conclusion: In our series cardiovascular, genital, and digestive systems were predominantly involved with nearly two-thirds of children having one or more risk factors. Antenatal case detection rate is less and need to be improved for optimum care. Active surveillance of congenital malformations is crucial to detect the burden on health system.

KNOWLEDGE, SOURCES OF KNOWLEDGE AND BARRIERS TO GAIN KNOWLEDGE ABOUT EXCLUSIVE BREASTFEEDING PRACTICE IN PRIMIGRAVIDA PRESENTING TO AN ANTENATAL CLINIC AT THE THIRD TRIMESTER

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Background: Breast milk is the most fundamental nutritional substance an infant can get during the first months of life. It is important to initiate breastfeeding during the first hour of birth and continue it up to 6 months exclusively. Sri Lankan mothers gain knowledge on exclusive breastfeeding (EBF) from a variety of sources, some of which are of questionable integrity. They are also confronted by a number of barriers in the process of gaining knowledge.

Objective: To describe the knowledge, sources of knowledge, and barriers to gaining knowledge on exclusive breastfeeding practice in primigravida presenting at the third trimester to the antenatal clinic of Teaching Hospital Peradeniya.

Methodology: A descriptive type cross-sectional study was conducted at the antenatal clinic, Teaching Hospital Peradeniya on third trimester primigravida mothers using an interviewer-administered questionnaire.

Results: Out of 145 mothers, 91.72% were aware that the baby should receive EBF for the first six months but only 7.59% of mothers had answered 10 out of 12 questions correctly. Public Health Midwives (PHM), doctors and other medical professionals were the main sources of information about EBF in 88.97%, while electronic media, the internet and social media were used by 44.14%. The main barriers to gaining knowledge were problems in the working place (11.72%) and no PHM home visits (12.41%), while prevention of mothers from attending antenatal clinics by family members was noted in only 3.34%. 61.37% knew that expressed milk is one of the best solutions for working mothers. Only 8.27% were aware of how to give expressed breast milk while 22.06% knew how to properly preserve expressed breast milk.

Conclusions: Knowledge about EBF is not adequate in our series. The most reliable source of knowledge is medical professionals. Mothers believe healthcare personnel have adequate breastfeeding knowledge and training. No PHM home visits and problems in the workplace were major barriers to attending antenatal clinics.

OP – 30

**THE EFFICACY OF ULTRASOUND GUIDED HYDROSTATIC
REDUCTION IN THE MANAGEMENT OF CHILDHOOD
INTUSSUSCEPTION AND ITS RELATIONSHIP TO TIME LAPSE AT
PRESENTATION**

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Introduction: Childhood intussusception is a commonly encountered medical emergency which can be managed by a number of operative and minimally invasive surgical methods. The current gold standard for non-operative management is ultrasound-guided hydrostatic reduction (USGHR).

Objectives: To assess the success of USGHR in the management of childhood intussusception and rates of operative intervention and complications in a setting of delayed presentation (>48 hours).

Methods: This is a retrospective study that explores the outcomes of USGHR in the management of intussusception in children presenting to a single tertiary care centre in Sri Lanka, between November 2019 and March 2021. USGHR using saline enema was performed in patients with radiologically confirmed intussusception in the absence of contraindications. In failed attempts or early recurrences, USGHR was repeated for a maximum of 2 more attempts.

Results: Our study included 135 participants of which 31.5% (n=41) had a delayed presentation (>48hrs). USGHR showed a success rate of 72% (n=118) after one attempt. The overall success rate reached 86.4% after subsequent attempts. No association was seen between time since onset of symptoms and success of USGHR ($p < 0.05$). In 19 patients (14.1%) operative intervention was required and the rates of operative intervention were comparable in those presenting delayed (12.2%) and within 48 hours (12.4%). One case (0.7%) of bowel perforation and 1 case of peritonitis (0.7%) occurred in those presenting within 48 hours and after 48 hours respectively.

Conclusions: USGHR is a safe and effective procedure to be performed as the primary management option in childhood intussusception even in a setting of delayed presentation. Overall success increases with repeat reduction. Careful patient selection will maximize success and minimize complications.

PROBLEMS AND SYMPTOMS RELATED TO MENSTRUATION AND ITS IMPACT ON THE DAILY ROUTINE OF MEDICAL UNDERGRADUATES OF UNIVERSITY OF PERADENIYA

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Introduction: Various menstrual problems and symptoms impose an additional physical and psychosocial stress on medical undergraduates apart from their hectic lifestyle and has become an enormous obstacle for them.

Objectives: Our study was aimed to describe problems and symptoms related to menstruation and to assess their impact on daily routine and academics of medical undergraduates of University of Peradeniya.

Methodology: A validated online questionnaire was used to collect data from 358 female medical students on information related to menstrual problems such as dysmenorrhoea, premenstrual symptoms, heavy menstrual bleeding, sources of information and assistance available for them, and impact on education and lifestyle. Menstrual problems and their interference on lifestyle as perceived by the students were assessed using a numeric rating scale.

Results: Over the past 12 months, 71.2% had regular cycles, 27.7% had irregular cycles and 1.1% were unaware of the regularity. 83% experienced premenstrual symptoms and out of them 64.2% had fatigue, 34.6% diarrhoea, 34.4% depressive symptoms, 29.3% headache, 30.4% nausea and 23.7% had dizziness. Out of the respondents, 4.7% did not experience any pain during menstruation while 29.1% and 66.2% complained of mild and severe pain respectively. All of the participants had sought knowledge from at least one source, out of this 90.7% from their mother, 61.2% from friends, 68.7% from the internet, and 46.6% from books. 353 of the participants had taken assistance from at least one mode while 5 had managed by themselves. A majority of 74.3% had sought help from their mother while 10.6% had friends and only 9.2% reached healthcare professionals. Considering attending lectures/clinicals 48.3% have been affected while 67.7% and 74.3% reported interference with social activities and sports respectively.

Conclusions: Since there is a high proportion of students affected by menstrual problems, interventions such as arrangements for gynaecological clinic follow-ups and counselling sessions would be desirable.

POSTER PRESENTATION ABSTRACTS

PP – 01

TREND ANALYSIS OF OVERWEIGHT OR OBESITY AMONG ANTENATAL WOMEN AT THE BOOKING VISIT IN SRI LANKA (2007-2019)

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Introduction: Pre-pregnancy BMI is perceived as an important predictor of both maternal and child health. Pre-pregnancy overweight or obesity is a key modifiable risk factor to avoid perinatal complications as well as long term outcomes like non-communicable diseases. BMI measured before 12 weeks at the booking visit is approximated for pre-pregnancy BMI.

Objective: This study aims to evaluate the trend in overweight or obesity among antenatal women at the booking visit (before 12 weeks) in Sri Lanka and the corresponding demographical distribution from 2007 to 2019.

Method: Data were extracted from publications of the Family Health Bureau. Trend analysis was done using Microsoft Excel software.

Results: Along the duration from 2007-2019 there was more than 2 fold increase in the percentage of antenatal women with BMI>25, from 13% in 2007 to 29.9% in 2019. The average annual percentage change of overweight or obese antenatal women during the period was 6.9. When considering the district wise distribution there was a significant clustering of overweight and obese mothers in the western province where >30% of the registered pregnant mothers were overweight or obese in all the 3 districts.

Conclusion: Overweight and obesity among antenatal women before 12 weeks has significantly increased over the past duration from 2007-2019. This emphasizes the need of strengthening proper interventions to reduce overweight and obesity and maintain ideal BMI from early life. Also, the district disparities should be addressed specifically.

SYMPATHETIC RESPONSE TO ISOMETRIC HANDGRIP TEST: AGE AND GENDER RELATED VARIATION IN A NORMAL POPULATION

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Introduction: Isometric handgrip test is a sensitive, reproducible and non-invasive test of sympathetic function routinely integrated into cardiac autonomic function testing. Sustained handgrip leads to an increase in blood pressure and heart rate by central mechanisms and peripheral muscle contraction.

Objectives: To determine the variation of sympathetic response to isometric handgrip in relation to age and gender in a normal population.

Methods: Blood pressure response and heart rate variation to isometric handgrip were measured in healthy males (n=103) and females (n=78) with a mean age (\pm SD) of 38.6 ± 16.9 and 46.2 ± 16.1 respectively, using Power Lab 26T data acquisition system and Lab Chart 8 software. The standardized procedure of sustained handgrip for 3 minutes at 30% maximum voluntary contraction was performed on a handgrip dynamometer. Diastolic blood pressure differences (DBPD) were calculated. Further, One-way Analysis of Variance was applied to male and female subjects with a T-test to establish the statistical significance of variation with gender.

Results: DBPD did not vary significantly with age in both male and female subjects ($P > 0.05$). Females had a higher mean increase in DBPD (30.82 ± 8.9), compared to males (30.10 ± 10.9).

Conclusions: In contrast to age, gender variation in sympathetic response to isometric handgrip was observed. This can be incorporated for future research trials and patient testing to achieve greater accuracy, although the clinical significance is minimal.

PP – 03

**DEMOGRAPHIC AND BIOMEDICAL PARAMETERS OF PATIENTS
PRESENTING WITH ANDROGENETIC ALOPECIA:
AN OBSERVATIONAL STUDY**

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Introduction: Androgenic alopecia is a common condition with aesthetic implications in both males and females. The causative factors could be lifestyle activities or associated medical conditions. Identification of the causative factors is important in planning the management.

Objectives: To identify demographic and biochemical parameters of patients with hair fall.

Methods: Patients were recruited from the outpatient clinic, Aurora Skin Centre, Kandy. An interviewer- administrated questionnaire was used to collect data. A descriptive statistical analysis was performed.

Results: A total of 111 patients aged 9-63 years consented to participate in the study. There were 24 (21.6%) males and 87 (78.4%) females and 72(64.9%) were married. Twenty (18.02%) participants were doing regular daily exercises. Out of all participants, 10 (9.0%) and 21 (18.9%) had maternal and paternal family history of androgenetic alopecia respectively while 13 (11.7%) had both maternal and paternal family history.

Out of female participants, 3 (3.4%) had menorrhagia. Acne, hirsutism and acanthosis nigricans were found in 16 (18.3%), 5 (5.7%) and 5 (5.7%) respectively.

The mean BMI was 22.90 (± 6.64) and the mean haemoglobin level was 11.94 (± 1.79). The mean serum ferritin level was 42.8 (± 51.7) with one (4.2%) male and 16 (18.4%) female participants having serum ferritin levels lower than normal range. One (0.9%) had an elevated serum thyroid stimulating hormone (TSH) and six (5.4%) had low TSH.

Conclusions: Within observed population, lack of exercise was observed as a possible contributory factor for the androgenetic alopecia. Even though androgenic alopecia is not directly associated with low serum ferritin level 18.4% of females demonstrated low serum ferritin level, which may be a contributory factor for hair loss. Feature of excess androgen levels and polycystic ovary syndrome were found among some of the participants. A study with a larger sample size will give a better understanding of etiological factors related to androgenetic alopecia.

BENIGN AND MALIGNANT BRAIN TUMOUR CLASSIFICATION BY ANALYSING TEXTURE FEATURES OF MRI-ADC IMAGES USING MACHINE-LEARNING TECHNIQUE

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Abstract

Diffusion Weighted (DW) imaging is a Magnetic Resonance Imaging (MRI) technique that is widely used in modern clinical neuroimaging practices. This study was focused on developing a robust machine-learning (ML) model to differentiate benign and malignant brain tumours by analysing patients' demographics, high-order moments, and statistical texture fractures of Grey Level Co-occurrence Matrix (GLCM) of Apparent Diffusion Coefficient (ADC) images of brain tumours.

The study population of 1599-labelled MRI brain ADC image slices including both benign and malignant tumour categories was utilized to extract the data 604 benign:995 malignant slices. Histopathological and radiological reports were utilized to confirm the pathological condition of each subject. The tumour areas within ADC images were delineated by region of interest (ROI) and the ADC values within each ROI were utilized to extract the mean pixel values, skewness, kurtosis, and GLCM texture features; mean, variance, energy, entropy, contrast, homogeneity, correlation, prominence, and shade. The selected dataset through the ANOVA f-test feature selection method was split into training, and testing (0.7:0.3) sets. The most promising ML algorithm for the dataset was identified through K-fold cross-validation. The performance of the developed model was enhanced by tuning the hyperparameters and assessed by measuring accuracy, precision, recall, and F1 values.

According to the results of the ANOVA f-test, all the features except skewness (3.34), and GLCM homogeneity (3.45) were utilized to feed the Random Forest Classifier (RFC) as it performed the highest score at the K-fold cross-validation; 84.36%. The optimized classification model developed in RFC performed at overall accuracy of 90.41%.

Finally, the study concludes that the features extracted in this study except for skewness, and GLCM homogeneity, can be utilized as key biomarkers to differentiate ADC images of benign and malignant brain tumours.

PP – 05

RED CELL FRAGILITY OF NON-DIABETIC AND DIABETIC RATS FED WITH VIRGIN COCONUT OIL, SOYA OIL AND WATER

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Abstract

Diabetes mellitus is a chronic disease caused by either absolute insulin deficiency or impaired insulin action, and characterized by hyperglycaemia, that cause many derangements in the normal physiology. Its high prevalence worldwide and in Sri Lanka, call for novel measures to alleviate this condition. Earlier studies have shown an implication of coconut oil, in glucose tolerance, which could be due to a change in membrane function.

This study was aimed to elucidate the effect of virgin coconut oil (VCO) or soya oil (SO) on the red cell fragility in diabetic (D) and non-diabetic (ND) rats. Sprague Dawley male rats (48 nos.) of 6 – 8 weeks of age weighing 150 – 200 g were divided to six groups. Three groups were ND and the other three groups were in the D state, induced using alloxan. The three groups in each category received, either water, VCO or SO as the test material, orally at 7.5ml/1000g for each rat. Water and food were given *ad libitum* to all the groups.

In the non-diabetic and diabetic rats fed with VCO, SO and water, red cell fragility was tested by suspending the red cells in saline solutions of varying NaCl concentrations (0, 0.3, 0.4, 0.5, 0.6, 0.9 g/dL), and the amount of released haemoglobin being measured by spectrophotometry, after centrifugation of the tubes to sediment the unbroken red cells.

In both ND and D groups, VCO fed animals showed a lesser red cell fragility than the other groups – indicating that VCO has a effect on the stability of the red cell membrane.

SOCIOECONOMIC BACKGROUND AND CLINICAL PARAMETERS OF HOSPITALIZED PATIENTS WITH COPD EXACERBATION

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Abstract

Chronic obstructive pulmonary disease (COPD) is characterized by progressive irreversible airflow obstruction due to an inflammatory response occurring in consequence of exposure to noxious particles. This study was conducted to obtain an insight into socioeconomic background and clinical parameters of hospitalized patients with COPD in Sri Lankan setting.

The prevalence of COPD and the frequency and severity of exacerbations are relatively high in under privileged socioeconomic backgrounds according to previous evidence. Yet relevant research related to Sri Lankan context are very minimal. It is of utmost importance to thoroughly study it in order to permit health policy makers to design methods to cope with unfavourable socioeconomic factors causing unfavourable outcomes of the disease.

This is a cross sectional study of descriptive type which was done by an interviewer mediated questionnaire using hospitalized patients with COPD in Peradeniya and Kandy Teaching Hospitals. Though the study was not completed due to the effect of Covid-19 pandemic, the general outlook of collected data indicates that the prevalence and the frequency of exacerbation of COPD tend to be higher in lower socioeconomic backgrounds. Once completed, this study will provide an insight for policy makers to design a patient centred method to counteract the effects of those unfavourable socioeconomic factors, thus leading to better clinical outcomes.

PP – 07

DIPLOPIA IN MIGRAINE – OPHTHALMOPLAGIC MIGRAINE

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Introduction: Ophthalmoplegic migraine is one of the rare forms of migraine which is defined as a Headache disorder of at least 2 attacks characterized by migraine-like headache followed within 4 days by paresis of the third, fourth, and /or sixth cranial nerves including, ophthamo-paresis, ptosis, or mydriasis.

Case Presentation: A 48-year-old Sri Lankan female from the Kegalle with a history of recurrent migrainous attacks, was on preventive medication with poor compliance. She presented with sudden onset vertigo, drooping of the right eyelid, and diplopia following a unilateral throbbing type headache that lasted for a day, without any precipitating and exacerbating factors. Upon examination right pupil was dilated at 4mm, with impaired direct and consensual light reflex, partial ptosis, and diplopia in down and out, and up and out movements. The left eye was completely normal, and the fundoscopic examination was normal. The rest of the examination findings are unremarkable. All the blood tests were normal. Imaging of the brain excluded other differential diagnoses. Lumbar puncture was also negative. She was treated with Topiramate and other symptomatic treatments. Her ptosis and diplopia subsided within 2 days of starting treatment and her pupillary size and light reflexes became normal.

Conclusion: migraine can present with ophthalmoplegia which can mimic an underlying sinister pathology. But with correct diagnosis and treatment, the outcome is good.

STERILE PYURIA WITHOUT TYPICAL TUBERCULOSIS – RENAL TUBERCULOSIS

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Introduction: Renal tuberculosis (TB) is rare and microbiological diagnosis is difficult. Clinical presentation is covert and clinicians, more often than not, are compelled to use surrogate markers to diagnose and initiate treatment.

Case Presentation: A 68-year Sri Lankan male, with uncontrolled diabetes mellitus presented with recurrent episodes of sterile pyuria. The patient was afebrile and had urinary storage dysfunction symptoms including, nocturia, urge incontinence, dysuria, and hematuria. He did not have classical Pulmonary TB symptoms, a history of TB, or known exposure to TB. His examination findings were unremarkable. Urine full report showed pyuria with trace albuminuria and 3 consecutive urine cultures were negative with the standard bacteriological culture, where the samples were collected prior to commencement of antibiotics. Urine culture for tuberculosis was negative at 3-week incubation. Erythrocyte sedimentation rate (ESR) was persistently between 90-100mm/ 1st hour. He underwent a CT-IVU (intravenous urogram) afterward which showed multiple filling defects in the mid and upper poles of the right kidney suggestive of renal TB. Then he was started on anti-TB medications and treated for 6 months, and his symptoms and pyuria cleared. Other differential diagnoses, sexually transmitted infections, genitourinary calculi, malignancies, and diverticulitis were excluded.

Conclusion: Diagnosis of renal TB is often based on a highly suspicious clinical history that will be supported by urine and blood biochemical markers, and microbiological evidence followed by supportive evidence in imaging. With early diagnosis and early treatment with anti-TB medications, renal TB can be cured without renal scarring.

INVENTIONS AND INNOVATIONS BY NON-ACADEMIC STAFF

The PeMSARC organizing committee introduced this section to showcase the innovative creations by our non-academic staff members which have helped student learning, teaching and research.

These creations will be on display at the pillared area for your kind perusal.

DEPARTMENT OF MICROBIOLOGY

A SMALL-SCALE INCINERATOR TO BURN LABORATORY WASTE MATERIALS

Designed and Invented by: Mr. A.M.S.B.Abeykoon, Senior Staff Technical Officer,
Department of Microbiology, Faculty of Medicine, University of Peradeniya.

Description

An incinerator is used to incinerate hazardous laboratory wastes such as infectious materials (blood, pus, sputum, urine etc.) cultures of microbes, contaminated materials such as used agar, gloves, disposable syringes, needles, cotton wool, paper towels, and all medical laboratory wastes.

In this small-scale incinerator design, incineration is done by ordinary Liquid Petroleum gas (LP gas). Gas is passed through the gas controlling knob, where 6 gas nozzles are connected to both sides of burning chamber. Holes are made near the outer cover of the chamber to give an efficient oxygen supply to burn disposals completely.

Smoke escapes to the environment at the height of more than 2 meters from the ash tray level which prevents human contact with smoke.

The base plate of the frame is mounted on a suitable concrete foot base. The frame is made with 40mm x 40mm angle iron frame and is covered with 2mm thick G. I. Sheets.

To reduce weight, a smoke duct is made with P.V.C pipe. The conical cap of G.I Sheet is used to prevent rain water from entering. Items to be incinerated are loaded by opening the door into the burning chamber.

Incinerated materials are collected in the ash tray. Solid particles are collected in to the tray by lifting the front of the steel mesh.

The ash collecting drawer is a removable part. The gas cylinder is held by a steel frame of guard and the cylinder can be fixed to main frame by using an iron chain and padlock.

A COST-EFFECTIVE METHOD OF PREPARING OXIDASE STRIPS

Designed and Invented by: Mr. A.M.S.B.Abeykoon, Senior Staff Technical Officer,
Department of Microbiology, Faculty of Medicine, University of Peradeniya

Introduction

The Oxidase test (Cytochrome Oxidase) is routinely used to identify *Pseudomonas*, *Neisseria*, *Vibrio*, *Alcaligenes*, *Acromonas*, *Campylobacter* and *Pasteurella* species all of which produce oxidase enzymes. Generally, the 1% of oxidase reagent (Chemical name N.N.N.N. Tetramethyl-p-phenylenediamine dihydrochloride) is used for test. Five grams of the reagent costs around Rs. 12,735.00. Using 1 gram of reagent it is possible to do around 100 ordinary wet preparation method tests. With the following strip test method, it is possible to perform more than 1000 tests using 1 gram of reagent.

METHOD

Step 1. Ten numbers of 9 cm Whatman filter papers are placed in ten lids of 9 cm glass petri dishes.

Step 2. Fifty milligram/50 mg(0.5g) of oxidase reagent is dissolved in 20 ml of distilled water and poured in to each petri dish with filter papers.

Step 3. Immediately all glass petri dishes are placed in the 45°C incubator and dried overnight.

Step 4. Next day filter papers are cut in to strips sized 1 cm x 5 cm, placed in sterilized dark bottles and stored in the refrigerator (2°C to 8°C). This could be kept more than three years.

Whenever needed single strip is taken out from the darkened bottle, wet with small amount of distilled water, touch a colony of standard *Pseudomonas* strain with a help of a pieces of ekel, apply (use only one square centimetres) on the wet strip and check the colour reaction, The colour of the streaked area will change in to purple colour.

Using the same method, we can confirm the colonies of other non-lactose fermentative organisms whether they belong to *Pseudomonas* or the above-mentioned species or not.

Currently this method is used in the Department of Microbiology and the General Hospital Peradeniya.

DEPARTMENT OF COMMUNITY MEDICINE**INNOVATIVE PREVENTION MEASURES AGAINST THE COVID-19 INFECTION**

Mr. W.G.Nishshanka, Laboratory Attendant (Higher Grade), Department of Community Medicine, Faculty of Medicine, University of Peradeniya

With the onset of Covid-19 infection in the country and following the recommendation of Covid-19 preventive methods by the government I thought of producing these devices to reduce the contact area, contamination and encourage maintaining proper hand hygiene in the working environment at the department of Community Medicine, Faculty of Medicine, University of Peradeniya. As a result, three devices were constructed and installed by myself at the department premises.

FOOT PEDAL SANITIZER

This device helps to handle the sanitizer bottle by using the foot through a spring system attached to the foot pedal, avoiding direct contact with the dispenser. This was installed at the entrance and multiple locations within the department.

FOOT PEDAL WATER TAP

This device enables turning on and off of the tap using the foot where a pedal is connected to a valve through a spring system which will automatically turn off the tap once the foot is released. This will further reduce the contamination among the workers.

BANNER POLE TO AVOID UNAUTHORIZED PERSONS ENTERING THE DEPARTMENT

In this device a lever system is used to open a barrier installed at the entrance of the department to avoid direct entry of unauthorized persons to the department. Once a person enters the department area, the barrier will come in to its normal position automatically. This can be handled without direct hand contact. A station was installed together with this to gather contact information from the people entering the department daily.

Therefore, these devices were actively helpful in implementing the Covid-19 preventive measures at the department premises.

DEPARTMENT OF ANATOMY

| NAME | DESIGNATION | INNOVATION |
|-----------------------|------------------------------------|--|
| Mr. P.S. Rajamanthre | Technical Officer Gr. II Seg. A | <ul style="list-style-type: none"> • Exam bell for Automation of OSPE examination (2011) |
| Mr. W.M. Jayathilake | Lab Attendant Upper Grade | <ul style="list-style-type: none"> • Skeletons with holders • Specimen holders • Holder for remote controller and laser pointer • Book Holders • Stands for table number • Telephone, Pen, microphone, UPS holders • Sharp bins • Ladder • Pointers • Perspex boxes etc. |
| Mr. A.G.G. Wijerathne | Senior Staff Technical Officer | <ul style="list-style-type: none"> • Instrument to measure the length of bones (Ostiometric Bones) • Acrylic jars • Instrument for drying the immunohistochemistry slides • Low cost X-Ray illuminator |

MEDICAL WORKSHOP

| NAME | DESIGNATION | INNOVATION |
|------------------------|----------------------------|--|
| Mr. G.G.S. Jayathilaka | Staff Technical Officer | <ul style="list-style-type: none"> • Battery charger • Device to bend plastic sheets • Easily movable white board • Device for eye exercises • Apparatus to measure the weight under water • Low cost wood and coconut shell stove |



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