



# **INTERNATIONAL RESEARCH CONFERENCE IN HEALTH SCIENCES 2024**

**Exploring trends in digital health for  
healthcare innovations with sustainable  
health equity**

## **Book of Proceedings**

02<sup>nd</sup> April 2024

**Faculty of Allied Health Sciences  
University of Sri Jayewardenepura**



**Faculty of Allied Health Sciences  
University of Sri Jayewardenepura**

**International Research Conference in Health  
Sciences  
2024**

**“Exploring trends in digital health for healthcare innovations with  
sustainable health equity”**

**02<sup>nd</sup> April 2024**

**University of Sri Jayewardenepura, Sri Lanka**

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## **Message from the Acting Vice-Chancellor University of Sri Jayewardenepura**



I am delighted to convey this congratulatory message for the “International Research Conference in Health Sciences 2024 (IRCHS 2024)”, the annual research conference of the Faculty of Allied Health Sciences, University of Sri Jayewardenepura.

The theme of this year’s conference, “Exploring trends in digital health for healthcare innovations with sustainable health equity” emphasizes the importance of novel innovations in the healthcare sector. Research in

allied health sciences is a necessity for the development of healthcare setting of any country and it is one of the best ways by which academics can serve the people of the country. Conducting health related research provides opportunity to improve healthcare services while nurturing young scientists to make great scientific discoveries for the betterment of all mankind.

“Stories of Young Innovators in Health Sciences”, which is a significant event of IRCHS 2024, provides the platform for young innovators to publicize their innovations, thereby further strengthening the scope of the conference. It gives me great pleasure to see academics of the Faculty of Allied Health Sciences taking the maximum benefit out of these opportunities as well.

I would like to thank all the international speakers, resource persons and authors for sharing their expertise and valuable experiences in research and dedicating their valuable time and effort to join us at the International Research Conference in Health Sciences 2024. I wish to extend my sincere thanks to the Former Dean, Present Dean, Chairperson and the Research Committee and the staff of the Faculty of Allied Health Sciences for their immense contribution to make this academic event a great success. I sincerely hope all participants will make the best out of this wonderful opportunity.

**Senior Professor M. M. Pathmalal  
Vice-Chancellor  
University of Sri Jayewardenepura**

## **Message from the Dean Faculty of Allied Health Sciences - University of Sri Jayewardenepura**



Presenting this message to the proceedings of the fourth research conference hosted by the Faculty of Allied Health Sciences (FAHS) gives me great joy. In the midst of a surge of contradictory information that is constantly changing, how can we effectively inform the public about health science? To address this issue, FAHS, a new, dynamic faculty, held its first conference in 2021. Because the health sciences directly affect people's health, it is very important to spread knowledge in a reliable and comprehensible manner.

The theme for the International Research Conference in Health Sciences (IRCHS) 2024 is “Exploring trends in digital health for health care innovations with sustainable health equity”. In today's rapidly evolving landscape, digital health solutions play a pivotal role in shaping the future of healthcare. They not only revolutionize patient care but also hold the potential to bridge the gap in health disparities, ensuring equitable access to quality healthcare for all.

The theme of the research conference this year expands on Nursing, Management and Health Promotion; Discovery, Development & Quality Use of Medicine; Health, Nutrition and Laboratory diagnostics, which are of global interest. The "Young Innovator Award Competition," which has grown in popularity in showcasing their innovations and inventions in diverse fields of Health Science, is one of IRCHS's distinctive features.

Throughout this conference, let us explore into the latest advancements, innovative strategies, and emerging technologies in digital health. By sharing our insights, experiences, and research findings, we can collectively pave the way for transformative healthcare solutions that prioritize sustainability and equity.

I encourage each of you to actively participate, engage in discussions, and foster collaborations that transcend disciplinary boundaries. Together, let us harness the power of digital health to create a more inclusive and equitable healthcare system for generations to come.

I take this opportunity to thank the international professional bodies, sponsors, and the resource panel for adding glamour to the IRCHS 2024. Despite numerous obstacles, the organizing team has put in a great deal of effort to ensure that IRCHS 2024 is a success. I commend the group and hope that IRCHS 2024 is a great success.

**Professor D.I. Uluwaduge**  
**Dean**  
**Faculty of Allied Health Sciences**  
**University of Sri Jayewardenepura**

## **Message from the Chairperson Research Committee, Faculty of Allied Health Sciences**



It is with great pleasure I write this message to the conference proceedings of the International Research Conference in Health Sciences 2024 (IRCHS 2024). IRCHS 2024 is an annual, most significant highlight of the calendar of the Faculty of Allied Health Sciences, which is organized this time for the fourth consecutive year on hybrid mode. IRCHS 2024 is a platform for academics, undergraduates, postgraduates and professionals to share their research and knowledge they gain with the world. Moreover, IRCHS

2024 gathers a great number of researchers from a wide variety of disciplines into a single platform.

Faculty of Allied Health Sciences Oration will be delivered by Professor Nithushi Samaranayake, Professor in Pharmacy & Pharmaceutical Sciences, Department of Pharmacy & Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura. The keynote speech will be delivered by Professor A.A.T.D Amarasekara, Professor in Nursing and Midwifery, Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura. Their expertise and insights will undoubtedly enrich our discussions and inspire new avenues of research.

IRCHS 2024 programme included successful Pre-Conference workshops series conducted by Department of Nursing & Midwifery and Department of Pharmacy & Pharmaceutical Sciences. The scientific programme includes a symposium on “Trends in digital health for health care innovations with sustainable health equity,” which will be facilitated by three eminent international speakers from nursing, laboratory field and oncology, which I believe will be very informative for all of us. I am humbled by the support extended by the International Pharmaceutical Federation (FIP).

The Young Innovators Award in Health Sciences was also organized by our faculty for the fourth consecutive year, where the Best Innovator in Health Sciences 2024, and 1<sup>st</sup> and 2<sup>nd</sup> Runners Up awards were selected through a panel of 11 expert reviewers. The winners will receive awards today at the conference.

We received more than 130 abstracts related to various fields of health sciences, of which 106 were accepted after a rigorous review process. These findings will be shared with us today under the hems, of ‘Research in natural products’, ‘Medication safety and public health’, ‘Current trends in laboratory diagnostics’, ‘Nursing management and health promotion’, Novel formulation, and ‘Reproductive, maternal and child health.

I would like to appreciate the tireless efforts put in by the secretary and conference secretaries, for going far beyond the call of duty, we could deliver this task successfully. I would like to extend my deepest gratitude to Professor Nithushi Samaranayake, the Chairperson of the scientific committee for her meticulous support given with her committee members in reviewing and finalizing the abstracts and scientific program for this year's conference. Your commitment to maintaining the highest standards of quality and relevance has ensured the success and impact of IRCHS 2024.

*“Exploring trends in digital health for healthcare innovations with sustainable health equity”*

Further, I must extend my gratitude to Dr. Dilanthi Herath and her team for the hospitality arrangements. I greatly appreciate the unwavering support, cooperation, advice and guidance extended by the Dean of FAHS, Prof. D.I Uluwaduge in the organization of this event. I am humbled by the support shown by all academic and non-academic members of FAHS who united in facilitating this conference to all of you.

I wish you to have a fruitful conference with inspiring research ideas.

**Dr. Niroshima Withanage**  
**Conference Chair 2024**  
**Faculty of Allied Health Sciences**  
**University of Sri Jayewardenepura**

## **Faculty of Allied Health Sciences Oration**

### **Medication Without Harm – A Decade Long Journey**

#### **Prof. Nithushi Samaranayake**

Professor in Pharmacy

Dept. of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences  
University of Sri Jayewardenepura



A ‘medication error’ is a failure that happens in the treatment process that could harm or has a potential to harm patients’. Medication errors could happen at any stage of the medication use process, i.e prescribing, transcribing, dispensing, medication administration, and monitoring, and could result in harm, even patient death. Medication errors are preventable and should not take place at all. According to medication incidents reported from 2005 to 2010 in Hong Kong which we analyzed, it was evident that, medication errors that happen in the latter part of the medication use process were more likely to reach the patient. Those that happened early in the medication use process had a higher chance of being detected and stopped. It was therefore evident that, when there are more safety nets/barriers after each process, more medication errors can be detected and stopped. These barriers could be human barriers or technologies. However, in the same analysis of medication incidents, it was found that new types of medication errors could occur when using technologies, and hence, complete eradication of medication errors cannot be expected through use of technologies alone. We translated these findings from Hong Kong to Sri Lanka. Our first study on assessing medication errors in Sri Lanka among inward patients was initiated in a selected base hospital in 2015. There onwards, studies continued to assess dispensing errors in three hospitals, inappropriate medicine use among the elderly in hospital and community settings, and also among vulnerable groups such as institutionalized elderly persons in nine elderly care homes in the Colombo District. We were able to show through our studies on prevalence and nature of medication errors, that Sri Lanka is no different to any other country where prescribing, dispensing, medicine administration errors existed, but there was reluctance to accept this fact by stakeholders. In March 2017, with the launch of the WHO third patient safety goal, ‘Medication Without Harm’, medication safety activities in Sri Lanka were accepted more readily by the Ministry of Health and some initiatives were taken to resolve them. However, our continued studies on medication safety indicated that further underlying problems existed in Sri Lanka that negatively affected using medication without harm, evident through thorough medication histories and medication reconciliation processes. A qualitative

study undertaken by us among diabetes patients representing five Provinces in Sri Lanka, provided much insights on inappropriate medication discrepancies, the WHO often cautions about. In fact, we were able to show inappropriate medication discrepancies at all levels of care through further studies. Another qualitative study conducted parallelly on patients’, prescribers’, and pharmacists’ perspectives on adherence to medications showed that medication adherence issues are multifactorial, some unique to Sri Lanka, but most not directly identifiable by already available medication adherence tools. Through a decade long journey of studying medication safety in Sri Lanka showed that, our patients are unattended and unaware about their medications. To achieve medication use without harm, in Sri Lanka, we emphasize the need to individualize medication care to patients, the service that be provide by a clinical pharmacist. Healthcare professionals should avoid healthcare delivery as individuals. Proper communication between healthcare professionals, at different points of transition will ensure medication use without harm. Further, proactive methods such as Failure Mode and Effects Analysis (FMEA) could be used to prevent medication errors. Our studies described for the first time, the application of FMEA in the dispensing process. This effort could be followed as a guide by any institution in order to achieve a safer environment on medication use.

## Keynote Speech

### Empowering Nurses as Drivers of Digital Health Innovations

**Prof. A.A. Thamara D. Amarasekara**

Professor in Nursing and Midwifery  
Dept. of Nursing and Midwifery, Faculty of Allied Health Sciences  
University of Sri Jayewardenepura



Health is an essential human right. However, for every human to have access to this right, it is necessary to reduce the health inequities in low-, middle- and high-resource countries. Improving digital health has long been one of the many ways to tackle such inequality. This is partly because of the increasing pervasiveness of digital technologies and partly because, from its inception, digital health has been proposed to strengthen healthcare systems and improve accessibility. In May 2018, the World Health Assembly passed the Digital Health Resolution, recognizing the potential of digital technologies to support health systems by enhancing the accountability, availability, accessibility, continuity, utilization, and effectiveness of health care.

In an era of remarkable technological advancement, it is crucial to acknowledge the unique position of nurses. They are not just caregivers but also innovators, advocates, and leaders on the frontline of patient care in healthcare systems and communities. Their unique insights into patient needs make them uniquely positioned to drive change and transformation within healthcare systems. This recognition is the key to harnessing digital health innovations for equitable healthcare delivery, a transformation in which each of you can participate. The possibilities are endless, from telemedicine and wearable devices to electronic health records and artificial intelligence (AI). However, to fully realise the potential of digital health innovation, we must ensure that nurses are prepared with the knowledge, skills, and resources to leverage these technologies effectively. This requires investment in education and training programs that empower nurses to embrace new technologies, adapt to evolving care models, and advocate for the needs of their patients. Investment in digital technologies is also required here in Sri Lanka and in many countries.

As we move forward, nurses must not be just users but active contributors in designing, developing, and implementing digital health solutions. Nurses can help create effective, efficient, culturally sensitive, patient-centered, and equitable technologies by connecting their expertise and insights with other professionals and digital developers. The potential of digital health technologies is immense. They can bridge gaps in access to care, improve health outcomes among underserved populations, and empower individuals to take control of their health. This is where nurses can significantly impact addressing healthcare disparities and promoting health equity.

Telemedicine platforms such as mobile health apps can provide personalised health information and resources to individuals from diverse backgrounds, empowering them to make informed decisions about their health. Furthermore, these platforms can connect patients in rural or remote areas with healthcare providers, reducing barriers to access and enabling timely interventions. From remote patient monitoring and virtual consultations to telemedicine and

mobile health apps, telehealth technologies offer unprecedented opportunities to reach patients where they are and provide timely, high-quality care. However, as we integrate digital health into the healthcare system, we must address the barriers and challenges that may hinder its widespread adoption and implementation. One such barrier is digital health literacy, or the ability of individuals to access, understand, and utilize digital health information and technologies to make informed decisions about their health. Many individuals, particularly those from underserved communities, may lack the necessary skills and knowledge to navigate telehealth platforms effectively. However, we must also protect the public and health systems, for digital technology has privacy concerns, issues with data governance, and ethical issues.

Additionally, connectivity issues, such as limited access to broadband internet and reliable telecommunications infrastructure, can pose significant challenges to the widespread adoption of telehealth in rural and remote areas. Without adequate connectivity, patients may be unable to access telehealth services, exacerbating healthcare access and outcomes disparities.

Furthermore, cultural competency in nursing practice is paramount to ensuring that digital health services are accessible and culturally sensitive to diverse patient populations. Nurses must possess the knowledge, skills, and awareness to communicate effectively with patients from different cultural backgrounds, understand their unique healthcare needs and preferences, and deliver care in a manner that is respectful and culturally appropriate.

To overcome these barriers and promote equitable access to digital health services, Nurses can play a pivotal role in educating patients about the benefits of digital health, providing guidance on navigating telehealth platforms, and addressing concerns related to privacy, security, and confidentiality. Additionally, nurses can advocate for policies and initiatives that promote broadband expansion and improve access to telecommunications infrastructure in underserved communities. By partnering with policymakers, community leaders, and technology companies, nurses can help bridge the digital divide and ensure all individuals have access to the telehealth services they need. Moreover, nurses must continuously enhance their cultural competency skills through ongoing education and training. By fostering a deeper understanding of cultural diversity and humility, nurses can build trust and rapport with patients from diverse backgrounds, facilitating meaningful and effective digital health encounters.

In conclusion, we can build a future where healthcare is accessible and genuinely equitable. Therefore, empowering nurses as drivers of digital health innovation is about embracing new technologies and recognizing nursing leadership's transformative potential in shaping healthcare's future. Integrating digital health in nursing practice is not just about adopting new technologies but about leveraging innovation to advance health equity and improve patient outcomes for all individuals. By embracing digital health and addressing the barriers to its adoption, nurses can play a transformative role in ensuring that healthcare is accessible, equitable, and inclusive.

## Scientific Programme – IRCHS 2024

11.00 a.m. – 11.30 a.m.	<b>Keynote Address</b> <b>Empowering Nurses as Drivers of Digital Health Innovations</b> <b>Prof. A.A.T.D. Amarasekara</b> <i>Professor in Nursing and Midwifery</i> <i>Department of Nursing and Midwifery</i> <i>Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka</i>		
11.30 a.m. – 1.30 p.m.	<b>Symposium on</b> <b>“Trends in digital health for healthcare innovations with sustainable health equity”</b> <i>Chairperson: Dr. M.R.S. Jayathilake</i>		
11.30 a.m. – 12.10 p.m.	<b>Using digital technology to support nursing and midwifery practice</b> <b>Prof. Dame Tina Lavender</b> <i>Director of the Centre for Childbirth, Women’s and Newborn Health, the Department of International Public Health, Liverpool School of Tropical Medicine.</i>		
12.10 p.m. – 12.50 p.m.	<b>Using genomics to investigate the re-emergence of infectious diseases: Insights from the Australian whooping cough epidemic</b> <b>Dr. Laurence Luu</b> <i>UTS Chancellor’s Research Fellow, School of Life Sciences, University of Technology Sydney</i>		
12.50 p.m. – 1.30 p.m.	<b>Harnessing the Power of AI in Healthcare: Opportunities, Challenges, and Future Directions</b> <b>Dr. Madhubhani Hemachandra</b> <i>Medical Writer, SmartPractice, Phoenix, AZ, USA</i>		
1.30 p.m. – 2.15 p.m.	<b>Lunch</b>		
2.15 p.m. – 4.15 p.m.	<b>Oral Presentations</b>		
	<b>Session I - Oral</b> Track - Research in Natural Products  <i>Chairperson</i> <i>Dr. WJABN Jayasuriya</i>	<b>Session II – Oral</b> Track - Medication safety and Public Health  <i>Dr. H.M.D.R. Herath</i>	<b>Session III – Oral</b> Track - Current trends in laboratory diagnostics  <i>Dr. L.G.T Darshana</i>
<i>Presentation identifier</i>	OP 1,3,4,5,6,7,8	OP 9,10,11,12,21,22,26	OP 29,30,31,32,33,34,35
.	<b>Oral Presentations</b>		
		<b>Session IV - Oral</b> Track - Nursing management and health promotion  <i>Prof. A.A.T.D. Amarasekara</i>	<b>Session V– Oral</b> Track - Novel Formulation  <i>Prof. N.R. Samaranayake</i>
<i>Presentation identifier</i>		OP 19,20,23,24,25,28	OP 13,14,15,16,17,18

“ Exploring trends in digital health for healthcare innovations with sustainable health equity”

4.15 p.m. – 4.45 p.m.	<b>Poster Presentations</b>		
	<b>Screen 1</b>	<b>Screen 2</b>	<b>Screen 3</b>
	<i>Track - Research in Natural Products</i>	<i>Track - Medication safety and Public Health</i>	<i>Track - Nursing management and health promotion</i>
<i>Presentation identifier</i>	PP – 1,2,3,4,5,6,7,8,9,10,11,12,33	PP – 13,14,15,16,17,18,20,21,22,35	PP - 27,29,31,34,36,38,39,40,42,44,45,47,48,49,50, ,51,53,54,57,58,60,62,63,72
	<i>Track - Current trends in laboratory diagnostics</i>	<i>Track - Reproductive, Maternal and Child health</i>	
<i>Presentation identifier</i>	PP – 64,65,66,67,68,69,70,71	PP – 23,24,25,28,30,37,41,46,55,59,73	
4.45 p.m.– 5.15 p.m.	<b>Awards Ceremony &amp; Closing Remarks</b>  Young Innovators Award 2024 Best Oral and Poster Presentations		

## Young Innovators Award Reviewers – International Research Conference in Health Sciences 2024



**Prof. Lakshman Samaranayake**  
Professor Emeritus,  
University of Hong Kong.



**Prof. Sugandhika Suresh**  
Department of Biochemistry,  
Faculty of Medical Sciences,  
University of Sri Jayewardenepura.



**Prof. Kalum Wetthasinghe**  
Department of Anatomy,  
Faculty of Medicine,  
University of Colombo.



**Prof. Swarna Hapuarachchi**  
Faculty of Indigenous Medicine,  
University of Colombo.



**Dr. Joel Arudchelvam**  
Department of Surgery,  
Faculty of Medicine,  
University of Colombo.



**Dr. Sithara Dissanayake**  
Department of Anatomy,  
Faculty of Medical Sciences,  
University of Sri Jayewardenepura.



**Dr. Ravimal Bandara**  
Department of Computer Science,  
Faculty of Applied Sciences,  
University of Sri Jayewardenepura.



**Dr. Nilanka Perera**  
Department of Medicine,  
Faculty of Medical Sciences,  
University of Sri Jayewardenepura.



**Dr. Ruwanthi Jayasekara**  
Consultant Respiratory Physician,  
National Hospital of Sri Lanka.



**Dr. Tibutias Thanesh**  
Allergy, Immunology and  
Cell Biology Unit,  
University of Sri Jayewardenepura.



**Dr. Chathurika Silva**  
Department of Instrumentation and  
Automation Technology,  
Faculty of Technology,  
University of Colombo.

## Story of Young Innovators in Health Sciences



### Engineering conditional paralysis in female *Aedes aegypti* for the battle against dengue fever

**Dilani P.V.D**<sup>1</sup>, Gunawardene Y.I.N.S<sup>2</sup>, Dassanayake R.S<sup>1</sup>, Hettiarachchi C<sup>1</sup>, Hapugoda M<sup>2</sup>  
<sup>1</sup>Department of Chemistry, Faculty of Science, University of Colombo, Colombo, Sri Lanka, <sup>2</sup>Molecular Medicine Unit, Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka.

#### Overview of your research or innovation

Dengue is a mosquito-borne viral disease with an estimated annual incidence of 390 million infections globally each year. This poses a substantial threat to public health and the economic growth of countries where the disease is endemic. There has been a noticeable increase in dengue cases in Sri Lanka spreading to various parts of the country over the last few years and has grown into an endemic and an important public health problem in the country, with over 42,000 cases reported yearly. Sustainable vector control strategies have been the mainstay of dengue control due to the lack of effective therapeutics. *Aedes aegypti* (Linnaeus) is the primary vector of dengue. Currently, traditional vector control strategies have proven largely ineffective. With the advent of modern biotechnology, genetic manipulation of mosquito provides a new dimension to control the mosquito population. New vector control strategies involving sterile insect techniques, incompatible insect techniques, and transgenic studies are being developed to lessen the impact of the disease. Currently researchers are more interested in developing transgenic mosquitoes using “Release of insects carrying dominant lethal gene (RIDL)” to suppress the target mosquito population. In the RIDL strategy, genetic sterility is engineered in mosquitoes using tetracycline dependent-repression of a dominant lethal gene. Furthermore, non-cell autonomous effectors can be used to target more sensitive tissues distant from the tissues in which they are expressed. Scorpion toxin gene *AaHIT* from *Androctonus australis hector* which affect the voltage-gated sodium channels (VGSCs) at neuromuscular junction has shown more promise for *Ae. aegypti* control through conditional paralysis. Regulatory sequences from carboxypeptidase A gene is a potential candidate to facilitate bloodmeal inducible expression of *AaHIT* in female *Ae. aegypti*.

Here we developed a phenotype that exhibit conditional paralysis triggered by a blood meal in transgenic females. This indicates the potential for further modification to develop it as a viable mosquito control measure.

### Objectives of the research

1. To design bipartite gene constructs *insilico* with the aim of developing conditional paralysis in *Ae. aegypti*
2. To facilitate germline transformation of gene constructs into mosquito genome through microinjection and screening of transgenic mosquitoes using transgenesis markers
3. To obtain conditional paralysis in female *Ae. Aegypti*

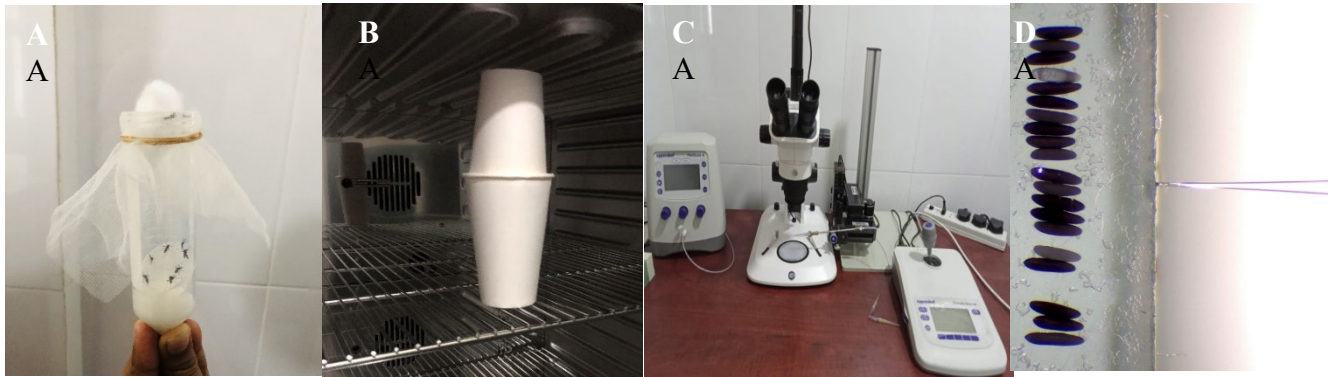
### Methods

Driver and effector gene constructs were designed (tet-off bi-partite system) using bioinformatics tools. Driver construct majorly consist of *Ae. aegypti*-codon-optimized tetracycline repressible transactivator gene (tTA) (AJ865387.1) placed under the control of *Ae. aegypti* carboxypeptidase A gene (*AeAcP*) (AAEL010782) promoter and regulatory sequences. Effector construct contains sequences of *Ae. aegypti*-codon- optimized insect-specific scorpion toxin gene *AaHIT* from *Androctonus australis* hector and secretory signal peptide from *Autographa californica* baculovirus major envelop glycoprotein (gp67) selected from a previous study (MK795198) and placed under the control of tTA response elements (TRE) and minimal promoter sequences from *Drosophila melanogaster* hsp70 (Gene Id:48582).

Synthesized driver and effector constructs were cloned into piggyBac vectors that contained eye-specific td Tomato fluorescent protein and enhanced green fluorescent protein (eGFP) as the transgenesis markers. Microinjections of transgene constructs with a source of piggybac transposase into mosquito eggs was performed to facilitate germline transformation. G<sub>1</sub> fluorescence-positive individuals were screened for fluorescence marker gene expression. Two stable transgenic lines were established. Fluorescent positive individual from two lines were crossed together and resulted female offspring were fluorescence screened at pupal stage and sorted into three transgenic genotypes: *AeACP-tTAV* (red eye), *TRE-AaHIT* (green eye), *AeACP-tTAV > TRE- AaHIT* (red eye and green eye) with non-transgenic individuals discarded. Each female genotype cohort was further divided into two equal groups “without tetracycline” or ‘with tetracycline’ and mate with wild type counterpart. knockdown phenotype (Paralysis) was tested after blood feeding in females.

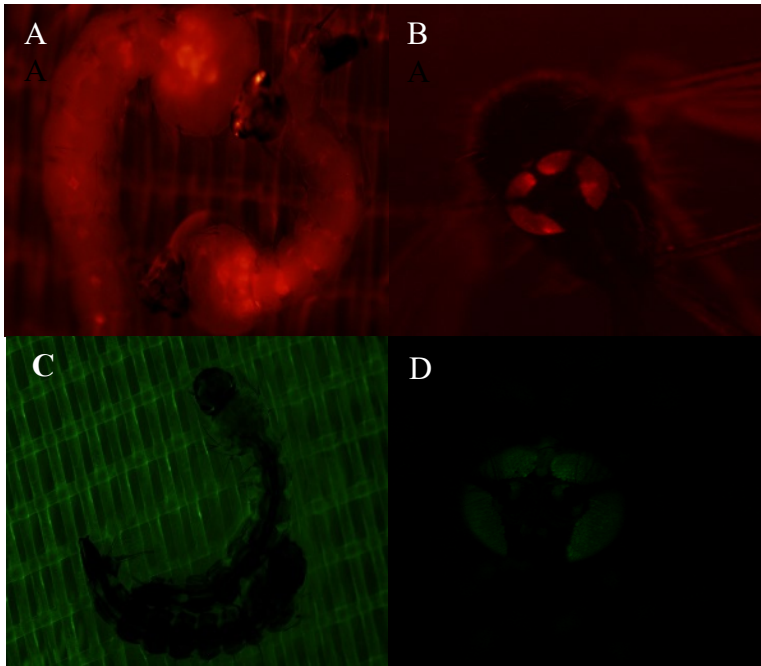
### Findings

Genomic integration of driver and effector gene constructs in *Ae. aegypti* mosquito genome was successfully achieved through microinjection (figure1). Transgenic individuals were screened by marker gene expression in mosquito eyes (figure2).



**Figure 1;** Microinjection of *Ae. aegypti* eggs A & B): preparation of female mosquitoes for egg collection, C) Microinjection facility D) Microinjection of mosquito eggs

A stable transgenic driver line and an effector line was developed and maintained at the laboratory for ten consecutive generations. According to the phenotypic analysis, Only the genotype *AeACP-tTAV> TRE- AaHIT* in the absence of tetracycline showed paralysis (16%) within 72 hrs of post blood feeding due to the expression of AaHIT effector which was repressed by provision of tetracycline. Hence the phenotype is consistent with the AaHIT mode of action.



**Figure 2; Eye-specific gene expression in transgenic *Ae. aegypti*;** (A) td Tomato fluorescent expression in larva, (B) td Tomato fluorescent expression in adult, (C) eGFP expression in larva (D), eGFP expression in adult

### **Conclusions**

The newly designed gene constructs worked together to cause conditional paralysis in female *Ae. aegypti*. Furthermore, feasibility of using *AeCPA* regulatory sequences to induce female-specific and blood meal inducible expression of non-cell-autonomous effectors provide framework for further modification to develop it as a viable mosquito control measure.

### **Practical implications**

This provides foundation to develop transgenic *Ae. aegypti* for population suppression by female specific blood meal inducible paralysis as a solution for dengue.

### **Novelty**

Development of transgenic mosquitoes for disease control is an emerging technology. Recently conditional lethality of female *Ae. aegypti* has gained more interest in mosquito control. Here we designed new two bipartite systems in which we incorporated *AeCPA* gene and regulatory sequences for the first time in the world to induce female specific and blood meal inducible paralysis. We received promising results which can be further modified for use in mosquito control.

### **Benefit to the society**

*Ae. Aegypti* is the primary vector of dengue disease and currently dengue imposes a significant burden on communities, healthcare systems, and economies in many tropical countries worldwide including Sri Lanka. Here our finding provides the platform to employ this new strategy to develop transgenic mosquitoes to control dengue disease. Further, the same transgenic system developed can be employed against other diseases transmitted by *Ae. aegypti*.

### **Acknowledgement**

This work was supported by grant #6026-LK/8743-LK Accelerating Higher Education Expansion and Development (AHEAD) Operation.

## Story of Young Innovators in Health Sciences



### **AI-based system and method for monitoring vascular system health**

**Privankara MKK**<sup>1,2</sup>, Charith WV<sup>3</sup>, Thathsara HAGD<sup>1,2</sup>, Jayasinghe S<sup>4</sup>

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#### **Overview of the research or innovation**

According to the statistics reported by the World Health Organization Cardiovascular diseases (CVDs) are responsible for 32% of all global deaths and endothelial dysfunction is the earliest possible detectable stage of cardiovascular diseases.

Also, endothelial dysfunction plays a significant role in infectious diseases such as dengue and COVID-19, making early assessments vital in regions of the world with limited resources, especially during pandemics.

The endothelium, the innermost one-cell thick layer that lines blood vessels, acts as a barrier between circulating blood and tissues and regulates the tone of blood vessels by releasing growth regulators and vasoactive substances including prostaglandins and thromboxanes, Nitric Oxide (NO) and endothelins. Imbalance in endothelium derived NO, and increased production of reactive oxygen species are major causes of endothelial damage.

High cholesterol, high blood pressure, insulin resistance, excessive alcohol consumption, smoking, lack of exercise, obesity, poor diet and genetics are factors that contribute to the propagation of ED. Therefore, regular screening and maintenance of endothelial health is vital.

Even though people can adapt their lifestyle and diet as a precautionary measure, unfortunately, they do not have access to a convenient non-invasive screening method to test their vascular health, which is vital for the early detection of CVDs. Millions of lives could be saved if a smart AI-based system was used to counter this problem.

Analyzing features from both Plethysmography and Digital Thermal Monitoring gives a reliable approach for the non-invasive screening of vascular health via machine learning.

## **Objectives of the research**

- 1) To validate the test procedure

## **Method**

In the course of the research, we employed a case-control method to define our sample group. We chose 100 samples (age range: 20 to 60 years, male: female of 56:44) consisting of 55 healthy subjects and 45 subjects having risk factors for CVD that were diagnosed by a consultant cardiologist. The entire procedure takes approximately 15 minutes. Participants were advised not to eat, smoke, consume alcohol, or take medications for at least 6 hours. Then the samples were given a 30 minute rest before the commencement of the test procedure. Then after subjects remained in the supine position with closed eyes and minimum possible movements throughout the test procedure. Photoplethysmography (PPG) signal and Digital Thermal Monitoring (DTM) signals were captured by the oximeter and the thermal sensors. PPG and DTM probes were attached to the index finger and middle finger of each hand of the subject respectively.

In the first three minutes, the baseline signals were detected and used to identify the pulse created, allowing us to spot any unusual patterns. From the third minute until the eighth, the blood flow in the arm was blocked by inflating a pressure cuff and signals were acquired. This action leads to reactive hyperemia in the blood vessels, causing them to dilate and ultimately leading to vasodilation activity that results in arterial occlusion.

From the eighth minute until the end of the test at the fifteenth minute, the system continued to monitor the response while capturing signals. Once the test is completed, the system provides a summary of the procedure.

The data collection program was done, under the ethical approval (Ethics Review Number: EC/18/208) from the Ethics Review Committee (ERC) of the Faculty of Medicine, University of Colombo in Asiri Surgical Hospital, Colombo 00500.

## **Findings**

We examined a total of 100 samples, wherein 9 instances were incorrectly identified as false negatives and 7 were incorrectly flagged as false positives. However, we correctly identified 36 positive cases and 48 negative ones. The overall accuracy of our testing method resulted in a sensitivity of 80% and a specificity of 87%.

## **Conclusion**

To conclude, the newly developed system and approach demonstrate a high degree of sensitivity and specificity in screening samples. This implies that Artificial Intelligence (AI) powered diagnostic tools could significantly contribute to the early identification of non-communicable/cardiovascular diseases. As we move forward with the fourth industrial revolution, these tools are poised to play a crucial role.

AI has the potential to become an essential component of the medical field, paving the way towards a healthier and brighter future for humanity.

## **Practical Implications – what can be learned from this project?**

The Jendo vascular health monitor’s accomplishments provide significant insights for the broader healthcare community. Its non-invasive nature enables individuals to assume control over their health status, while its thorough evaluation provides a more profound understanding of vascular health. Furthermore, its proprietary technology and availability in emerging markets set the stage for a future characterized by personalized and proactive vascular care for everyone.

### **Novelty**

Jendo Innovation’s proprietary device stands out as a pioneering tool in vascular health monitoring. Unlike conventional intrusive techniques, this device presents a user-oriented approach, enabling individuals to actively manage their health. Its innovative technology goes beyond basic vital signs, offering a comprehensive evaluation through the analysis of arterial rigidity, pulse-wave speed and endothelial functionality.

US Patent No. : US 10,912,464 B2 “SYSTEM AND METHOD FOR MONITORING VASCULAR SYSTEM HEALTH”

Japanese Patent No. : P7045084

Sri Lankan Patent No. : 18722

### **Benefit to the society**

Jendo’s cardiovascular health monitor is a valued addition to our society, as it assists in the early detection of cardiovascular diseases. By enabling individuals to check for potential vascular health issues, it plays a key role in the prevention of cardiovascular diseases. Early detection allows for quicker intervention, contributing to better overall health and helping prevent severe cardiovascular conditions.

With its user-centric design, this device promotes active health management, making it a vital instrument in our collective efforts to create a healthier and more informed society.

### **Acknowledgments**

The authors are glad to acknowledge Jendo Innovations (Pvt) Ltd. for the financial assistance under the research.

## Story of Young Innovators in Health Sciences



### **A mobile application to educate and empower family caregivers of dependent stroke survivors on care related to Activities of Daily Living (ADL)**

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#### **Overview**

Stroke is an emergency which is a leading cause of life-limiting disabilities and death all around the world. It is a devastating disorder that impacts the patient and their family members. Once the acute treatment is conducted in the hospital, the stroke patient is discharged from hospital with residual disabilities. However, there is a serious lack of training for post stroke caregivers, community care follow-up and caregiving services within the Sri Lankan healthcare system. Thus, the post-stroke caregiving falls on the untrained family members of the stroke survivor. Most family caregivers have poor knowledge, attitudes and skills on provision of care for the stroke survivors. Delivery of improper care can have a negative impact on the patient's recovery. Therefore, an educational programme focused on a family caregiver is essential to reduce the anxiety, misconceptions, fear and poor decision making on caring for their loved one. Based on the family caregivers' preferred learning methods, this mobile application was devised to provide an extra support.

## **Objective**

To develop and evaluate the effectiveness of an educational intervention which can be applied by family caregivers of dependent stroke survivors on care related to Activities of Daily Living (ADL).

## **Methods**

The study was conducted under two phases. Family caregivers of dependent stroke survivors were invited to the study and it was conducted in two teaching hospitals and a base hospital in Colombo area. In the phase I, a descriptive cross-sectional study was conducted to pre assess the knowledge, attitudes, and skills, actual and preferred learning methods among 250 family caregivers of dependent stroke survivors. Barthel index validated for Sri Lanka was used to identify the dependency of the stroke survivors. Family caregivers of stroke survivors were invited for the study if the Barthel index score were below 60. Based on the phase I findings, educational materials were devised with the inputs from the family caregivers, health care personnel and doctors working in the neurology units of selected hospitals. Phase II of the study was conducted as a randomized control trial. 80 family caregivers were invited to each group and pretest was done to assess the knowledge, attitudes and practices of family caregivers in both groups using a pretested interviewer-administered questionnaire and an observational checklist. Then, usual treatment and management practices were applied to the control group and the intervention group was administered the above developed mobile application as an educational material and follow-up was done parallel to the post-stroke patients clinic visits. Post-test was conducted after one month of the delivery of the material to assess the effectiveness of the mobile application on the study participants. Informed consent were obtained from all the participants of the study and ethical approval has been granted from Faculty of Medical Sciences, University of Sri Jayewardenepura. Institutional approval has been obtained from the selected study settings.

## **Findings**

Data were obtained from 250 family caregivers for phase I data. Phase II was conducted on 160 Family care givers. Cronbach’s Alpha test value was indicated as 0.817 for Phase I data. Poor knowledge was observed in (248, 99.2%) from the selected study participants with a mean score of  $6.4 \pm 2.5SD$ . Majority of the family caregivers (112, 44.8%) demonstrated a satisfactory perceived level of skills (mean score  $12.57 (\pm 2.4 SD)$ ). However, the observational study conducted with 55 participants showed that majority of the participants practiced poor caregiving skills (32, 58.2%). Further, the participants indicated television or related electronic equipment as the most preferred equipment to facilitate their learning process (163, 65.2%) on caregiving. They prefer to learn from TV programmes or video/ interactive presentation as a method of their learning (116, 46.4%). In Phase II of the study 160 participants were recruited to each control and intervention groups ( $n_1 - 80, n_2 - 80$ ). The Cronbatch’s Alpha for the Phase II data base was significant with 0.784. Mean ages of the Phase II control group and intervention group was similar (mean  $57.8 \pm 7.2SD$  years Control vs  $49.73 \pm 7.3SD$  years intervention group). Statistical significance was demonstrated in both control and intervention group knowledge scores using Friedman Test ( $p < 0.05$ ). Further, Wilcoxon signed rank test indicated significant improvement of knowledge in both groups ( $p < 0.001$ ). Intervention group had a significant improvement of the attitudes ( $p < 0.05$ ). The observational component and skills assessment in the questionnaire indicated significant development of skills amongst the intervention group ( $p < 0.05$ ).

## **Conclusions**

Based on the findings, there were significant positive improvements observed in the intervention group compared to the control group based on positive attitude changes and improved skills of caregiving.

## **Practical Implications**

This project gave a light on Tele-health interventions which can be applied to the current community healthcare context to improve the quality of life of the stroke survivors as well as their family members. This has been directly addressed the most of the issues that can be encountered by them and thereby improve their skills and empower them and motivate them on caregiving. With the current challenges our healthcare system faces such as lack of resources and accessibility to the community setting, this intervention can make a significant impact to address those challenges.

## **Novelty**

To the best of the knowledge of the authors, no telehealth interventions have been applied to address and empower family caregivers of dependent stroke survivors in Sri Lanka. Since application of technological advancement on the community care and services is not yet established in Sri Lanka mainly based on post stroke rehabilitation and care, this novel findings could be a turning point of Sri Lankan community healthcare services with new dimensions.

## **Benefit to the society**

With the current study findings, this mobile application can be a tool for the family caregivers in Sri Lanka where they can improve their knowledge, skills as well as positive attitudes towards their service they offer for their loved ones. This would improve the quality of healthcare provided by Sri Lankan community healthcare services. The study material would enhance the quality of stroke care provided by the family care giver and thus improve the quality of life of stroke survivors.

## **Symposium on “Trends in digital health for healthcare innovations with sustainable health equity”**



**Professor Dame Tina Lavender**

Director of the Centre for Childbirth, Women’s and Newborn Health, the Department of International Public Health, Liverpool School of Tropical Medicine.



**Dr Laurence Luu**

UTS Chancellor’s Research Fellow, School of Life Sciences, University of Technology Sydney



**Dr. Madhubhani Hemachandra**

Medical Writer, Smart Practice, Phoenix, AZ, USA

## **Using digital technology to support nursing and midwifery practice**



**Professor Dame Tina Lavender**

Director of the Centre for Childbirth, Women’s and Newborn Health, the Department of International Public Health, Liverpool School of Tropical Medicine.

Digital technology is often defined as instruments, strategies, and processes to produce, accumulate, or process data, making it potentially invaluable in the context of healthcare. Digital technology has evolved and escalated over the last decade within clinical practice, with a particular spike in use during the COVID pandemic. This presentation will describe the various uses of digital health in practice, building on the lessons learnt during COVID and critically analyzing the purported advantages and disadvantages of their use for patients and healthcare professionals.

Within nursing and midwifery, popular types of digital technology include artificial intelligence, virtual and augmented reality, wearables, patient/women’s experience feedback, tele-health, and m-health. During the session, the presenter will draw upon the current literature and her own experience of using digital technology, to provide a balanced overview of its use. She will also highlight the fact that, although there is a plethora of uses of digital technology within nursing and midwifery, the evaluation of these is often limited.

Finally, the presentation will discuss two specific types of digital technology: m-health and patient feedback, informed by the presenters own ongoing research. Dame Tina will discuss an m-health package of care for women receiving antenatal care in a rural environment. She will also discuss a digital feedback terminal to assess women’s intrapartum experiences of care provision. The presentation will conclude with some final thoughts, summarizing the presentation and suggesting a way forward.

## **Using genomics to investigate the re-emergence of infectious diseases: Insights from the Australian whooping cough epidemic**



**Dr Laurence Luu**

UTS Chancellor’s Research Fellow, School of Life Sciences, University of Technology Sydney

Whooping cough (pertussis) is a highly contagious respiratory disease caused by the bacterium *Bordetella pertussis*. The pertussis vaccine used in Australia targets three antigens: pertussis toxin, pertactin and filamentous haemagglutinin. Despite high vaccine coverage, pertussis has re-emerged in many countries including Australia and caused two large epidemics in Australia since 2007. Here, we undertook a genomic and phylogeographic study of 385 Australian *B. pertussis* isolates collected from 2008 to 2017 to uncover the reason for re-emergence. Our work found that during the first 2008–2012 pertussis epidemic in Australia, *Bordetella pertussis* strains which no longer produce pertactin emerged and continued expanding in the second epidemic from 2014–2017. We also detected the first filamentous hemagglutinin-negative and pertactin-negative *B. pertussis* isolate in Australia in 2014. The Australian *B. pertussis* population was found to be composed of mostly ptxP3 strains carrying different fim3 alleles, with ptxP3-fim3A genotype expanding far more than ptxP3-fim3B. Within the former (ptxP3-fim3A), there were six co-circulating epidemic lineages (EL1 to EL6). The multiple ELs emerged, expanded, and then declined at different time points over the two epidemics. In population genetics terms, both hard and soft selective sweeps through vaccine selection pressures have determined the population dynamics of Australian *B. pertussis*. Relative risk estimation suggests that once a new *B. pertussis* lineage emerged, it was more likely to spread locally within the first 1.5 years. However, after 1.5 years, any new lineage was likely to expand to a wider region. Phylogenetic analysis revealed the expansion of ptxP3 strains was also associated with replacement of the type III secretion system allele bscI1 with bscI3. bscI3 is associated with decreased T3SS secretion and may allow *B. pertussis* to reduce immune recognition. This study advanced our understanding of the epidemic population structure and spatial and temporal dynamics of *B. pertussis* in a highly immunized population.

## **Harnessing the Power of AI in Healthcare: Opportunities, Challenges, and Future Directions**



**Dr. Madhubhani Hemachandra**  
Medical Writer, Smart Practice, Phoenix, AZ, USA

Artificial Intelligence (AI) and related technologies are increasingly used in healthcare in the United States to enhance the efficiency of healthcare delivery. The use of AI in areas such as medical imaging, diagnostics, personalized medicine, clinical trials, and healthcare administration could help to enhance patient outcomes, streamline processes, and reduce healthcare costs. AI-powered diagnostic tools such as image analysis tools can analyze vast amount of patient data to detect patterns, predict disease progression, and recommend personalized treatment plans. Such AI technologies can be used to assist clinicians in diagnosing diseases and personalizing treatment plans, thereby improving the efficiency of clinical decision-making and enhancing patient care. AI-driven surgical robotic systems have been used to assist surgeons in enhancing precision of the procedures. Apart from the direct patient care related services, AI can also be used in novel therapeutic drug development by expediting the identification of drug targets and candidates, and by optimizing clinical trials. Overall, AI can be used in healthcare from drug development to healthcare delivery. The introduction of advanced technology like AI to healthcare would face multiple challenges. Concern about privacy of patient data is a major challenge as data breaches and unauthorized accessed to AI systems can compromise sensitive patient information. Ethical issues, regulatory compliance, bias in data analysis, interpretability of the results, high cost, and the lack of skilled personal are other possible challenges that can be faced with the use of AI in healthcare. With proper regulatory and ethical measures in place, AI can be a promising tool to revolutionize various aspect of healthcare industry such as personalized medicine, precision medicine, early disease detection and prevention and healthcare delivery and administration. However, the successful implementation of AI in healthcare would require continued collaboration among stakeholders, including healthcare providers, technology developers, regulators, and patients. With the advancement of technologies, safe implementation of AI in healthcare to enhance the healthcare delivery would be a reality, not only in developed countries but also in developing countries like Sri Lanka

## Oral Presentations

- OP 1: Determination of in vivo larvicidal activity of *Evolvulus alsinoides* aqueous plant extract on *Aedes albopictus* mosquito larvae**  
Madhuranga HDT<sup>1</sup>, Samarakoon DNAW<sup>1</sup>, Herath HMLPB<sup>2</sup>, Salim N<sup>1</sup>  
<sup>1</sup>Department of Biomedical Science, Faculty of Health Science, KIU, Sri Lanka, <sup>2</sup>Department of Chemistry, Faculty of Science, University of Colombo, Sri Lanka.
- OP 3: In vitro litholytic effect of selected siddha drugs with the aqueous extract of *Musa sapientum* inner stem as an adjuvant on oxalate stone**  
Aranraj T, Arasaratnam V, Thayaananthan K, Sutharsan M  
Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka.
- OP 4: In-vitro dissolution activity of Calcium oxalate kidney stones by the extract of *Cucumis melo* seeds**  
Manel GACH<sup>1</sup>, Perera PKH<sup>1</sup>, Uluwaduge DI<sup>2</sup>, Peiris KPP<sup>3</sup>, Walpita J<sup>4</sup>, Diyabalanage S<sup>5</sup>  
<sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Department of Shalya Shalakyas, Faculty of Indigenous Medicine, Gampaha Wickramarachchi University of Indigenous Medicine, Sri Lanka, <sup>4</sup>Department of Multidisciplinary Studies, Faculty of Urban and Aquatic Bioresources, University of Sri Jayewardenepura, Sri Lanka, <sup>5</sup>Instrument Centre, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.
- OP 5: Exploring antidiabetic properties of *Aponogeton rigidifolius* H. Bruggen and developing a micropropagation protocol for conservation purposes**  
Walpolaarachchi WAB<sup>1</sup>, Khan MMF<sup>1</sup>, Suresh TS<sup>2</sup>, Senarath WTPSK<sup>3</sup>, Gunawardena AN<sup>4</sup>  
<sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Department of Botany, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>4</sup>Department of Biology, Dalhousie University, Canada.
- OP 6: Comparative analysis of cytotoxicity of saponins fractions isolated from *Garcinia* and *Guava* leaves against Hep-G2 cells**  
Madhushika KTS<sup>1</sup>, Kokilananthan S<sup>2</sup>, Bulugahapitiya VP<sup>1\*</sup>  
<sup>1</sup>Department of Chemistry, Faculty of Science, University of Ruhuna, Matara, Sri Lanka, <sup>2</sup>Department of Chemistry, Faculty of Natural Science, The Open University, Batticaloa, Sri Lanka.
- OP 7: Impact of atorvastatin on triple-negative and hormone receptor-positive breast cancer cells-an in vitro study**  
Jinadasa AGRG<sup>1</sup>, Akalanka HMK<sup>1</sup>, Wageesha NDA<sup>2</sup>, Samarakoon SR<sup>3</sup>, Ekanayake S<sup>4</sup>  
<sup>1</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Biochemistry, Faculty of Medicine, Sabaragamuwa University of Sri Lanka, <sup>3</sup>Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, Sri Lanka, <sup>4</sup>Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
- OP 8: Development of novel low glycaemic indexed breads incorporating *Cinnamomum verum* (Cinnamon) and *Curcuma longa* (Turmeric) powders**  
Wijewardhana US, Jayasinghe MA, Wijesekara I, Ranaweera KKDS  
Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.

8. **OP 9: Development of indicators to determine the safety of dispensing medicines in Sri Lanka**  
Weliwatte IP<sup>1</sup>, Samaranayake NR<sup>1</sup>, Jayawardane P<sup>2</sup>, Galappatthy P<sup>3</sup>  
*<sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Pharmacology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Department of Pharmacology, Faculty of Medicine, University of Colombo, Sri Lanka.*
9. **OP 10: Advancing Ivermectin Therapeutics: Population Pharmacokinetic Model Approach**  
Dissanayaka H<sup>1</sup>, Thambavita TMDD<sup>2</sup>, Galappatthy P<sup>2</sup>  
*<sup>1</sup>Department of Chemistry, Faculty of Science, University of Colombo, Sri Lanka, <sup>2</sup>Department of Pharmacology, Faculty of Medicine, University of Colombo, Sri Lanka.*
10. **OP 11: Identifying perspectives on medication adherence among patients and healthcare professionals relevant for the development of a medication adherence tool for Sri Lanka**  
Wijesinghe DS\*, Senadheera GPSG, Samaranayake NR  
*Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
11. **OP 12: Accessibility and measurability of cost variables required to calculate the cost of medication errors in hospitals in Sri Lanka**  
Navodaya KD<sup>1\*</sup>, Ranasinghe RAS<sup>1</sup>, Nadeshkumar A<sup>1</sup>, Senadheera GPSG<sup>1</sup>, Karandagoda W<sup>2</sup>, Samaranayake NR<sup>1</sup>  
*<sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, <sup>2</sup>Formerly Director Medical Services, Lanka Hospitals PLC.*
12. **OP 13: Synthesis of ascorbic acid/ Zn-Al layered double hydroxide/agar bio-nanohybrids for skincare cosmetics**  
Chandradasa HWWT<sup>1</sup>, De Silva SSK<sup>1</sup>, Pahalagedara MN<sup>2</sup>  
*<sup>1</sup>Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
13. **OP 14: Protein-Ligand Docking of 4MZC with AutoDock Vina: Unveiling potential Anti-Malarial Ligands for novel therapeutic strategies**  
Fernando AMF, Ominda P, Mudalige H  
*BMS School of Science, Colombo 6, Sri Lanka.*
14. **OP 15: Synthesis of nanosuspensions of *Carica papaya* fruit extract and evaluation of the antioxidant activity**  
Mendis MST<sup>1</sup>, Wijewardhana LKDN<sup>1</sup>, Liyanage THD<sup>1</sup>, Neranja AGK<sup>1</sup>, Kumari KDKP<sup>2</sup>  
*<sup>1</sup>Department of Pharmacy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka, <sup>2</sup>Faculty of Health and Social Sciences, Bournemouth University, UK.*
15. **OP 16: A novel pregelatinized and acetylated water lily seed starch to be used as excipients: Characterization of structural and physicochemical properties**  
Kankanamge SU<sup>1</sup>, Jayasuriya WJABN<sup>2</sup>, Herath HMDR<sup>2</sup>, Pathirana RN<sup>1</sup>  
*<sup>1</sup>Department of Pharmacy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka, <sup>2</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
16. **OP 17: Analysis of physicochemical properties and in-vitro sun-protective activity of fish oil extracted from waste products (skin) of fresh water carp *Catla catla* and formulation of a sun-protective serum**  
Madurya PAK, Hettihewa SK, Dissanayake AS  
*Department of Pharmacy, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.*

17. **OP 18: Evaluation of antimicrobial activity of Modified Emulgel based on ayurveda formulation ‘Ratha taila’**  
Jayathilaka SPNS<sup>1</sup>, Jayasuriya WJABN<sup>1</sup>, Herath HMDR<sup>1</sup>, Nadeshkumar A<sup>1</sup>, Dahanayaka J<sup>2</sup>  
*<sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
18. **OP 19: Undergraduate nursing students’ perspectives towards and experiences in caring for older people: An exploratory qualitative study in a selected state university in Sri Lanka**  
Madhushani GDCK, Rathnayake S  
*Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.*
19. **OP 20: Health literacy, eHealth literacy and adherence to physiotherapy treatment of patients attending department of physical medicine in National Hospital, Kandy and Teaching Hospital, Peradeniya: A Cross-sectional survey**  
Gunawardhana TKS<sup>1</sup>, De Silva RTI<sup>1</sup>, Amarasinghe PHN<sup>1</sup>, Dasanayake WDHA<sup>1</sup>, Farwin ASFA<sup>1</sup>, Hussain MAA<sup>1</sup>, Prasanna ALI<sup>1</sup>, Rathnayake S<sup>2</sup>  
*<sup>1</sup>Department of Physiotherapy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, <sup>2</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.*
20. **OP 21: Challenges in accomplishing sustainable recovery among individuals who reported relapses in substance use disorder after residential rehabilitation in Sri Lanka**  
Dharmarathna HHND<sup>1,5</sup>, Jayamaha AR<sup>2</sup>, Rajapakse IH<sup>3</sup>, Gunasekara C<sup>4</sup>, Fernando N<sup>4</sup>, Meegoda MKDL<sup>5</sup>  
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21. **OP 22: The outpatient adherence and related problems to antibacterial therapy among outpatients attending selected healthcare settings; A qualitative study.**  
Jayakody JPTS<sup>1</sup>, Senadheera GPSG<sup>1</sup>, Samaranayake NR<sup>1</sup>  
*<sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
22. **OP 23: Depression, anxiety and stress among parents of children with Autism Spectrum Disorder (ASD) attending Lady Ridgeway Hospital (LRH) for children, Sri Lanka**  
Bobuwala UG<sup>1</sup>, Narangaspitiya NGSM<sup>1</sup>, Jayasinghe HC<sup>1</sup>, Anuththara WTD<sup>1</sup>, Ranasingha RDI<sup>1</sup>, Kariyawasam KHAY<sup>1</sup>, Nisansala MWN<sup>2</sup>  
*<sup>1</sup>Faculty of Nursing, KIU, Sri Lanka, <sup>2</sup>Department of Fundamentals of Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.*
23. **OP 24: Prevalence of occupational health hazards, self-reported symptoms, and risk perception among printing workers at the Department of Government Printing, Sri Lanka**  
Jayawickrama RKN<sup>\*</sup>, Ilankoon IMPS  
*Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
24. **OP 25: Screen addiction and its impact on the health among secondary - level school children in Galle Educational Division**  
Palihawatta PKTP<sup>1</sup>, Wickramarachchi BI<sup>1</sup>, Chandrasiri PAA<sup>2</sup>  
*<sup>1</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Galle, Sri Lanka, <sup>2</sup>Consultant Community Physician, Department of health, Sri Lanka.*

25. **OP 26: Unraveling the dual faces of Tuberculosis (TB): Analyzing pulmonary and extra-pulmonary TB patterns in Colombo, Sri Lanka**  
Thilakarathne GKYC<sup>1</sup>, Lakmini MS<sup>1</sup>, Dilhari KAA<sup>2</sup>, Munasinghe JA<sup>3</sup>, Jayaweera JMS<sup>4</sup>, Karunasekera C<sup>5</sup>, Weerasekera MM<sup>6</sup>  
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26. **OP 28: Demographic characteristics, lipid profile and grade of non-alcoholic fatty liver disease (NAFLD) in a selected patient population: a retrospective study at a tertiary care and a primary care facility**  
Rupasinghe SJ<sup>1</sup>, Gnanapragash G<sup>1</sup>, Rajapaksha DIG<sup>2</sup>, Dias P<sup>3</sup>, Matthias T<sup>4</sup>, Fernando DMS<sup>5</sup>  
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27. **OP 29: Anthropometric and biochemical parameters: In predicting development of hepatic fibrosis and hepatic steatosis in metabolic dysfunction associated fatty liver disease**  
Karunaratna AMDS<sup>1</sup>, Ekanayake S<sup>1</sup>, Ranawaka CK<sup>2</sup>  
<sup>1</sup>Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Gastroenterology, Colombo North Teaching Hospital, Ragama, Sri Lanka.
28. **OP 30: Serum cytokines in lumbar disc herniation: Expression and interaction network analysis**  
Aravinth P<sup>1</sup>, Withanage ND<sup>2</sup>, Sujatha Pathirage<sup>3</sup>, Athiththan SP<sup>4</sup>, Perera S<sup>5</sup>, Athiththan LV<sup>6</sup>  
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29. **OP 31: Comparison of Thyroid Imaging Reporting and Data System (TIRADS) and Bethesda System with histology for thyroid tumour diagnosis**  
Kulatunga KMHH<sup>1</sup>, Pathirana AA<sup>2</sup>, Fernando SSN<sup>3</sup>, Gamage BD<sup>2</sup>, Epa A<sup>4</sup>, Sampath MKA<sup>5</sup>, Sosai C<sup>6</sup>, Seneviratne BS<sup>1</sup>  
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30. **OP 32: Anthocyanin-incorporated PEO: EC electrospun fiber mat as a cost-effective and stable ocular pH detection sensor during ocular chemical burns**  
Sandaruwan HHPB<sup>1</sup>, Manatunga DC<sup>1</sup>, Liyanage RN<sup>2</sup>, Costa NP<sup>3</sup>, Dassanayake RS<sup>1</sup>, Wijesinghe RE<sup>4</sup>  
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31. **OP 33: Early detection of hyperlipidemia through analysis of finger pulse images using machine learning**

Gunathilaka PADHJ<sup>1,2</sup>, Rajapaksha RARS<sup>3</sup>, Kumarika BMT<sup>3</sup>, Perera DP<sup>4</sup>, Herath MHMUP<sup>5</sup>, Jayathilaka KMDC<sup>2</sup>, Liyanage JA<sup>6</sup>, Kalingamudali SRD<sup>2</sup>

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32. **OP 34: Establishing an *in vitro* bladder model to study *in vitro* crystalline biofilm formation on Foley catheters by *Proteus mirabilis***

Nissanka NMC<sup>1,2</sup>, Dilhari KAA<sup>3</sup>, Weerasekera MM<sup>1</sup>

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33. **OP 35: Evaluating the significance of unilateral neck of femur bone mineral density measurement for the diagnosis of osteoporosis**

Samarakoon ASMUDB<sup>1</sup>, Jeevaruban S<sup>1</sup>, Nawaz SI<sup>2,3</sup>, Nanayakkara DKK<sup>1</sup>, Rathnayake NMMS<sup>1</sup>

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## Poster Presentations

- PP 1: *In vitro* evaluation of antibacterial activity of leaf extracts of *Atalantia ceylanica***  
Uthpala RM<sup>1</sup>, Wijewardhana BADIM<sup>1</sup>, Pemadasa DAIS<sup>1</sup>, Sivasinthujah S<sup>1</sup>, Gnanakarunyan TJ<sup>2</sup>  
<sup>1</sup>Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.
- PP 2: Determination of antioxidant activity of Balabilvashunti decoction and its raw materials through different analytical methods**  
Madhushika KDC<sup>1,2</sup>, Hapuarachchi SD<sup>1</sup>, Suresh TS<sup>3</sup>, Perera PK<sup>1</sup>, Kodithuwakku ND<sup>1</sup>, Dahanayake JM<sup>1</sup>, Arawwawala LADM<sup>4</sup>  
<sup>1</sup>Faculty of Indigenous Medicine, University of Colombo, Sri Lanka, <sup>2</sup>Faculty of Graduate Studies, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Faculty of Medicine, University of Sri Jayewardenepura, Sri Lanka, <sup>4</sup>Herbal Technology Section, Industrial Technology Institute, Sri Lanka.
- PP 3: Investigation of anti-inflammatory, anti-diabetic properties and phytochemical analysis of *Osbeckia octandra* methanolic leaf extract**  
Shavindi PAIS<sup>1</sup>, Mathangadeera RW<sup>1</sup>, Jayasinghe MA<sup>2</sup>  
<sup>1</sup>Department of Applied Sciences, Faculty of Humanities and Sciences, Sri Lanka Institute of Information Technology (SLIIT), Malabe, Sri Lanka, <sup>2</sup>Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.
- PP 4: Comparative analysis of phytochemical and antioxidant activities of different parts of the medicinal plant; *Ocimum sanctum* Linn in Jaffna district**  
Vilochana AAS<sup>1</sup>, Rajkumar G<sup>1</sup>, Sanmugarajah V<sup>2</sup>  
<sup>1</sup>Department of Botany, Faculty of Science, University of Jaffna, Sri Lanka, <sup>2</sup>Unit of Siddha Medicine, University of Jaffna, Sri Lanka.
- PP 5: *In vitro* Bio-activity and preliminary cytotoxicity evaluation of Sri Lankan plant *Crudia zeylanica***  
Madusanka IWAC<sup>1</sup>, Liyanarachchie LCPT<sup>1</sup>, Nilanthi RMR<sup>2</sup>, Sooriyabandara C<sup>2</sup>  
<sup>1</sup>Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, <sup>2</sup>Department of Wildlife Conservation, Sri Lanka.
- PP 6: *In-vitro* antimicrobial activity of bark of *Mimusops elengi* (munamalpothu) alone and in combination with *Zyzygium aromaticum* (cloves)**  
Thathsarani JAG<sup>1</sup>, Chamika DMS<sup>1</sup>, Dissanayake DMBT<sup>2</sup>  
<sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
- PP 7: Antibacterial activity of polysaccharides extracted from the root of *Premna serratifolia* (Wind killer)**  
Ginthujah V<sup>1</sup>, Jayapria S<sup>1</sup>, Thirtsha G<sup>1</sup>, Sivasinthujah S<sup>1</sup>, Tharmila CJ<sup>2</sup>, Srithevi S<sup>1</sup>  
<sup>1</sup>Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup>Department of Botany, Faculty of Science, University of Jaffna, Sri Lanka.
- PP 8: Assessing *Dillenia retusa* fruit and bark extracts' antifungal power against superficial mycosis-causing fungi, and identifying the best storage conditions for the most effective extract**  
Hajara MMF<sup>1</sup>, Jayasinghe LMSI<sup>1</sup>, Nissanka NMC<sup>2</sup>, Weerasekera MM<sup>2</sup>, Dilhari KAA<sup>3</sup>  
<sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

9. **PP 9: *Invitro* antioxidant activity of methanolic extract of selected polyherbal drug used in Diabetes Mellitus in Northern Province, Sri Lanka.**  
Merin Dinushiya J<sup>1</sup>, Nilanusha S<sup>1</sup>, Sugansika M<sup>1</sup>, *Sivasinthujah S*<sup>1</sup>, Sivarangini S<sup>2</sup>  
<sup>1</sup>Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup>Unit of Siddha Medicine, University of Jaffna, Sri Lanka.
10. **PP 10: Antifungal efficacy of some selected medicinal plant extracts in Sri Lanka against *Candida* Species**  
Wickramasingha WGD<sup>1</sup>, Prasangika SB<sup>2</sup>, Dassanayake DMSC<sup>2</sup>, Jayasekera P<sup>3</sup>, Jayasinghe JMS<sup>2</sup>  
<sup>1</sup>Department of Biochemistry, Medical Research Institute, Sri Lanka, <sup>2</sup>Department of Chemistry, Faculty of Science, University of Peradeniya, Sri Lanka, <sup>3</sup>Department of Mycology, Medical Research Institute, Sri Lanka.
11. **PP 11: Assessment of antibacterial activity and brine shrimp lethality of *Amorphophallus paeoniifolius* (Kidaram) inflorescence extracts**  
Karunathilaka S<sup>1</sup>, Madushani NT<sup>2</sup>, Darshana D<sup>2</sup>  
<sup>1</sup>Department of Botany, Faculty of Science, University of Ruhuna, Sri Lanka, <sup>2</sup>Department of Pharmacy, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.
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Salini N<sup>1</sup>, Aberame S<sup>1</sup>, Piriyanaka N<sup>1</sup>, Sivasinthujah S<sup>1</sup>, Senthilnathanan M<sup>2</sup>  
<sup>1</sup>Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup>Department of Chemistry, Faculty of Science, University of Jaffna, Sri Lanka.
13. **PP 13: Knowledge, attitudes, and practices of pharmacists on cold chain management of vaccines at Regional Medical Supplies Divisions (RMSDs) of Sri Lanka**  
Nanlath Gamage HD<sup>1,2</sup>, Buddhika RBJ<sup>1</sup>  
<sup>1</sup>Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, Sri Lanka, <sup>2</sup>Regional Medical Supplies Division Colombo, Sri Lanka.
14. **PP 14: Relationship between medication knowledge and medication adherence in patients with bipolar disorder. Evidence from an observational study from outreach clinics conducted by National Institute of Mental Health, Sri Lanka**  
Getamurutha GGSU<sup>1,2</sup>, Buddhika RBJ<sup>1</sup>, Wickramasinghe NDD<sup>1</sup>  
<sup>1</sup>Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, Sri Lanka, <sup>2</sup>National Institute of Mental Health, Sri Lanka.
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Kekunawela KHSS<sup>1,2</sup>, Wijayabandara MDJ<sup>1</sup>, Senadheera GPSG<sup>1</sup>, Samaranyake NR<sup>1</sup>  
<sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Science, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Pharmacy, National Dental Teaching Hospital, Sri Lanka.
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Maddevithana MK<sup>1</sup>, Perera PPR<sup>2</sup>  
<sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Faculty of Graduate Studies, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
17. **PP 17: Knowledge, attitudes and practices on insulin therapy and number of experienced hypoglycemic episodes during past month among insulin users attending diabetic clinic, Teaching Hospital, Peradeniya.**  
Bandara WEWMRTW<sup>1,2</sup>, Buddhika RBJ<sup>2</sup>, Wickramasinghe NDD<sup>2</sup>  
<sup>1</sup>Department of Pharmacy, Faculty of Health Sciences, The Open University Sri Lanka, <sup>2</sup>Teaching Hospital, Peradeniya, Sri Lanka.

18. **PP 18: Self-medication practices among older adults in Mawanella Divisional Secretariat, Sri Lanka**  
Nissanka SHSM<sup>1</sup>, Tennakoon V<sup>2</sup>, Senadheera GPSG<sup>1</sup>  
<sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Science, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
19. **PP 20: Awareness on medications among customers attending selected community pharmacies in Western Province, Sri Lanka**  
Dias MJK<sup>1</sup>, Samaranyaka TSP<sup>2</sup>  
<sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Family Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka
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Safeer NM<sup>1</sup>, Wickramasinghe NDD<sup>1</sup>, Buddhika RBJ<sup>1</sup>  
<sup>1</sup>Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, Sri Lanka.
21. **PP 22: The antibiotic consumption in state sector hospitals in a selected district of Sri Lanka between 2016 and 2021**  
Thilipkumar PJT<sup>1</sup>, Senadheera GPSG<sup>2</sup>, Venoden D<sup>3</sup>  
<sup>1</sup>Department of Pharmacy, The Open University of Sri Lanka, <sup>2</sup>Department of Pharmacy & Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Regional Director of Health Services Office, Sri Lanka.
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23. **PP 24: Evaluation of anthropometric patterns in women with polycystic ovarian syndrome; at Teaching Hospital Jaffna.**  
Viveka M<sup>1</sup>, Kajanthini B<sup>2</sup>, Gowthame V<sup>1</sup>, Arasaratnam V<sup>1</sup>, Muhunthan K<sup>3</sup>, Sutharsan M<sup>1</sup>  
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24. **PP 25: Menstrual irregularities and their association with menstrual cycle characteristics and demographic factors among female undergraduates residing in hostels of a selected state university in Sri Lanka**  
Ruchirani DMM<sup>1</sup>, Amithma MH<sup>1</sup>, Perera PPR<sup>2</sup>  
<sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka. <sup>2</sup>Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
25. **PP 27: Isolate the *Streptococcus mutans* from dental caries in patients attending dental clinic, Teaching Hospital, Jaffna**  
Wathooth AMA<sup>1</sup>, Ashra MRF<sup>1</sup>, Mufeena MMF<sup>1</sup>, Gnanakarunyan TJ<sup>1</sup>, Shamil Mafras FS<sup>1</sup>, Jayatilake JAMS<sup>2</sup>, Rajanthi Ramachandran<sup>3</sup>, Thayalini T<sup>4</sup>  
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26. **PP 28: Awareness of dental fluorosis among school children in Dimbulagala Educational Zone**  
Pathirana WPTD, Imendra KG, Dias MPHK  
*Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.*
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*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*
28. **PP 30: Knowledge, attitudes, and practices on managing childhood post-vaccination fever: A Cross-sectional survey among the primary caregivers in the Dangedara MOH area in Sri Lanka**  
Chathurika WKE, Madushani RN, Champika HA, Ediriweewa GADR, Hasanthika WWR, Senarath NSASN  
*Department of Nursing, Faculty of Nursing, KIU, Sri Lanka.*
29. **PP 31: Prevalence of illicit drug usage and associated socio demographic factors among students of University of Jaffna, Sri Lanka**  
Thuvarakan N<sup>1</sup>, Pakeerathan T<sup>1</sup>, Sathees S<sup>1</sup>, Umaharan T<sup>2</sup>  
<sup>1</sup>*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka,* <sup>2</sup>*Department of Psychiatry, Faculty of Medicine, University of Jaffna, Sri Lanka.*
30. **PP 33: In-vitro antioxidant properties of unripen and ripen fruits of *Momordica balsamina***  
Amirthavarshini A<sup>1</sup>, Abisha S<sup>1</sup>, Nushrath K L F<sup>1</sup>, Sivasinthujah S<sup>1</sup>, Srikanan R<sup>2</sup>  
<sup>1</sup>*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka,* <sup>2</sup>*Department of Chemistry, Faculty of Science, University of Jaffna, Sri Lanka.*
31. **PP 34: Attitudes toward family involvement in nursing care among second-year nursing students in School of Nursing, Colombo Sri Lanka**  
Dilrukshi KT<sup>1</sup>, Amarasekara AATD<sup>2</sup>  
<sup>1</sup>*Faculty of Graduate Studies, KIU, Sri Lanka.* <sup>2</sup>*Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
32. **PP 35: Validating a guideline on calculating the cost of medication errors in hospitals in Sri Lanka using a hypothetical case**  
Navodaya KD<sup>1</sup>, Ranasinghe RAS<sup>1</sup>, Nadeshkumar A<sup>1</sup>, Senadheera GPSG<sup>1</sup>, Karandagoda W<sup>2</sup>, Samaranyake NR<sup>1</sup>  
<sup>1</sup>*Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,* <sup>2</sup>*Formerly Director Medical Services, Lanka Hospitals PLC, Sri Lanka.*
33. **PP 36: Knowledge, practices and associated factors of first aid among school teachers in selected schools in Nugegoda Education Division**  
Gunasekara MGH, Damayanthi LC  
*Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
34. **PP 37: Exploring parental knowledge and practices in seizure and epilepsy: A descriptive cross-sectional study**  
Liyanage SMU<sup>1</sup>, Dissanayake AS<sup>2</sup>, Jayasinghe M<sup>2</sup>  
<sup>1</sup>*Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka,* <sup>2</sup>*Department of Pharmacy, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.*
35. **PP 38: Health-seeking behavior and its associated factors among patients with non-communicable diseases attending medical clinics at Divisional Hospital, Sri Lanka**  
Liyanage NS, Dilrukshi GS, Dhanushika RMG, Sanjeevani PHI, Sandaruwani AHM, Hasanthika WWR, Edirisooriya MD, Senarath NSASN  
*Department of Nursing, Faculty of Nursing, KIU, Sri Lanka.*

36. **PP 39: Assessing patient awareness and knowledge gaps in hypertension and diabetes mellitus: A study in Base Hospital Karawanella, Sri Lanka**  
Weragoda WARN<sup>1</sup>, Lakshani PHPC<sup>2</sup>, Madurya PAK<sup>3</sup>, Rajapaksha DIG<sup>4</sup>  
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37. **PP 40: Knowledge, practices, and associated factors on prevention of diabetic foot among diabetic patients attending a selected teaching hospital, Sri Lanka**  
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Department of Nursing, Faculty of Nursing, KIU, Sri Lanka.
38. **PP 41: Attitudes and practices on Attention Deficit Hyperactive Disorder (ADHD) and its associated factors among primary school teachers in the Kegalle educational zone, Sri Lanka**  
Wijethilaka AHR<sup>1</sup>, Wijesekara DS<sup>2</sup>  
<sup>1</sup>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Paediatrics, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
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Madushan EMKG<sup>1</sup>, Rathnaweera RHAI<sup>2</sup>  
<sup>1</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, <sup>2</sup>Department of Forensic Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka.
40. **PP 44: Patients’ lived experiences of using non-pharmacological methods in managing constipation after undergoing hysterectomy surgery at the de Soysa Hospital for Women**  
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Department of Nursing, Faculty of Health Sciences, The Open University of Sri Lanka, Sri Lanka.
41. **PP 45: Association of dietary intake with body mass index and antioxidant status in patients with type 2 diabetes mellitus: A cross-sectional study in Galle, Sri Lanka**  
Kaushalya RH<sup>1</sup>, Wasana KGP<sup>2</sup>, Amarasiri AMSS<sup>1</sup>, Attanayake AP<sup>2</sup>  
<sup>1</sup>Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, <sup>2</sup>Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Sri Lanka.
42. **PP 46: Satisfaction of expectant mothers on the support of husbands in the preparation for motherhood; A hospital based cross-sectional study**  
Rathnayake P, Rathnayake N  
Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.
43. **PP 47: Glasgow coma scale in the clinical practice: Gaps in knowledge and practical administration among nursing undergraduates in Sri Lanka**  
Perera RDHM<sup>1</sup>, Hettiarachi M<sup>2</sup>  
<sup>1</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, <sup>2</sup>Nuclear Medicine Unit, Faculty of Medicine, University of Ruhana, Sri Lanka.

44. **PP 48: Knowledge and associated factors of exposure to chemotherapy among cleaning personnel at the National Cancer Institute, Sri Lanka**  
Senarath NSASN<sup>1</sup>, De Silva D<sup>3</sup>, Rathnayake RWMWK<sup>4</sup>, Warnakulasuriya SSP<sup>5</sup>, Meegoda MKDL<sup>6</sup>, Jayasinghe SS<sup>2</sup>  
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## OP 1

### **Determination of in vivo larvicidal activity of *Evolvules alsinoides* aqueous plant extract on *Aedes albopictus* mosquito larvae**

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**Background:** Mosquitoes are responsible for transmitting deadly diseases and killing millions of people each year. Mosquitoes are a persistent threat to human health, creating global problems such as malaria, dengue fever, yellow fever, and Zika virus etc. To combat this, effective pesticides that can overcome resistance are urgently needed. Plants may be alternative sources of mosquito control agents. *Evolvules alsinoides* L., (Convolvulaceae) is a natural herbal plant found in Sri Lanka known as “Nil Vishnukranthi” in Sinhala, which is used in a variety of preparations.

**Objective:** The purpose of this study was to evaluate the mosquito larvicidal activity of *E. alsinoides* aqueous plant extract against *Aedes albopictus* mosquito larvae.

**Methods:** An Ovi-trap was set up at KIU university premises and emerged larvae fed with fish foods, and then third instar larvae were identified using a digital microscope based on their morphology. Only larvae of the species *A. albopictus* were used for larvicidal bioassay. Aerial parts of the plant were extracted into distilled water using the maceration method. Two-fold dilutions ranging from 2-1000 mg/mL were prepared. Ten larvae were exposed to the plant extract, tank water was used as the control, and mortality rate, survival rate, and developmental deformities were observed at specific time points (24h, 48, 54h, 72h, 80h, and 90h), probit analysis was performed, and LC 50, LC 90, and mortality percentage evaluated. Statistical analysis was performed using GraphPad Prism 9 software. The study was triplicated.

**Results:** Survival rate decreased towards the highest concentrations. The highest mortality % was observed at 1000 mg/mL, and mortality was decreased towards the lowest concentration and rich to a minimum of 40% at 31mg/mL. The median lethal Concentration, LC50= 340.4, 95% C.I. [269.5, 426.5], 90% Lethal Concentration, LC90 = 741.8, 95% C.I. [623.6, 918.6] were recorded. Statistical analysis revealed that significant  $p < .0001$ ,  $R^2 = 0.745$  were observed. No mortality of *Aedes* larvae was recorded in the control group. The larvicidal activity of *E. alsinoides* against *Aedes* larvae at different concentrations (31-1000 mg/mL) was significant ( $p < .0001$ ). Developmental deformities were observed, including a blackened head, whitish abdomen, and damaged siphon mainly at higher concentrations.

**Conclusions:** These findings provide valuable insights into the toxicological properties of plant extract and the potential use and development of bioinsecticides, particularly from *E. alsinoides*.

## OP 03

### ***In vitro* litholytic effect of selected siddha drugs with the aqueous extract of *Musa sapientum* inner stem as an adjuvant on oxalate stone**

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**Background:** Uroliths are composed of organic matrix and organic & inorganic crystalloids. Siddha drugs are used for the management of urolithiasis along with *Musa sapientum* inner stem (inner core of pseudo stem) extract as the adjuvant.

**Objective:** To evaluate the *in vitro* antiurolithic effects of Siddha drugs *Silasaththu paspam*, *Nandukkal paspam* and *Venkara paspam* with and without *Musa sapientum* inner stem extract as the adjuvant on oxalate stones.

**Methods:** Fresh *Musa sapientum* inner stem extract strained through muslin cloth (333 $\mu$ l) was diluted with 50mL deionized water. Oxalate stones (75.0mg) were treated with 3.3mg of each different Siddha drugs (*Silasaththu paspam*, *Nandukkal paspam* and *Venkara paspam*) with and without adjuvant (15mL) and incubated at 37°C. Deionized water (15mL) with the stone was used as the control. After 24h, the solutions were decanted and the process was repeated 7 for days. The decanted solution was analyzed for calcium, oxalate, magnesium, inorganic phosphate and uric acid. The results were analyzed using IBM SPSS version 25.0.

**Results:** Cumulative release of calcium from oxalate stone into each of *Silasaththu paspam*, *Nandukkal paspam* and *Venkara paspam* with the adjuvant were 4.678 ( $\pm$ 1.12), 3.345 ( $\pm$ 0.84) and 2.656 ( $\pm$ 0.07) mg respectively, while cumulative release of oxalate from oxalate stone into above were 3.047 ( $\pm$ 0.84), 3.025 ( $\pm$ 0.71) and 2.156 ( $\pm$ 0.68) mg respectively. And cumulative release of calcium from oxalate stone into *Silasaththu paspam*, *Nandukkal paspam* and *Venkara paspam* without the adjuvant were [2.627( $\pm$ 0.98) mg], [1.994 ( $\pm$ 0.91)] and [1.635 ( $\pm$ 0.84) mg] respectively while cumulative release of oxalate from oxalate stone into above were [1.848 ( $\pm$ 0.48) mg], [1.804 ( $\pm$ 0.87) mg], and [1.034 ( $\pm$ 0.85) mg] respectively.

**Conclusions:** All selected Siddha drugs showed better *in vitro* litholytic activity with adjuvant rather than alone. *Silasaththu paspam* with *Musa sapientum* fresh extract of inner stem showed the highest *in vitro* litholytic effect on oxalate stones.

## OP 4

### **In-vitro dissolution activity of Calcium oxalate kidney stones by the extract of *Cucumis melo* seeds**

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**Background:** Urolithiasis is the formation of stones in the urinary system including kidney, bladder, or urethra. More than 80% of these stones are mainly composed of Calcium oxalate, and its treatment by surgical procedures is complex and invasive. There is a growing inclination towards medicinal plants as treatments, due to their numerous effective chemicals and therapeutic benefits. *Cucumis melo* (Kakiri) has been used as a natural remedy to cure kidney stones in Ayurveda.

**Objective:** The present study was designed to scientifically determine the in-vitro dissolution activity of aqueous extracts of *C. melo* seeds on surgically removed calcium oxalate urinary stones.

**Methods:** Ethical clearance for this study was obtained from ethics review committee of Faculty of Medical Sciences, USJP. The study was carried out as a laboratory-based experimental study. *C. melo* seeds were dried thoroughly under sunlight for two weeks and ground. Aqueous extract was prepared by dissolving 2.0 g of seed powder in 100 mL of deionized water. Then a concentration gradient was prepared as 20mg/mL, 15mg/mL, 10mg/mL and 5mg/mL. Surgically removed urinary stones were characterized by Fourier Transform Infrared Spectroscopic analysis. Calcium releasing ability of the plant extract was determined by measuring the concentration of released calcium from calcium oxalate urinary stones after soaking in the extract at different concentrations.

**Results:** The highest released calcium concentration 7.2576 mg/L was obtained at 75% (15mg/mL) of plant extract. The released calcium concentration from urinary stones was increased with the increasing concentration of plant extract up to 75% excluding the highest concentration which was 100%.

**Conclusions:** Aqueous extracts of *C. melo* seeds exhibited a significant calcium releasing activity on surgically removed calcium oxalate urinary stones and provide scientific rationale for the Ayurvedic treatment in relieving the urinary stones. This is the first study of this type proving the therapeutic efficacy of calcium dissolution activity of *C. melo* seeds on surgically removed calcium oxalate urinary stones.

## OP 5

### Exploring antidiabetic properties of *Aponogeton rigidifolius* H. Bruggen and developing a micropropagation protocol for conservation purposes

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**Background:** The genus *Aponogeton*, is known for diverse bioactivities, including anti-diabetic properties. Among the plants of this genus, endemic and critically endangered *Aponogeton rigidifolius* H. Bruggen is scientifically less explored.

**Objectives:** To explore the anti-diabetic properties of aqueous crude extract of flowers and stalks of *A. rigidifolius* (AEFA), and to develop an *in vitro* propagation protocol for conservation purposes.

**Methods:** The anti-hyperglycaemic effects of AEFA (90 mg/kg) were assessed in healthy, glucose loaded Wistar rats. *In vitro* studies included anti-amylase, anti-glycation, and anti-oxidant assays, along with phytochemical screening. Tissue culture protocols using seeds, rhizomes, and leaf explants aimed at establishing an *in vitro* propagation method. Tissues were sterilized using carbendazime, 10% NaOCl and 0.1% HgCl<sub>2</sub> and established on full strength MS medium supplemented with combinations of 6- benzylaminopurine (BAP) 2,3,5 mg/L with or without 0.1 mg/L indole acetic acid (IAA) for initiation Results were statistically analyzed and the level of significance was considered as  $p < 0.05$ .

**Results:** AEFA (90 mg/kg) and metformin significantly decreased the blood glucose level by 15.40% and 20.00% respectively compared to the control group. The anti-hyperglycaemic activity of AEFA found to be comparable to metformin ( $p = 0.086$ ). The anti-amylase ( $IC_{50}: 2831.31 \pm 24.81 \mu\text{g/mL}$ ), anti-glycation ( $IC_{50}: 2026.66 \pm 51.09 \mu\text{g/mL}$ ) and DPPH free radical scavenging activity ( $IC_{50}: 90.05 \pm 1.96 \mu\text{g/mL}$ ) of AEFA were less potent compared to standard drugs: acarbose, rutin and ascorbic acid respectively. The preliminary phytochemical screening revealed the presence of reducing sugar, protein, phenolics, flavonoids, alkaloids, tannins, terpenoids, cardiac glycosides and steroids. In the *in vitro* propagation of seeds, growth regulators had significant effect on number of leaves in seedlings. Maximum number of leaves seen with 5 mg/L BAP and 0.1 mg/L IAA. The effect of growth regulators on seed germination rate and height of seedlings were not significantly different between treatments at 0.05 significance level.

**Conclusions:** AEFA demonstrates potential anti-diabetic properties through anti-hyperglycaemic and anti-oxidant activities. The plant can be successfully propagated through *in vitro* propagation of seeds.

## OP 6

### Comparative analysis of cytotoxicity of saponins fractions isolated from *Garcinia* and *Guava* leaves against Hep-G2 cells

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**Background:** The global health issue with cancer, emphasizes the need for development of novel drugs. Saponins, a diverse group of plant natural compounds have been known to possess higher cytotoxicity against cancers.

**Objectives:** The objective of this research is to investigate the anticancer properties of four specific saponin fractions isolated from the leaves of *Garcinia* (*Garcinia quaesita*) and *Guava* (*Psidium guajava*) from Sri Lanka, against Hep-G2 cell line.

**Methods:** Leaves collected from each plant were sonicated (2 hours, room temperature, 40 kHz) with 80% ethanol, followed by re-extraction with distilled water to isolate polar compounds. The resulting crude extracts underwent sequential extraction using diethyl ether, dichloromethane, ethyl acetate, and butanol to obtain crude saponins. Size-exclusion chromatography was then employed to isolate individual saponins from the crude saponins of both plants' leaves. Four saponin fractions (GaSLF3, GaSBF4, GuSLF2, GuSBF3) were evaluated for cytotoxic effects on Hep-G2 cells using the MTT assay at concentrations of 25, 50, and 100 µg/mL after 24 and 48 hours of incubation, with 0.5% ethanol and Tamoxifen as negative and positive controls, respectively. Results are expressed as mean ± SD (n=3), and level of significance was considered as p<0.05.

**Results:** Significant cytotoxicity was observed in the GaSBF4 fraction, with IC<sub>50</sub> values of 25.44±5.55 µg/mL and 2.22±0.71 µg/mL after 48 hours and 24 hours of post-incubation, respectively. In contrast, GaSLF3 exhibited minimal cytotoxicity compared to GaSBF4. Among the guava fractions, only GuSLF2 demonstrated a moderate cytotoxic effect after 48 hours of, with an IC<sub>50</sub> post-incubation of 51.25±4.72 µg/mL, while the remaining fractions showed no cytotoxic activity. Notably, Tamoxifen displayed cytotoxic effects with an IC<sub>50</sub> of 9.86±0.32 µg/mL and negative control showed no cytotoxic effect.

**Conclusion:** The study emphasizes greater cytotoxicity of the *Garcinia* saponins fraction compared to *guava* saponins fractions against Hep-G2 cells. This research opens up new avenues for further research to develop anti-cancer drugs out of saponins of these plant leaves.

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## OP 7

### **Impact of atorvastatin on triple-negative and hormone receptor-positive breast cancer cells-an *in vitro* study**

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**Background:** Elevated levels of serum lipid parameters are identified to implicate oncogenesis. Studies on the impact of statins on breast cancer cells as treatment options by altering lipid metabolism holds significance.

**Objective:** To identify anticancer effects of atorvastatin on triple-negative and hormone receptor-positive breast cancer cells *in vitro*.

**Methods:** A concentration series of atorvastatin calcium (10-160  $\mu\text{mol dm}^{-3}$ ) was prepared in cell culture media (2 mg atorvastatin calcium +2  $\mu\text{L}$  dimethyl sulfoxide +2 mL media). The test concentrations were treated on seeded triple negative MDA-MB-231 and hormone receptors positive MCF7 cells (6 replicates). The treated cells were incubated at 37 ° for 24, 48 and 72 hours and percentage cell viability were assessed with sulforhodamine B (SRB) assay. The half maximal inhibitory concentrations ( $\text{IC}_{50}$ ) of atorvastatin were calculated at 24, 48 and 72 hours, compared to negative controls containing complete cell culture media and 0.1% DMSO.

**Results:** The  $\text{IC}_{50}$  for triple-negative MDA-MB-231 cells were 86.9, 15.7 and 1.1  $\mu\text{mol dm}^{-3}$  for 24, 48 and 72 hours of incubation respectively, where the percentage viability vs concentration curves were derived with  $R^2 > 0.9$  respectively. No significant effect was observed at 24 hours for MCF7 cells compared to positive control.  $\text{IC}_{50}$  for MCF7 for 48 and 72 hours were 99.2 and 57.8  $\mu\text{mol dm}^{-3}$  respectively, where the percentage viability vs concentration curves were derived with  $R^2 > 0.9$ . At 24hour  $\text{IC}_{50}$  for the positive control were  $4.0 \times 10^{-3}$   $\mu\text{mol dm}^{-3}$  for MDA-MB-231 and  $135.9 \times 10^{-3}$   $\mu\text{mol dm}^{-3}$  for MCF7.

**Conclusions:** The SRB assay indicated that atorvastatin exerts potential anticancer effects on triple-negative breast cancer cells than hormone receptor-positive breast cancer cells *in vitro* within 24 hours. However, upon prolonged incubation, atorvastatin exerts cytotoxicity against both MDAMB-231 and MCF7 cells. Further studies on the same will be beneficial to identify the potential therapeutic impact of statins on breast cancer cells.

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## OP 8

### **Development of novel low glycaemic indexed breads incorporating *Cinnamomum verum* (Cinnamon) and *Curcuma longa* (Turmeric) powders**

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**Background:** Type II diabetes has become an increasing health crisis and diet is a major root cause in its aetiology. To manage a healthy diet, palatable low glycaemic food options are necessary, but they are not readily available in the market. Wheat bread is a dietary staple due to its convenience and taste even though bread is high glycaemic. Incorporation of abundant hypoglycaemic spices such as cinnamon and turmeric in minuscule amounts may reduce the glycaemic impact of wheat-based bread with minimal impact on their taste and product quality.

**Objective:** The objective of the study was to develop two low glycaemic indexed bread products by incorporating small percentages (<5%) of cinnamon and turmeric powder without affecting palatability.

**Methods:** Ethical clearance was obtained from the Faculty of Medicine, University of Sri Jayewardenepura before the study initiation. Turmeric and cinnamon-incorporated breads were formulated, and separate sensory evaluations were carried out to select the best samples. The Appearance, Aroma, Texture, Taste and Overall acceptability were evaluated using a semi-trained sensory panel of 30 panellists. Statistically selected best products were proceeded to glycaemic index calculations against a control bread. Twelve healthy adults (18-45 years; Body mass index of 18.5-23.5) were selected voluntarily. Volunteers were asked to come for blood collection with an overnight fast and finger prick blood samples were collected after ingestion of test foods in a 2-hour time window. Glycaemic index values were calculated using D-glucose as a standard.

**Results:** Calculated glycaemic index values for Control, Cinnamon, and Turmeric incorporated breads were  $57.76 \pm 14.25^a$ ,  $43.94 \pm 12.65^{ab}$ , and  $39.04 \pm 14.16^b$  respectively (95% confidence interval, p value; 0.02 and means that don't share the same letter are significantly different).

**Conclusion:** Thus, it could be concluded that the incorporation of cinnamon and turmeric powder has hindered the glycaemic impact of wheat bread while improving the sensory qualities.

**Acknowledgment:** International Foundation for Science, Sweden, Research Council of University of Sri Jayewardenepura, and Centre for Defence Research and Development for the provided funds.

## **OP 9**

### **Development of indicators to determine the safety of dispensing medicines in Sri Lanka**

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**Background:** Safe dispensing is important as it is the point where medications are handed over from a health care professional to a patient.

**Objective:** The objective of the study was to develop indicators for safe dispensing of medicines in Sri Lanka, using an evidence based methodology.

**Methods:** The RAND/UCLA (Research AND Development/University of California Los Angeles) appropriateness method was used with a panel of fifteen experts including senior pharmacologists, academic staff, consultant physicians, pharmacists, and nurses. From a systematic review and brainstorming sessions, 19 dispensing indicators were developed with defined numerators and denominators. During two rating rounds, each indicator was rated on six parameters; appropriateness, relevance, measurability and feasibility, clarity, usefulness, and comparability, using a 1-9 Likert scale, where nine was considered as highly appropriate. If all parameters were rated with a panel median of  $\geq 7$  without disagreement, those indicators were accepted. Overall consensus of the panel was obtained at a meeting with all experts.

**Results:** The panel rated 17 indicators as necessary to assess dispensing safety. There were 10 process indicators, four structural indicators, and three outcome indicators. The identified 12 core indicators were on adherence to regulatory requirements at dispensing, patient verification, compounding medicines, concerns on allergic conditions, labeling and packaging of medicines, patient counseling, detecting prescribing errors, avoiding misuse of medicines, and maintenance of hygiene. The identified five supplementary indicators were on average dispensing time, reconstitution of parenteral medications, double checking high alert medications, contacting patients in a case of a medication error or quality failure of a medicine, and availability of tablet counting devices.

**Conclusions:** The study identified 17 indicators which could be used to assess the safety in dispensing of medicines in Sri Lanka, and to determine the impact of interventions to improve safety outcomes of medicines with the implementation of the National Action Plan for Medication Safety.

**Acknowledgement:** University Research Grant, University of Sri Jayewardenepura, Sri Lanka. ASP/RE/MED/2019/51

## OP 10

### **Advancing Ivermectin Therapeutics: Population Pharmacokinetic Model Approach**

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**Background:** Ivermectin, an anthelmintic drug in human and veterinary medicine, gained interest during the Covid-19 pandemic for its potential for repurposing to treat Covid-19. This study presents a population pharmacokinetic (popPK) model for ivermectin, developed using literature values and clinical trial data, involving COVID-19 patients between August 2021 and March 2022.

**Objective:** The objective was to develop a popPK model for ivermectin based on a controlled clinical trial, minimizing treatment bias while enabling baseline comparison. The study explored the influence of patient weight on ivermectin's pharmacokinetics, aiming to gain insights into the drug's behavior for COVID-19.

**Methods:** A sample of 116 COVID-19 patients (age 18-82 years, weight 22-95 kg) received 24 mg of ivermectin orally. Plasma blood concentrations of each patient were measured at 3 time points after administering the dose daily for 5 days. R software was employed to develop a two-compartment model with first-order elimination (Clearance = 7.67 L/h, volume of distribution = 89.13 L, absorption rate constant = 0.55 h<sup>-1</sup>). Patient weight was introduced as a covariate and model's accuracy was validated through comparisons with literature values of maximum drug concentration in blood ( $C_{max}$ ) and time to reach maximum concentration ( $T_{max}$ ).

**Results:** The popPK model accurately forecasted drug concentrations ( $C_{max} = 80.72$  ng/mL,  $T_{max} = 4.7$  hours), aligning closely with reported values ( $C_{max} = 70.1 \pm 12.5$  ng/mL and  $T_{max} = 4.1 \pm 1.2$  hours) for a 12 mg dose.

**Conclusions:** This study underscores the need for refinement and validation to enhance the accuracy of the popPK model as the levels correlated for a lower dose. Future research could explore additional covariates influencing ivermectin pharmacokinetics to broaden its therapeutic applications. Once optimized, the model's utility extends to simulating drug levels for hypothetical individuals, aiding in determining dosing regimens for different populations.

## OP 11

### **Identifying perspectives on medication adherence among patients and healthcare professionals relevant for the development of a medication adherence tool for Sri Lanka**

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**Background:** Although medication adherence tools are available, there is a need for a general, comprehensive tool that is relevant to the Sri Lankan population.

**Objective:** To identify perspectives of patients and healthcare professionals, relevant to develop a tool for assessing general medication adherence of patients in Sri Lanka.

**Methods:** An extensive literature review was used to find known factors affecting medication adherence. Then, two moderator guides were prepared for in-depth interviewing of prescribers, pharmacists, and patients to extract their perspectives regarding medication adherence. Purposive sampling was used to select participants in three levels of state hospitals. Each interview was transcribed verbatim and coded. Twenty-one in-depth interviews were carried out until no new codes were generated. Content analysis was used to analyze the data. A multi-step procedure was used to extract themes from collected data.

**Results:** A sample high with demographic variability was achieved. Initial codes obtained by interviewing prescribers, pharmacists and patients were transformed to yield secondary codes, descriptive codes, categories and sub-themes separately. Eight sub themes generated five themes providing critical insights of medication adherence reflecting actual factors affecting medication adherence in Sri Lanka; 1. Patient, disease and therapy related, 2. Socio-economic, 3. Healthcare system, 4. Natural/herbal aids, 5. Role of education system and new technology. Among them myths/cultural beliefs specific to Sri Lanka, use of natural/herbal remedies, recurrent medicine out of stock situations and high medication cost, misleading social media, communication issues, polypharmacy, alcohol use, unavailability of required doses, and functional disabilities due to old age were factors highlighted among participants that were not directly assessed by already available widely using medication adherence tools.

**Conclusions:** An item pool of factors for developing a comprehensive medication adherence tool for Sri Lanka was generated. Similar themes came up from prescribers, pharmacists and patients highlighting their importance in assessing medication adherence.

**Acknowledgement:** University Research Grant, University of Sri Jayewardenepura, Sri Lanka (ASP/01/RE/AHS/2022/89)

## OP 12

### **Accessibility and measurability of cost variables required to calculate the cost of medication errors in hospitals in Sri Lanka**

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**Background:** A standard list of cost variables (SLCV) (Eight variables) for calculating the cost of medication errors (MEs) in Sri Lanka, was developed through Delphi consensus previously. However, their accessibility and measurability were a concern to Delphi experts.

**Objective:** To assess the accessibility and measurability of cost variables required to calculate the cost of MEs in hospitals in Sri Lanka.

**Methods:** The accessibility of cost variables was assessed using three methods; (1) A literature review of Sri Lankan studies published until January 1, 2023 on healthcare cost calculations, and PRISMA flow diagram was used to represent the screening process of the articles. Cost variables in studies found were mapped against SLCV along with cost sources used in these studies, to assess the accessibility. (2) A descriptive cross-sectional study of inpatient hospital bills/receipts in both state and private hospitals, where bills were collected using convenience sampling. Cost variables available on bills were matched with the SLCV, and was interpreted as ‘accessible’ if matched. (3) In-depth interviews among key personnel in hospital accounts/finance departments selected using purposive sampling, and interviews were continued until no new categories were generated. Content analysis was used to analyze professional opinion on the accessibility and measurability of SLCV.

**Results** (1) Twenty-two articles were reviewed, (2) 31 bills were collected and analyzed. Except variable; litigation and compensation cost (Variable 8) and sub variable 4.1; Cost for Therapeutic Drug Monitoring, other variables were observed in both results of (1) and (2). (3) Interviews with five accountants from three state hospitals and two private hospitals revealed insights on ‘sources’ and ‘methods of handling’ cost variables which confirmed the measurability. Variable 8 and sub variable 4.1 were considered to be less practical in Sri Lanka.

**Conclusions:** This study revealed that, except variable 8 and sub variable 4.1 rest of the eight variables of SLCV were accessible and measurable. Variable 8 and sub variable 4.1 were not observed in practice in the Sri Lankan healthcare system and hence deemed not accessible or measurable.

## OP 13

### Synthesis of ascorbic acid/ Zn-Al layered double hydroxide/agar bio-nanohybrids for skincare cosmetics

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**Background:** Ascorbic acid (AA), a water-soluble vitamin and antioxidant, is crucial for various physiological functions. Layered double hydroxides (LDHs), known for their layered structure, are utilized for skin protection and drug delivery in dermatology. Current study reveals that AA/LDH/Agar nanocomposites enhance stability and enable controlled release of AA.

**Objective:** Synthesis of AA/Zn-Al-LDH/Agar bio-nanohybrids using coprecipitation and ion-exchange and assessing release behavior of AA.

**Methods:** AA standard curve was prepared with concentrations ranging from 5.0-25.0 mg/L. Synthesis of AA/Zn-Al-LDH via Co-precipitation and Ion-exchange and incorporation of agar matrix were investigated. Nanohybrids were characterized with Fourier Transform Infrared Spectroscopy (FTIR), X-Ray Diffraction (XRD), and Thermogravimetric Analysis (TGA). The release of AA was examined by adding 100 mg of LDH to 50cm<sup>3</sup> of distilled water at room temperature. Aliquots were withdrawn at different time intervals and the concentration of released AA was measured at 265 nm using UV-Visible spectrophotometry.

**Results:** Intercalated AA percentages were 99.74% and 99.61% for Co-precipitation and Ion-exchange methods. Crystallite sizes of AA/Zn-Al-LDH (Coprecipitation) and AA/Zn-Al-LDH (Ion-exchange) were 22.0 and 123.6Å<sup>0</sup> and both materials show a significant shift in XRD basal spacing. In AA-LDH, FTIR peaks at 1360cm<sup>-1</sup> and 1630cm<sup>-1</sup> correspond to lactone linkages and carbonyl groups, respectively. These results confirm the successful formation of Nanohybrids. According to TGA, AA/LDH and AA/LDH/agar synthesized by both methods show significant weight loss only after 300°C. This confirms intercalation has improved the thermal stability of AA. After 80 minutes, AA/Zn-Al-LDH (Co-precipitation) and AA/Zn-Al-LDH (Ion-exchange) showed release of 0.68ppm and 12ppm of AA confirming slow and controlled release of AA from AA/Zn-Al-LDH (Co-precipitation). Similarly, AA/Zn-Al-LDH (Co-precipitation)/Agar and AA/Zn-Al-LDH (Ion-exchange)/Agar showed 3ppm and 0.19ppm of AA. This confirms enhanced controlled release of AA from agar nanohybrids.

**Conclusions:** The study demonstrates successful intercalation of AA into Zn-Al-LDH using both methods. AA/Zn-Al-LDH/Agar Bio-Nanohybrids exhibit controlled release behavior, making them promising candidates for skincare cosmetics. Using non-toxic compounds further emphasizes their potential effectiveness and safety for skincare applications.

## OP 14

### **Protein-Ligand Docking of 4MZC with AutoDock Vina: Unveiling potential Anti-Malarial Ligands for novel therapeutic strategies**

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**Background:** Malaria is a global health issue, especially in the tropical regions. *Plasmodium falciparum*, the deadliest malaria parasite, causes the most severe cases and deaths. Further, drug-resistant strains and limitations in current treatments highlight the urgent need for new therapeutic strategies.

**Objective:** The purpose of the study is to target and optimize a malarial protein and to explore the best protein-ligand complex using AutoDock Vina as a new therapeutic intervention to combat malarial disease.

**Methods:** Malaria protein, 4MZC was retrieved from RCSB-PDB using .pdb format whilst ten phytochemicals with anti-malarial properties were downloaded from PubChem using .sdf format. The ligand files were converted to .pdb format using Open Babel software. The preparation of proteins and phytochemicals was performed in the AutoDock suite. The grid parameters were set according to blind docking as follows: X=78; Y=86; Z=68; grid\_spacing=0.497; GA\_runs=10; population\_size=150; exhaustiveness\_value=8; energy\_range=4. These parameters were incorporated into a configuration file (‘config.txt.’) and docking commands were executed using the CMD window. The best protein-ligand complex was determined using the lowest binding energy from the RMSD table. These are validated by comparing them with the FDA-approved anti-malarial drugs. BIOVIA Discovery Studio was used to visualize the best pose of the protein-ligand complex and the ADMET properties of the phytochemicals were determined using SwissADME.

**Results:** Of the phytochemicals, Aloin obtained the lowest binding energy at -8.8kcal/mol whereas Mahanine obtained the second lowest binding energy at -8.6kcal/mol followed by Serpentine (-8.5kcal/mol). The rest of the phytochemicals ranged from -5.9kcal/mol to -8.1kcal/mol. All phytochemicals in this study passed Lipinski’s rule except Microdantin and Multifluroside.

**Conclusions:** Aloin, Mahanine and Serpentine act as potential ligands towards 4MZC to combat Malaria using computational methods. Further, wet lab experiments and validation using redocking are requisite in the drug development process.

## OP 15

### Synthesis of nanosuspensions of *Carica papaya* fruit extract and evaluation of the antioxidant activity

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**Background:** *Carica papaya* (papaya) is a commonly consumed fruit in Sri Lanka which exhibit high antioxidant activity. However, *in-vivo* therapeutic effects of papaya are generally limited due to low absorption and hence low bioavailability of phytochemicals.

**Objective:** The present study was aimed to synthesize nanosuspensions of unripe papaya fruit extract with the purpose of enhancing the antioxidant capacity.

**Methods:** Unripe papaya fruits were collected from different areas of Sri Lanka and scraped pericarp was air dried for further use. The fruit extract was prepared in isopropanol using Soxhlet apparatus. Nanosuspensions (NS) of the fruit extract were formed by nanoprecipitation method using two polymers, polyvinylpyrrolidone (PVP) and sodium alginate (SA) to improve water solubility. Then the antioxidant capacity of the papaya crude extract and the nanosuspensions were assessed by DPPH scavenging assay, ferric reducing antioxidants potential determination assay (FRAP) and nitric oxide (NO) scavenging assay. The morphology and particle size of nanoparticles were obtained from scanning electron microscope (SEM) images.

**Results:** The results indicated an enhancement in DPPH scavenging activity in both papaya PVP nanosuspension (P-PVP-NS) ( $57.91 \pm 0.04\%$ ;  $p=0.17$ ) and papaya SA nanosuspension (P-SA-NS) ( $94.90 \pm 0.03\%$ ;  $p=0.18$ ) at  $0.0781 \text{ mg/mL}$  compared to the crude extract ( $47.208 \pm 0.01\%$ ). The results of the FRAP assay, also indicated a significantly ( $p=0.01$ ) increased ferric reducing power in P-PVP-NS [ $1666.28 \pm 0.02 \mu\text{M/g/Fe(II)}$ ] at  $0.0781 \text{ mg/mL}$  compared to the crude extract [ $708.67 \pm 0.02 \mu\text{M/g/Fe(II)}$ ], while P-SA-NS [ $339.24 \pm 0.02 \mu\text{M/g/Fe(II)}$ ] did not show any significant increase. The results observed in NO scavenging assay revealed that the both P-PVP-NS ( $35.02 \pm 0.52\%$ ;  $p=0.04$ ) and P-SA-NS ( $23.14 \pm 0.05\%$ ;  $p=0.001$ ) exhibited maximum activity at the  $0.3125 \text{ mg/mL}$ , which was significantly high compared to the crude extract ( $9.60 \pm 0.42\%$ ). The SEM images confirmed the formation of nanoparticles (100-500nm).

**Conclusions:** The results of the present study revealed that the antioxidant capacity of papaya fruit extract can be significantly enhanced by nano-sizing.

## OP 16

### **A novel pregelatinized and acetylated water lily seed starch to be used as excipients: Characterization of structural and physicochemical properties**

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**Background:** Modified starches receive more attention considering their usefulness in pharmaceutical industries. *Nymphaea pubescens* (water lily) seed contains 80-85% of carbohydrates which are mostly in the form of starch.

**Objective:** This study aimed to analyze the structural and physicochemical profiles of pregelatinized and acetylated seed starches of *N. pubescens* compared to its native form.

**Methods:** Starch was extracted by mixing powdered *N. pubescens* seeds with distilled water, filtering, and drying at 40°C. Extracted starch was modified via pregelatinization and acetylation. The physicochemical parameters such as pH, particle size, bulk, tapped and true densities, Hausner's ratio, Carr's index, angle of repose, hydration capacity, moisture sorption capacity, clarity, viscosity, IR spectra, X-ray diffraction (XRD) and scanning electron microscopic (SEM) analyses of above modified and native starches were evaluated. An independent T-test was done to analyse data.

**Results:** The IR spectrum of pregelatinized starch showed peaks similar to native starch while acetylated starch provided new peaks at 1733 and 1246 cm<sup>-1</sup> assigned to C=O and C-O groups, respectively. Acetylation did not change the XRD pattern while pregelatinization changed the XRD pattern. No changes were observed in acetylated starch granule shape in SEM images compared to native starch while pregelatinized starch granules exhibited flat shape compared to its native form. Pregelatinized starch reported a significant difference in pH, particle size, bulk and tapped densities, angle of repose, hydration capacity, moisture sorption capacity, clarity, and viscosity while acetylated starch reported a significant difference in bulk and tapped densities, Hausner's ratio, Carr's index, hydration capacity, moisture sorption capacity, and clarity compared to native starch (p<0.05).

**Conclusions:** Both pregelatinized and acetylated *N. pubescens* starches reported significant differences compared to its native starch for several physicochemical properties which need to be further assessed as excipients in pharmaceutical dosage forms.

## OP 17

### **Analysis of physicochemical properties and in-vitro sun-protective activity of fish oil extracted from waste products (skin) of fresh water carp *Catla catla* and formulation of a sun-protective serum**

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**Background:** *Catla catla*, an Indian major carp found in freshwater bodies of Sri Lanka, is well-known for its rich abundance of oil with polyunsaturated fatty acids such as Docosahexenoic acid and Eicosapentenoic acid. The anti-oxidant and sun-protective properties inherent in these fatty acids may play a prominent role in neutralizing the free radicals and alleviating sun burns caused by UV radiation.

**Objective:** To analyze the physicochemical properties, anti-oxidant activity, and in-vitro sun-protective activity of the *C. catla* fish oil, and formulate a cosmetic serum.

**Methods:** The oil was extracted from fish skin using the soxhlet method. The peroxide, saponification, free fatty acid, and acid values were determined by titrations according to the procedures of American Oil Chemists Society. Furthermore, the refractive index and the melting-point were determined. Antioxidant activity was evaluated by using DPPH assay. The Sun-protective factor (SPF) was determined from absorbance values obtained by UV-spectrophotometer in a range of 290-320 nm wavelengths and applying Mansur equation. The serum was formulated according to a specialized formula and its SPF was determined in the same manner.

**Results:** The *C. catla* fish oil has peroxide, saponification, free fatty acid, and acid values of  $13.9 \pm 0.20$  meq/kg,  $136.13 \pm 0.70$  mgKOH/g,  $2.28 \pm 0.07\%$ , and  $1.58 \pm 0.02\%$ , respectively. The refractive index was 1.48, while the melting point was  $22 - 26$  °C. The antioxidant activity was obtained as  $29.895 \pm 0.02\%$ ,  $32.517 \pm 0.02\%$ , and  $37.417 \pm 0.03\%$ , respectively, for the 25, 35, and 45 mg/ml concentrations prepared with a solvent system of 3:7 acetone: ethanol. The SPF for 2.5, and 5 mg/ml fish oil samples were obtained as  $38.68 \pm 0.36$ , and  $39.84 \pm 0.41$ , respectively, while that of serum formulation were obtained as  $38.00 \pm 0.08$ , and  $39.25 \pm 0.12$ . The serum homogeneity, appearance, pH, Anti-oxidant activity, and Sun-protective activity remained stable throughout 6 weeks.

**Conclusions:** *C. catla* fish oil shows significant sun-protective activity with SPF39+ and can be formulated into an effective sun-protective serum.

## OP 18

### Evaluation of antimicrobial activity of modified Emulgel Based on ayurveda formulation ‘Ratha taila’

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**Background:** Ratha taila is a traditional preparation used for skin diseases. Ratha taila consists of *Ixora coccinea*, *Croton aromaticus*, *Gossipium herbaceum*, *Cocos nucifera*, and oil of *Sesamum indicum*.

**Objective:** To evaluate anti-microbial activity of modified emulgel.

**Methods:** Aqueous extracts of *I. coccinea*, *C. aromaticus*, *G. herbaceum* and *C. nucifera* were prepared individually using the decoction method. Ratha taila was prepared according to the method of Ayurvedic Pharmacopoeia of Sri Lanka. A 20% w/w emulgel was formulated by blending emulsion (10g), containing Ratha taila ingredients in a 1:1 ratio, with gel(40g). Anti-microbial activity of ‘Ratha taila’ and its ingredients was evaluated using the agar disc diffusion method and anti-microbial activity the emulgel was evaluated using the agar well diffusion method. Gentamicin and fluconazole were used as the positive controls. Distilled water and 10% DMSO were used as negative controls for agar disc diffusion and well diffusion methods, respectively. The IC<sub>50</sub> values were determined using broth micro dilution method. Stability tests were conducted at 8°C, 25°C and 40°C for 45 days, including visual observation, organoleptic evaluation, centrifuge testing, freeze-thaw testing, pH measurement, and spreadability assessment. Statistical analysis was performed using SPSS version 26.

**Results:** According to the diameter of the zone of inhibition, 'Ratha taila' and its ingredients exhibited significant antimicrobial effects ( $p < 0.05$ ), except for *C. nucifera* when compared to the negative control. The IC<sub>50</sub> values of Ratha taila, *S indicum*, *I. coccinea*, *C. aromaticus*, *G. herbaceum*, and emulgel were: 217.3, 268.8, 246.2, 460.0, 654.5, and 464.5 µg/ml against *P. aeruginosa*; 240.1, 5268.0, 149.4, 309.4, 556.1, and 550.8 µg/ml against *S. aureus*; and 311.8, 178.9, 226.7, 297.5, 339.6, and 344.5 µg/ml against *C. albicans* respectively. The emulgel showed stability in freeze-thaw tests, with no phase separation, and a consistent pH over 45 days.

**Conclusions:** Ratha taila, its ingredients except *C. nucifera*, and emulgel have exhibited antimicrobial activities.

## **OP 19**

### **Undergraduate nursing students’ perspectives towards and experiences in caring for older people: An exploratory qualitative study in a selected state university in Sri Lanka**

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**Background:** The way nurses perceive and approach older patients can significantly impact the quality of care provided. In basic nursing education, seeking and shaping student nurses’ perspectives toward older people is essential to enhance the quality of care provided.

**Objective:** To explore the perspectives and experiences towards caring for older people during clinical placement among undergraduate nursing students.

**Methods:** A qualitative exploratory study was conducted at the Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya in Sri Lanka. A purposive sample of 14 undergraduate nursing students participated in semi-structured interviews. The sample size was determined by the principle of data saturation. Thematic analysis based on Braun and Clarke’s framework was used to explore experiences and perspectives. The trustworthiness of this study was ensured through the principles of credibility, transferability, dependability, and confirmability.

**Results:** Five themes emerged: (1) Perception: The ageing concept, (2) Care provision is challenging, (3) Care provision is rewarding, (4) Challenges and barriers in a clinical learning environment, and (5) Need for changes in basic nursing education. Nursing students encountered both positive and negative experiences towards caring for older people. Increasing self-awareness, having a learning opportunity, improving knowledge and skills, and having self-satisfaction are some of the positive experiences. Some negative experiences included student-related challenges and barriers, patient-related challenges and barriers, difficulties in giving care at the beginning of the clinical placement, and poor support received.

**Conclusions:** Student nurses face both positive and negative experiences towards providing care for older people in their clinical placement. Although caring for older people is complex, nursing students are motivated to learn and provide necessary care by their willingness to help older people. There is need for addressing challenges and barriers related to gerontological nursing education and curriculum revision.

## OP 20

### **Health literacy, eHealth literacy and adherence to physiotherapy treatment of patients attending department of physical medicine in National Hospital, Kandy and Teaching Hospital, Peradeniya: A Cross-sectional survey**

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**Background:** Health literacy, eHealth literacy and physiotherapy treatment adherence are influenced by various factors and they are important to achieve good health outcomes.

**Objective:** This study assessed health literacy, eHealth literacy, treatment adherence, and associated factors in patients at the Department of Physical Medicine in National Hospital, Kandy, and Teaching Hospital, Peradeniya, Central Province, Sri Lanka.

**Methods:** This cross-sectional survey assessed a total of 461 participants. In data collection, an interviewer-delivered questionnaire, consisting of socio- demographic data, Internet usage, validated Sinhala version of the e Health Literacy Scale (Si- eHEALS), European Health Literacy Survey Questionnaire (HLS-EU-Q16), and physiotherapy adherence question, was used. Statistical Package for the Social Sciences (SPSS) 23 software was used for data analysis. Descriptive analysis was utilized to characterize the sample and the variables. Normality of the data was computed using Shapiro-Wilk test. The association between variables was examined using the Pearson Chi-square test. Correlation between health literacy and adherence, eHealth literacy and adherence were examined using the Spearman’s Rho test. Significance was observed at the 0.05 level.

**Results:** The sample consisted of 181 males and 280 females. Results showed that 60.5% of participants reported high health literacy level, 71.1% of participants reported low eHealth literacy and 96.3% adhered to physiotherapy treatment among the sample size. Health literacy was significantly associated with occupation ( $p < 0.001$ ), education, and income ( $p = 0.001$ ). eHealth literacy was associated with age ( $p = 0.001$ ), occupation ( $p = 0.001$ ), education ( $p = 0.001$ ), income ( $p = 0.001$ ) and residence type ( $p = 0.001$ ). Age ( $p < 0.009$ ) and education ( $p < 0.011$ ) demonstrated associations with physiotherapy adherence. No correlation between health literacy level and adherence ( $p > 0.908$ ,  $r < 0.027$ ) or eHealth literacy level and adherence ( $P > 0.066$ ,  $r < -0.129$ ) was observed.

**Conclusions:** The patients attending to physiotherapy clinics have a high health literacy, low eHealth literacy and high physiotherapy treatment adherence. Health literacy is influenced by occupation, education and economy. eHealth literacy is influenced by age, occupation, residence, education, and economy. Physiotherapy treatment adherence is associated with age and education.

## OP 21

### **Challenges in accomplishing sustainable recovery among individuals who reported relapses in substance use disorder after residential rehabilitation in Sri Lanka**

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**Background:** Returning to substance use behaviour after a period of abstinence is referred to as a “relapse”. Globally most individuals with substance use disorder (SUD) relapsed even after residential rehabilitation.

**Objective:** The study aimed to explore the reasons for relapsing of substance use disorder after residential rehabilitation and suggest modifications to improve existing residential rehabilitation programmes in Sri Lanka.

**Methods:** Descriptive qualitative study was conducted with purposively selected individuals who have reported relapses of SUD after completing residential rehabilitation at selected centers. Ethical approval was obtained from the Ethics Review Committee of the Faculty of Medical Sciences, University of Sri Jayewardenepura (46/20) and permission was obtained from the selected residential rehabilitation centers. In-depth, semi-structured interviews were conducted using an interviewer guide, until data saturation. Interviews were recorded with informed consent and transcribed verbatim. Braun and Clarke's thematic analysis method was followed for data analysis. Trustworthiness throughout the study was maintained by ensuring methodological transparency, employing triangulation, and conducting member checking.

**Results:** Participants (n=14) were between 18 to 57 years of age. The average duration of rehabilitation was 06±3 months. Two major themes emerged: “*Sustainable recovery is a challenge*” and “*Room for improving residential rehabilitation for sustainable recovery*”. As perceived by the participants' sustainable recovery is a challenge due to craving for the substances, availability of substances, high pressure in the programme, uncertainty regarding rehabilitation, adverse experiences of rehabilitation, relationship issues, peer and community influence, and social discrimination due to the stigma. Participants suggested improving the existing rehabilitation by means of empathetic staff with friendly interactions, appropriate programme length, personalized care based on the client's needs and preferences, higher accessibility and availability of service, and continuous close follow-up.

**Conclusions:** Sustainable recovery from substance use is a challenge influenced by multiple factors such as individual, interpersonal, environmental, and treatment programmes. Therefore, existing residential rehabilitation should be modified by considering recovery challenges.

## OP 22

### **The outpatient adherence and related problems to antibacterial therapy among outpatients attending selected healthcare settings; A qualitative study.**

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**Background:** Antibacterial non-adherence is a global issue. Although antibacterials are prescribed for a short course, its adherence is low. Non-adherence to antibiotic therapy contributes to antibiotic resistance and knowing antibiotic non-adherence-related problems will help improve adherence to antibiotic therapy. Although many adherence studies are done, none had evaluated this problem in depth.

**Objective:** To explore adherence and related problems to antibacterial therapy among outpatients attending selected healthcare settings.

**Methods:** Semi-structured –interviews were conducted with patients having a prescription for at least one antibacterial among those who attended four different healthcare settings in the Colombo District. The study settings were selected based on convenience and out-patients were selected purposively. The study comprised two phases (Phase I and Phase II). In phase I, 34 face-to-face interviews were conducted in the study setting. Phase II: The follow-up telephone interview was conducted after completing their prescribed antibacterial therapy. All interviews were recorded and transcribed verbatim in Sinhala and important quotations were translated to English. The qualitative content analysis was performed.

**Results:** Of 34 patients, only 22 patients completed both Phase I and II. One theme emerged from the data “Habit of antibiotic misuse in an unguided ordinary man”. Four categories were identified under the main theme: 1) External influences (2) Patients’ experiences, expectations, and behavior (3) Perceived practices vs actual practices about disease/ symptom condition (4) Patient knowledge, attitudes, and beliefs. Seventeen patients did not adhere to the prescribed antibacterial therapy. The patients discontinued their antibiotic therapy irrespective of symptoms cured or not. Most patients did not take the antibacterial at correct intervals.

**Conclusions:** This study highlights the reasons for patients’ non-adherence to antibacterial treatment, providing crucial insights to primary care healthcare providers engaged in antibiotic prescribing and dispensing. Further, based on the results, interventions can be developed to change the ordinary man’s habits to improve their adherence to antibacterial therapy.

## OP 23

### **Depression, anxiety and stress among parents of children with Autism Spectrum Disorder (ASD) attending Lady Ridgeway Hospital (LRH) for children, Sri Lanka**

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**Background:** Caring for a child with ASD is challenging for parents and early recognition of parental emotional disturbances, coupled with psychological support, significantly improves the overall care of children with ASD.

**Objective:** To assess the psychological status of parents of children with ASD attending LRH for children in Colombo, Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among 116 parents of children with ASD at outpatient clinic for child psychiatric treatment at LRH using consecutive sampling method. An interviewer administered questionnaire which consisted of a validated Depression, Anxiety, and Stress Scale (DASS 21) used to collect the data. Data were analyzed using descriptive and inferential statistics using the Statistical Package of Social Sciences (SPSS) version 25.

**Results:** The majority of the parents were females (75%) and aged between 31-40 years (53%). Most children were diagnosed between 1 to 5 years of age (82.3%). The mean  $\pm$ SD DASS 21 score was 16.10  $\pm$ 15.37, revealing specific mean scores for depression (6.17  $\pm$ 6.42), anxiety (3.31  $\pm$ 4.68), and stress (6.62  $\pm$ 6.22). Notably, they had mild to moderate depression (22%), 13% anxiety (13%), and stress (10%). The factors associated with the level of depression, anxiety and stress among parents were the parents' religion ( $p=0.000$ ), child's gender ( $p=0.000$ ), child's age ( $p=0.020$ ), regression of speech of the baby ( $p=0.018$ ), general behavioral problems ( $p=0.002$ ), social un connectedness (poor eye contact, ignore when called, solitary play) ( $p=0.000$ ), repetitive behaviors (in play or stereotypes or rituals) ( $p=0.000$ ), behavior problems (temper tantrums, hyperactivity, head banging) ( $p=0.000$ ), and restricted food preferences ( $p=0.000$ ). These findings underscore the multifaceted nature of parental mental health in the context of raising a child with ASD, with diverse factors influencing depression, anxiety, and stress levels.

**Conclusions:** Overall, mild to moderate levels of depression (22%), anxiety (13%), and stress (10%) emphasizing the necessity for personalized support programs for parents of children with ASD.

## OP 24

### **Prevalence of occupational health hazards, self-reported symptoms, and risk perception among printing workers at the Department of Government Printing, Sri Lanka**

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**Background:** Printing workers, like those in any occupation, are exposed to various occupational health hazards (OHH) during manual handling, machinery, chemicals, noise, fire, and explosions. Though more than thousands of workers are occupationally exposed to hazards, there are no published studies regarding OHH among printing workers in Sri Lanka.

**Objective:** To determine the prevalence of OHH, self-reported symptoms, and risk perception related to OHH among printing workers at the Department of Government Printing, Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among 422 printing workers in four randomly selected divisions of the Department of Government Printing, Sri Lanka. A pre-tested self-administrated questionnaire was used encompassing socio-demographic characteristics, OHH exposure, encountered symptoms, and workers' risk perception regarding OHH. The demographic characteristics were analyzed by using Descriptive statistics in SPSS Version 26.0 software. The association between categorical variables was assessed using the chi-square and the Fisher's Exact tests.

**Results:** The workers had a mean age of 42.94 (SD±10.12), with the majority being male. (n=335, 79.4%) and educated up to G.C.E. Advanced Level (n=287, 68.0%). The overall prevalence of OHH exposure was 92.9% (n=392), significantly associated with participants working division (p=0.000) and working hours (p=0.042). Prevalence of ergonomic, psychological, and organizational hazards, exposure to dust, physical hazards, accidental hazards, and chemical hazards was 88.2% (n=372), 87.7% (n=370), 82.7% (n=349), 74.9% (n=316) and 54.5% (n=230), respectively. The majority (73.7%, n=311) reported musculoskeletal discomforts such as back pain (61.4%, n=259), joint pain (28.5%, n=109), fractures (3.1%, n=13) and amputations (0.5%, n=2). More than half of the sample (50.7%, n=214) perceived a moderate level of risk with OHH exposure, while, 29.6% (n=125) perceived high risk, and 19.7% (n=83) perceived low risk. It is significantly associated with the reported prevalence of OHH (p=0.000).

**Conclusions:** This study reveals a significant prevalence of OHH exposure and associated musculoskeletal symptoms. Furthermore, a notable proportion of participants demonstrated a moderate risk perception regarding OHH exposure. It highlights the importance of evaluating workers' OHH awareness, preventive practices, and perceived barriers. Education programs would be effective in empowering workers on OHH and promoting preventive practices to reduce the prevalence rates.

## OP 25

### **Screen addiction and its impact on the health among secondary - level school children in Galle Educational Division**

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**Background:** The prevalence of screen addiction among secondary school children is a significant problem that give rise to several health problems. Identifying the extent and associated health problems is crucial in order to develop effective policies and take action.

**Objective:** To study the incidence of screen addiction and its impact on the health among secondary-level school children in the Galle Educational Division.

**Methods:** A descriptive cross-sectional study involved 419 school children (12-16yr) in Galle Educational Division, selected through stratified multistage cluster sampling. A self-administered questionnaire assessed prevalence, addictive behavior, and health issues (vision, musculoskeletal pain, depression, anxiety, and stress). Prevalence was based on "using screen devices over 2 hours continuously, excluding education." Self-reported questions were used to assess musculoskeletal pain, vision problems, and Depression Anxiety Stress Scale for Youth 21 used to assess psychological problems. SPSS 25.0 was used to analyze data, and associations were identified using the Chi-square test.

**Results:** In the sample, majority of participants (81.1%) were Sinhalese and among them 56.6% were male students. The incidence of screen addiction was 39.6%. The majority of students (25.5%) used television and minority used computers (3.6%). Health problems associated with screen addiction included vision problems such as wearing spectacles, eye discharges , blurred vision( $p=0.002,0.016,0.003$ ), as well as neck and lumbar pain ( $p=0.002,0.001$ ). Also screen addiction significantly influenced depression, anxiety, and stress among adolescents ( $p =0.028, 0.048, 0.002$  respectively).

**Conclusions:** Screen addiction is prevalent (39.6%) among secondary-level school children in Galle district, leading to various health problems. Awareness, intervention, balanced screen usage are crucial for promoting well-being and further research needed to enhance preventive measures.

## OP 26

### Unraveling the dual faces of Tuberculosis (TB): Analyzing pulmonary and extra-pulmonary TB patterns in Colombo, Sri Lanka

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**Background:** Tuberculosis (TB) is a significant global health challenge with its incidence varying across different regions. Thus, understanding the distribution of pulmonary and extra-pulmonary TB cases is crucial for effective disease management.

**Objective:** To determine the pulmonary tuberculosis (PTB) and extra-pulmonary tuberculosis (EPTB) patterns in Colombo, Sri Lanka.

**Methods:** A retrospective study was conducted on TB cases (n=5594) (clinically diagnosed /bacteriologically confirmed) recorded over three years (2020-2022) at Central Chest Clinic, Colombo, Sri Lanka. Upon securing administration clearance, data were collected from the clinic's registry and medical records to a pre-designed, structured data extraction sheet. All the cases were classified into PTB and EPTB based on diagnostic confirmation and localization. The data were analyzed using R Language. The significance level was taken as 5%.

**Results:** Among 5594 TB cases, the incident rate of PTB (75.38%) was significantly higher compared to that of EPTB (24.62%) (Two sample proportion test; p=0.000). In contrast to the trend observed in EPTB, PTB cases displayed a decline in positive diagnoses from July to December 2021, which could be due to the limitations on healthcare visits and reluctance to seek medical care owing to concerns associated with the pandemic. Subsequently, a consistent upsurge in the count of PTB patients was noted, persisting throughout the entirety of 2022. During the study period, males with PTB were higher (65.14%) than that of females. However, females with EPTB were higher (54.39%) compared to males. Thus, a significant association was observed between gender and type of TB, indicating that males were primarily affected by PTB, while females were primarily affected by EPTB (Pearson's chi-square test; p=0.000).

**Conclusions:** The findings highlight a significant predominance of PTB compared to EPTB. PTB displayed fluctuations coinciding with healthcare limitations during the pandemic, whereas EPTB rates remained relatively stable. Further, this emphasizes the need for targeted interventions considering the differential impact of TB types and gender-specific patterns in disease manifestation and healthcare-seeking behaviours.

OP 28

**Demographic characteristics, lipid profile and grade of non-alcoholic fatty liver disease (NAFLD) in a selected patient population: a retrospective study at a tertiary care and a primary care facility**

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**Background:** Non-alcoholic fatty liver disease (NAFLD) is a global health issue known for its typically asymptomatic and gradual progressing nature.

**Objective:** We aimed to assess the demographic factors including age and gender, and lipid profile parameters in patients diagnosed with NAFLD using ultrasound.

**Methods:** Between June and August 2023, a retrospective cross-sectional study of 79 NAFLD-diagnosed patients aged 18-70 years was conducted at Colombo South Teaching Hospital and the Family Practice Center, University of Sri Jayewardenepura. Medical records were used to analyze demographic data and lipid profile parameters. Statistical significance was determined at a level of 0.05. Independent sample T test was performed to compare means and Mann-Whitney U Test was performed to compare medians.

**Results:** Out of 79 patients 50 were females (63.3%), majority were in the age range of 41-50 years (40.5%) with a mean age of 49.77 years. The highest prevalence of NAFLD was in Grade 1, accounting for 65.8% (n=52), followed by Grade 2 at 30.4% (n=24), and Grade 3 at 3.8% (n=3). Females were a higher percentage (63.3%) of patients across all NAFLD grades. A notable percentage (62%) of the patients exhibited abnormal lipid profile parameters, for total cholesterol, triglycerides, LDL, HDL, and VLDL. Females exhibited a higher percentage of abnormal levels in total cholesterol, triglycerides, LDL and VLDL compared to males, at 63.2%, 54.3%, 65.3% and 56.7% respectively (p>0.05). Both males and females showed an equal prevalence of abnormal HDL levels. Interestingly, a rising trend in the different components of lipid profile (mean) was observed with advancing NAFLD grades, except for HDL.

**Conclusions:** Most NAFLD patients were 40 years or older and nearly two-third were females. Abnormal lipid profiles were prevalent in over half of the patient population, and an increase in lipid profile parameters were observed as the disease progressed. However, no statistically significant differences in lipid parameters were observed across different NAFLD grades.

## OP 29

### **Anthropometric and biochemical parameters: In predicting development of hepatic fibrosis and hepatic steatosis in metabolic dysfunction associated fatty liver disease**

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**Background:** Metabolic dysfunction associated fatty liver disease (MAFLD) is the most prevalent liver disease worldwide.

**Objective:** To observe association of anthropometric parameters, metabolic indices, and inflammatory parameters with the hepatic fibrosis and hepatic steatosis in patients diagnosed as MAFLD.

**Methods:** Study included 80 patients with MAFLD referred to the Gastroenterology Clinic of North Colombo Teaching Hospital, Ragama, Sri Lanka in 2023. Anthropometric parameters (height, weight, waist circumference (WC) and hip circumference (HC)) were measured using WHO methods. Liver stiffness (LSM-kPa) and hepatic steatosis (dB/m) were determined by Fibroscan. Liver enzymes (Aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP), gamma-glutamyl transferase (GGT)), C-reactive protein (hsCRP), lipid profile and glycemic parameters were determined. Spearman correlation and multiple regression model were used to study the association between hepatic fibrosis and hepatic steatosis and studied parameters (SPSS software Version 25).

**Results:** The mean age of the study sample was 47.25±12.92 years, with 51 (63.7%) males. The mean hepatic fibrosis and hepatic steatosis levels were 7.9±0.28 (3.3-18.5) kPa and 307.94±36.26 (240-388) dB/m respectively. Body mass index (BMI) ( $r=0.531$ ) ( $p=0.039$ ), fasting plasma glucose (FPG) ( $r=0.231$ ) ( $p=0.039$ ), and glycated hemoglobin (HbA1c) ( $r=0.308$ ) ( $p=0.005$ ) demonstrated significant positive correlation with hepatic fibrosis. WC, waist to hip ratio (WHR), liver enzymes, lipid panel, and hsCRP had insignificant correlations. Weight ( $r=0.386$ ,  $p=0.000$ ), BMI ( $r=0.361$ ,  $p=0.001$ ), WC ( $r=0.337$ ,  $p=0.002$ ), and HC ( $r=0.416$ ,  $p=0.009$ ) had significant positive correlation with hepatic steatosis. WHR, liver enzymes, lipid panel, glycemic indices and hsCRP showed insignificant correlation with hepatic steatosis. Multiple regression model revealed that high BMI ( $\beta = 0.280$ ,  $p=0.009$ ) and lower ALP levels ( $\beta = -0.295$ ,  $p=0.006$ ) are the predicting factors of hepatic steatosis while BMI ( $\beta = 0.263$ ,  $p=0.013$ ) and HbA1c ( $\beta = 0.454$ ,  $p= 0.007$ ) were the predicting factors for hepatic fibrosis.

**Conclusions:** High BMI is the most common contributing predictory factor for both hepatic steatosis and hepatic fibrosis in MAFLD. Poor glycemic control is contributory for hepatic fibrosis.

**Acknowledgement:** University Research Grant, University of Sri Jayewardenepura, Sri Lanka (ASP/01/RE/MED/2022/58)

## OP 30

### **Serum cytokines in lumbar disc herniation: Expression and interaction network analysis**

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**Background:** Numerous studies have highlighted the role of cytokine storms in lumbar disc herniation (LDH). Prioritizing the analysis of inflammatory cytokine expression and predicting interactions between cytokines proves instrumental in effective disease management.

**Objective:** The study aims to analyze serum levels of TNF-alpha, IL-1beta, and IL-8 in LDH patients, examining associated protein-protein interactions (PPI) and exploring functional enrichments.

**Methods:** Patients with LDH and undergoing lumbar microdiscectomy were recruited (n=14). Blood samples were collected prior to general anesthesia. Serum concentrations of TNF-alpha, IL-1beta, and IL-8 were analyzed using ELISA. To understand the mechanisms for the elevation of functional cytokine levels, PPI (functional associations) was investigated using the Search Tool for the Retrieval of Interacting Gene/Protein database (STRING) that integrates computational predictions with knowledge from various sources to construct and analyze PPI networks. By focusing on Gene Ontology terms and Reactome pathways related to cytokine signaling, we aimed to identify key protein interactions and potential pathways involved in the observed cytokine response.

**Results:** The average expression levels of serum TNF- $\alpha$  (41.93 pg/ml), IL-8 (51.34 pg/ml), and IL-1 $\beta$  (401.27 pg/ml) were measured. STRING analysis revealed a substantial enrichment of IL-1 $\beta$  signaling pathway as a common pathway for all three investigated cytokines. Furthermore, we discovered a strong interaction between all three cytokines with the highest confidence score of 0.9. Both TNF- $\alpha$  and IL-1 $\beta$  were identified as contributors to the positive regulation of neuro-inflammatory response and vascular endothelial growth factor production. Furthermore, all three cytokines contributed indirectly to IL-10 signaling.

**Conclusions:** Elevated expression of IL-1 $\beta$  in LDH patients underscores its significant impact on signaling pathways, suggesting a potential synergistic role in herniated lumbar disc. The co-expression of IL-1 $\beta$  and TNF-alpha contributes to neovascularization, while all three cytokines collectively facilitate the transition from a pro-inflammatory state to an anti-inflammatory condition by activating IL-10.

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## OP 31

### **Comparison of Thyroid Imaging Reporting and Data System (TIRADS) and Bethesda System with histology for thyroid tumour diagnosis**

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**Background:** During past decade, thyroid tumour incidence has increased by 2.1-fold in Sri Lanka. Though tumour incidence is high, malignancy rate is 5% of all thyroid tumours. Ultrasound scan (USS) and fine needle aspiration cytology (FNAC) are most useful pre-operative diagnostic methods. Accurate results would eliminate overdiagnosis and unnecessary surgery.

**Objective:** To compare TIRADS and Bethesda Systems with histology for thyroid tumour diagnosis.

**Methods:** Descriptive cross-sectional study was conducted enrolling 106 radiologically malignancy-suspected individuals. Patients with insufficient radiological data were excluded. FNAC was done on all enrolled patients and they were followed up for 2 years for histology. TIRADS for USS and, Bethesda system for FNAC were used for result reporting. Patients who haven't undergone thyroid surgeries and clinically healthy patients were assumed as “Benign” during data analysis.

**Results:** Majority were females (n=85, 79.40%). Age ranged 15-76 years (47.3±12.89). All nodules were TIRADS 3 or above (3=20.6%, 4= 74.8%, 5= 4.7%). According to FNAC results, majority (n=43, 40.2%) were in Bethesda 2 category followed by Bethesda 5 (n=20), 3(n=15), 1(n=14), 6(n=8), and 4 (n=6). Only 44 patients had undergone surgeries. Of them, 29 were papillary thyroid carcinoma while 13 were benign. Sensitivity, specificity, negative predictive value (NPV), and positive predictive value (PPV) of TIRADS were 89.04%, 30.30%, 55.56%, and 73.86%. Sensitivity, specificity, NPV, and PPV of FNAC were 80.82%, 60.61%, 58.82%, and 81.94%. Statistically significant associations were observed between TIRADS and histology (p= 0.046), Bethesda system and histology (p=0.001). Moderate level of malignant predictability was observed in TIRADS and Bethesda system (AUC: TIRADS-0.65, Bethesda-0.73). According to deviance analysis, Bethesda system is a better malignant predictor than TIRADS system.

**Conclusions:** Fine needle aspiration cytology (FNAC) stands as a robust pre-operative diagnostic modality that can enhance efficacy by integrating with clinical history and radiological findings. This collaborative approach enhances thyroid malignancy determination and optimal patient care.

**Acknowledgment:** Cancer research grant 002/2019 and University Research Grant, University of Sri Jayewardenepura, Sri Lanka ASP/MED/01/2021/55

## OP 32

### **Anthocyanin-incorporated PEO: EC electrospun fiber mat as a cost-effective and stable ocular pH detection sensor during ocular chemical burns**

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**Background:** Ocular chemical burns are critical emergencies in ophthalmic clinics, requiring immediate attention and treatments. Accurate measurement and maintenance of normal ocular pH is essential for effectively managing chemical burns. The litmus papers are currently being used in the ophthalmic clinics for pH measurement but there is no clear color variation among the pH values resulting from the measurements.

**Objective:** This study aims to fabricate a rapid, reliable, and real-time response for each pH with a different color pH detection system that is stable under various environmental conditions for ocular pH detection.

**Methods:** The pH detection system is developed by incorporating anthocyanin into the electrospun fiber mat. Polyethylene oxide (PEO) and ethyl cellulose (EC) were selected as the polymers for the fabrication of electrospun fiber mat due to their low toxicity and previous applications in drug encapsulation. In optimization, 2 parts PEO to 1 part EC is identified as the ideal blending ratio. Anthocyanin color compound was extracted from Butterfly Pea flowers that have perfect color variation over the pH range 1-12. The extracted anthocyanin was incorporated into the polymer blend and electrospun to fabricate a pH-sensitive fiber mat. Even at very low concentrations, such as 1 ml of 20 ppm, anthocyanins are capable of inducing detectable color changes.

**Results:** The X-ray Diffraction (XRD) and Fourier Transform Infrared Spectroscopy (FTIR) analysis were performed to characterize the material properties. The Scanning Electron Microscopy (SEM) analysis was performed to confirm the formation of electrospun fibers and the images of SEM analysis showed the fibers with a diameter of 191 nm. The stability test was conducted for 03 months, and the developed system was stable for that period while the leaching test confirmed there was no noticeable leaching effect.

**Conclusions:** The developed ocular pH detection system with distinct color variation responds within 5 seconds. This affordable rapid, and reliable solution is the ideal option for ocular care in areas or countries with limited resources.

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## OP 33

### Early detection of hyperlipidemia through analysis of finger pulse images using machine learning

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**Background:** Hyperlipidemia, characterized by abnormally high levels of lipids in the blood, is a major risk factor for cardiovascular disease. Early detection can lead to timely intervention and treatment, potentially preventing serious health complications. Recent advances in machine learning, particularly Convolutional Neural Networks (CNNs), have shown promise in medical imaging analysis.

**Objective:** The purpose of this study was to explore the potential of using machine learning for the early detection of hyperlipidemia through the analysis of finger pulse images.

**Methods:** Finger pulse waves were collected from a photoplethysmography (PPG) device of the multipara patient monitor. The dataset comprised equal samples from healthy individuals (n=140) and patients diagnosed with hyperlipidemia (n=140). These pulse images underwent a preprocessing stage making them suitable for the CNN model. The CNN model was then trained on this preprocessed dataset. The model's performance was evaluated based on its accuracy, precision, and recall in identifying instances of hyperlipidemia.

**Results:** The model demonstrated an overall accuracy of 82.5%, with a precision of 87%, and a recall of 82%. These results suggest that the model can correctly predict the presence of hyperlipidemia 82.5% of the time, and when it predicts a positive case, it is correct 87% of the time. Furthermore, it correctly identifies 82% of all actual positive instances. The findings of this study indicate that CNNs can effectively analyze finger pulse images for the early detection of hyperlipidemia.

**Conclusions:** This novel application of machine learning opens up new possibilities for early disease detection and prevention in the medical field. However, further research is needed to improve the model's performance and validate its effectiveness in a real-world clinical setting. Furthermore, this approach can serve as an educational tool for medical practitioners to practice and improve their skills in pulse diagnosis.

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## OP 34

### Establishing an *in vitro* bladder model to study *in vitro* crystalline biofilm formation on Foley catheters by *Proteus mirabilis*

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**Background:** Encrustation on urinary catheters due to *Proteus mirabilis* leads to urinary tract infections.

**Objective:** To develop an *in-vitro* bladder-model (BM) to study *in-vitro* crystalline-biofilm formation on Foley catheters by *P.mirabilis*.

**Methods:** In the establishment of BM, four double-walled glass vessels were used to represent human “bladder”. Body temperature was maintained using circulating water through an outer chamber. Artificial urine was supplied from aspirator bottle to an inner glass vessel at a constant flow rate (~0.7mL/min) by peristaltic pump. Silicone tubing was attached to outlet of inner vessel, representing the urethra. Foley-catheter was inserted into the inner chamber, retention balloon was inflated with sterile water (10mL) and their end was connected to a drainage bag. Catheterized four BMs were connected in series and held at similar heights. BM1 was filled by artificial urine inoculated with biofilm-forming *P.mirabilis* (positive-control), BM2 by uninoculated artificial urine (negative-control), BM3,4 as tests using artificial urine inoculated with *P.mirabilis* clinical isolates (n=6). After running the bladder models for 2,7,14 days, 1cm piece was aseptically cut from the proximal end of the catheters. This segment was further cut longitudinally to expose the catheter lumen and used for atomic absorption spectrometry (AAS) to detect calcium and magnesium concentrations and Scanning electron microscopy (SEM) to detect biofilm architecture. Data were analyzed by R language using ANOVA.

**Results:** Calcium depositions in test-catheters for 2,7,14 days were 174.56±72.80, 591.71±192.70, 977.14±181.60 respectively, while 105.87±10.67, 520.38±12.24, 1189.78±10.74 in positive-control and 1.76±0.039, 35.56±2.18, 43.89±1.03 in negative-control catheters, respectively. Magnesium deposition in test-catheters for 2,7,14 days were 1.77±0.49, 18.22±4.86, 111.84±21.58, while 2±0.02, 24.7±0.53, 115.5±2.40 in positive-control and 0.05±0.01, 7.24±0.17, 8.14±0.08 in negative-control catheters, respectively. Catheter encrustation with calcium and magnesium deposition was significantly increased with time (p=0.000). SEM revealed development of crystalline biofilm on catheter's inner surface, showcasing microcolonies, deposits of Calcium and Magnesium within extracellular polymeric substances.

**Conclusions:** *In-vitro* bladder-model is a platform to research catheter associated urinary tract infections.

**Acknowledgement:** University Research Grant, University of Sri Jayewardenepura, Sri Lanka (ASP/01/RE/AHS/2022/90)

## OP 35

### **Evaluating the significance of unilateral neck of femur bone mineral density measurement for the diagnosis of osteoporosis**

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**Background:** Increased availability of Dual-energy X-ray Absorptiometry (DXA) technology offering bilateral hip measurement has resulted in more routine use in clinical practice. The International Society for Clinical Densitometry Official Positions (2023) accept bilateral hip BMD measurement for clinical use. With the advancement in DXA technology, more bone density measurement facilities are offering bilateral hip BMD measurements. It is important to establish the significance of use of bilateral versus unilateral hip BMD measurements in the context of diagnostic classification and repeat BMD testing.

**Objective:** To evaluate the significance of unilateral neck of femur bone mineral density measurement for the diagnosis of osteoporosis.

**Methods:** This is a retrospective study that was performed using a database of patients referred for DXA scan to the Nuclear Medicine Unit, Faculty of Medicine Peradeniya. Ethical clearance was obtained. Bilateral femoral neck BMD measurement was done using the Hologic DXA scanner (Horizen WI S/N 200927). All the patient's clinical records were obtained from the database and analyzed using Minitab 18.0.

**Results:** The study comprised of 781 patients with a mean age of 61.78 years (SD= 9.55). Of this population, 91.54% were females and 8.46% were males. The mean BMD of the left and right neck of the femur were 0.638 (SD=0.13) and 0.646 (SD=0.13) respectively. It was found that there is no significant difference between left and right neck of femur BMD ( $p= 0.199$ ). Furthermore, Pearson's correlation showed a very strong relationship between left and right neck of the femur BMD ( $r=0.931$ ).

**Conclusions:** Bilateral femur acquisition is an available feature on most DXA systems, however, is not standard clinical practice in all facilities. Therefore, both unilateral and bilateral approaches are acceptable. It is appreciated that bilateral measurement increases patient radiation exposure; however, compared to other radiologic medical imaging, radiation exposure in DXA is very low.

## PP 1

### ***In vitro* evaluation of antibacterial activity of leaf extracts of *Atalantia ceylanica***

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**Background:** *Atalantia ceylanica* plant has been recognized as a multi-purpose medicinal plant which is widely applied to treat respiratory tract infections. Recently, this plant has gained popularity among people for its perceived role in preventing coronavirus infection.

**Objective:** The study aimed to investigate antibacterial activity of different solvents extractions of leaf of *A. ceylanica* plant against *Staphylococcus aureus* (ATCC 25923) and *Pseudomonas aeruginosa* (ATCC 9027).

**Methods:** Leaves of *A. ceylanica* were collected from Medagama in the Monaragala district and shade dried. It was powered and extracted using maceration technique with methanol and acetone separately. The antibacterial activity of leaf extracts of *A. ceylanica* was determined against *S. aureus* and *P. aeruginosa* by using agar well diffusion method by employing Amoxicillin as the standard. Data were analyzed using one-way ANOVA at 5% significance level. Preliminary phytochemical screening was performed on the extracts of leaf.

**Results:** Mean values of zones of inhibition against the *S. aureus* for methanol extracts of leaves was  $16.67 \pm 1.53$  mm, whereas the acetone extract of leaves was shown  $18.34 \pm 0.58$  mm at concentrations of 100 mg/mL. Mean values of inhibition zones against the *P. aeruginosa* for methanol extract of leaves was  $18.34 \pm 0.58$  mm, whereas the acetone extract of leaves was found to be  $18 \pm 0.00$  mm at concentrations of 100 mg/mL. The inhibitory effects showed by the standard and extract of leaves of *A. ceylanica* differed significantly ( $P < 0.05$ ) and exhibited superior antibacterial activity. Methanol and acetone extractions of leaves of *A. ceylanica* consist of important phytochemicals compounds such as alkaloids, flavonoids, glycosides, polyphenol, sterol and tannins.

**Conclusions:** The methanol and acetone extracts from *A. ceylanica* leaves have antibacterial potential, might be due to the presence of potent phytochemical compounds. These findings highlight the plant's potential for developing novel antimicrobial agents.

PP 2

**Determination of antioxidant activity of Balabilvashunti decoction and its raw materials through different analytical methods**

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**Background:** Balabilvashunti (BBS) is an ayurvedic polyherbal formulation composed of three plant ingredients; rhizome of *Zingiber officinale* (ZO), whole plant of *Sida alnifolia* (SA), and root bark of *Aegle marmelos* (AM). BBS is mainly prescribed by ayurveda physicians for geriatric conditions including joint diseases, diabetes, nervous and gastrointestinal disorders. Antioxidant activity is an important bioactivity that helps to combat diseases.

**Objective:** To comprehensively investigate the antioxidant activity of the aqueous extracts of raw materials and the final formulation, employing different analytical methods.

**Methods:** The raw materials (60g) were boiled with 1920 ml of water and was reduced to 240 ml, this concentrated extract was freeze dried to obtain a powder. The 2,2-Diphenyl-1-picrylhydrazyl (DPPH) free radical scavenging activity, ferric iron reducing power assay (FRAP), 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) assay and oxygen radical absorbance capacity (ORAC) were used to determine the antioxidant activity. Ascorbic acid was used as the standard for DPPH and FRAP assay whereas trolox was used as the standard for ABTS and ORAC assays.

**Results:** DPPH assay displayed IC<sub>50</sub> values of 102.48±8.40 µg/ml, 119.65±1.36µg/ml, 203.87±6.41 µg/ml, 131.88±3.96. µg/ml for SA, AM, ZO and BBS respectively. The standard ascorbic acid depicted an IC<sub>50</sub> value of 1.17±0.05 µg/ml. In the FRAP assay 0.50 absorbance was recorded at concentrations of 2.66± 0.12 mg/ml, 3.06 ±0.73 mg/ml, 3.43± 0.99 mg/ml, 2.33±0.24 mg/ml, 81.44 ±7.62 µg/ml for SA, AM, ZO, BBS and ascorbic acid whereas ABTS assay depicted IC<sub>50</sub> values of 131.50±7.43 µg/ml, 119.53±11.29 µg/ml, 173.49±14.06 µg/ml, 162.21±18.33 µg/ml respectively. The ORAC assay also indicated good antioxidant activity depicting 1mg of sample from SA, AM, ZO and BBS equivalent to 217.12±1.40 µg/ml, 271.26±12.39 µg/ml, 240.81±8.37 µg/ml, 237.42±10.56 µg/ml trolox concentrations respectively.

**Conclusions:** Therefore, it could be concluded that the SA, AM, ZO and BBS possess significant (p≤ 0.05) antioxidant activity.

### PP 3

#### **Investigation of anti-inflammatory, anti-diabetic properties and phytochemical analysis of *Osbeckia octandra* methanolic leaf extract**

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**Background:** Diabetes mellitus and chronic inflammation have become increasingly concerning issues in Sri Lanka. Natural medications derived from plant-based sources, rich in phytochemicals hold promise in offering alternative remedies. *Osbeckia octandra* (Heen Bovitiya) is a native herbal plant renowned for its therapeutic applications.

**Objective:** This study investigates the therapeutic potential of *Osbeckia octandra* methanolic leaf extract through its phytochemical composition, anti-inflammatory and anti-diabetic properties.

**Methods:** Preliminary qualitative phytochemical analysis involved identification of several bioactive compounds. The methanolic leaf extract's anti-inflammatory properties were evaluated using egg albumin denaturation method. Anti-diabetic properties were determined using glucose uptake by yeast cells method. The anti-inflammatory and anti-diabetic activity of the methanolic leaf extract was compared against ibuprofen and metformin drugs serving as positive controls respectively.

**Results:** Qualitative phytochemical analysis revealed the presence of proteins, carbohydrates, phenols, tannins, saponins, flavonoids, terpenoids and alkaloids in the methanolic leaf extract laying the foundation for understanding its chemical composition. In both anti-inflammatory and anti-diabetic assays, the extract and the reference drugs showed a dose-dependent nature. Extract concentrations from 0.3125 mg/mL to 10 mg/mL exhibited considerable inhibition percentage from  $18.13 \pm 0.003\%$  to  $73.04 \pm 0.002\%$  ( $IC_{50} = 4.09$  mg/mL). The comparable similarity of inhibition percentages suggests a positive effectiveness of the extract's anti-inflammatory activity compared to ibuprofen drug ( $p = 0.476$ ). Extract concentrations from 1 mg/mL to 5 mg/mL achieved glucose uptake percentage spanning from  $21.05 \pm 0.003\%$  to  $53.85 \pm 0.003\%$ , slightly lower than metformin. The close similarity in the percentages between the extract and metformin suggests that the extract is closely as effective as the drug ( $p = 0.202$ ).

**Conclusions:** *Osbeckia octandra* methanolic leaf extract exhibits a diverse range of phytochemicals, demonstrating potential anti-inflammatory and anti-diabetic properties. This research signifies the possible applications of this native herbal plant in pharmaceutical and healthcare industry.

## PP 4

### Comparative analysis of phytochemical and antioxidant activities of different parts of the medicinal plant; *Ocimum sanctum* Linn in Jaffna district

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**Background:** *Ocimum sanctum* Linn (*O. sanctum*) (*Tulsi*) (Lamiaceae) is rich in diverse bioactive compounds with therapeutic plant. Its various parts have long been used in traditional medicine to manage the conditions, such as bronchitis, malaria, diarrhea, skin conditions, and rheumatism. It is also renowned for possessing antidiabetic, antimicrobial, cardioprotective, and analgesic actions.

**Objective:** The goal of this study was to compare the phytochemical analysis and antioxidant activities of *O. sanctum*'s leaves and flowers.

**Methods:** Selected parts of *O. sanctum* that were collected from the Jaffna district were subjected to maceration extractions using ethanol, methanol, and water as solvents. Phytochemical analysis was performed using standard techniques. DPPH (2,2-Diphenyl-1-picrylhydrazyl) and ABTS (2,2'-azino-bis-3-ethylbenzothiazoline-6-sulfonic acid)); two complementary tests, were used to examine antioxidant activity. These assays were conducted in triplicates and the Statistical analysis (Mean  $\pm$  SD) was carried out using ANOVA using mini tab 17 software and Tukey's multiple comparisons at probability value ( $p \leq 0.05$ ).

**Results:** The findings demonstrated that the ethanolic and methanolic extracts had higher concentration of flavonoid, phenol, tannin and alkaloid than the aqueous extracts of *O. sanctum*. Further the ethanolic flower extract had the highest contents of flavonoid ( $50.88 \pm 0.62 \mu\text{g QE/g}$ ) and alkaloid ( $75.83 \pm 0.55 \text{mg/g}$ ), while the methanolic and ethanolic leaf extracts had the highest contents of tannin ( $410.24 \pm 0.60 \mu\text{g TAE/g}$ ) and phenol ( $20.96 \pm 0.65 \mu\text{g GAE/g}$ ) when compared to all other extracts. Additionally, the methanolic flower extract showed the highest DPPH activity ( $\text{IC}_{50}$ :  $0.68 \pm 0.19 \mu\text{g/mL}$ ) while the lowest DPPH activity was detected in methanolic leaf extract ( $\text{IC}_{50}$ :  $1.95 \pm 0.82 \mu\text{g/mL}$ ). The ABTS activity was higher in the methanolic flower extract ( $\text{IC}_{50}$ :  $1.82 \pm 0.32 \mu\text{g/mL}$ ) compared to the methanolic leaf extract ( $\text{IC}_{50}$ :  $2.59 \pm 0.44 \mu\text{g/mL}$ ).

**Conclusions:** These tests showed that compared to the *O. sanctum* leaf extract, the methanolic flower extract had a higher antioxidant potential. It provides valuable insights for potential applications of *O. sanctum* in functional medicine and pharmaceutical research.

## PP 5

### ***In vitro* bio-activity and preliminary cytotoxicity evaluation of Sri Lankan Plant *Crudia zeylanica***

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**Background:** *Crudia zeylanica* (Fabaceae) has been recently rediscovered after its last recording in 1911. Its vernacular name is Pandukaranda. The 2020 National Red List reports has categorized *C. zeylanica* as a critically endangered species. Though the microscopic characteristics and phytochemical screening of the leaves of *C. zeylanica* have been previously documented, information on its medicinal/ other uses and biological activities is not available.

**Objective:** To identify the bio activities and to evaluate the preliminary toxicity of leaves of *C. zeylanica*.

**Methods:** Leaves were extracted into methanol via sonication. Rotary evaporator was used for solvent evaporation. Three replication were used for every assays within the concentration 5000.000 µg/mL to 78.125 µg/mL. Antioxidant activity by DPPH assay, cytotoxic activity by brine shrimp lethality assay, carbohydrate digestion enzyme (alpha amylase- and alpha glucosidase-enzymes) inhibitory activities and antibacterial activities involving *Escherichia coli*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus* were evaluated. In the results analysis, IC<sub>50</sub> or LC<sub>50</sub> values were determined for all assays except for the antibacterial assay where the zone of inhibition was considered. Simple statistical analysis (standard deviation, mean) were done to find IC<sub>50</sub> values using graph pad prism 9.

**Results:** The methanolic extract of *C. zeylanica* exhibited a high antioxidant potential (IC<sub>50</sub> 1.53 ± 24 µg/mL) compared to the ascorbic acid (13.71 ± 4 µg/mL). In contrast the extract did not show α-amylase inhibitory activity under the tested concentrations. However, it demonstrated inhibitory activity against the α-glucosidase enzyme with an IC<sub>50</sub> value of 4999 ± 18 µg/mL, while the IC<sub>50</sub> of the positive control was 78.73 ± 21 µg/mL. Antibacterial activity wasn't observed against *E. coli* and *P. aeruginosa*, but against *S. aureus*. The mean zone of inhibition of *S. aureus* was 20.67 mm at 200 mg/mL concentration while that of the positive control was 20.83 mm at 0.025 mg/mL concentration. The crude extract of *C. zeylanica* showed cytotoxicity on brine shrimps with LC<sub>50</sub> 3838 ± 21 µg/mL.

**Conclusions:** The results revealed that the methanolic extract of *C. zeylanica* leaves possesses high antioxidant activity, alpha glucosidase inhibitory activity, antimicrobial activity against *S. aureus* and cytotoxic activity on brine shrimps.

## PP 6

### ***In-vitro* antimicrobial activity of bark of *Mimusops elengi* (munamalpothu) alone and in combination with *Zyzygium aromaticum* (cloves)**

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**Background:** Medicinal plants have been used for centuries in traditional medical practice. In Sri Lanka, munamal pothu (bark of *Mimusops elengi*) and cloves (*Syzygium aromaticum*) are used for oral infections in ayurvedic medicine.

**Objective:** This study aimed to investigate the antimicrobial effect of munamal pothu alone and in combination with cloves against bacterial pathogens and *Candida* species.

**Methods:** Methanol extracts of munamal pothu, cloves, and combination of two plant materials (munamal pothu:cloves in 1:1 ratio) using cold maceration technique and hot water extracts using decoction method were obtained. Serial dilutions (from 100% to 6.25%) were prepared for each extract. Effect of extracts against *Staphylococcus aureus*, methicillin resistant *Staphylococcus aureus* (MRSA), *Staphylococcus epidermidis*, Viridans streptococcus, *Pseudomonas aeruginosa*, *Escherichia coli*, *Candida albicans* and *Candida tropicalis* was determined using agar well diffusion method. Each test was triplicated. Data was analyzed using SPSS (version 26) software and One-Way ANOVA test.

**Results:** Hot water extract of munamal pothu showed zones of inhibition for *Staphylococcus aureus* only (100%-13.67mm, 50%-12.00mm). Hot water extracts of cloves and combination showed antibacterial activity at 100% against *Staphylococcus aureus* (cloves 13.00mm, combination 15.00mm), MRSA (cloves 10.67mm, combination 13.67mm) and *Staphylococcus epidermidis* (cloves 16.33mm combination 22.33mm). At 100 % hot water extract of combination demonstrated significantly higher antimicrobial activity than munamal pothu alone (MRSA  $p < 0.001$ , *Staphylococcus epidermidis*  $p < 0.001$ ) and cloves alone (*Staphylococcus aureus*  $p < 0.013$ ). Methanol extract of munamal pothu demonstrated antimicrobial activity against all tested bacteria and *Candida albicans* at all concentrations. Antifungal activity against *Candida tropicalis* was showed only at 100% (13.33mm) and 50% (11.67mm) concentrations. Methanol extract of cloves and combination showed inhibitory activity against all tested microorganisms at all concentrations. At 100 % methanol extract of combination demonstrated significantly higher antimicrobial activity than munamal pothu alone against all tested microorganisms ( $p < 0.001$ ) and higher activity than clove alone against MRSA ( $p = 0.003$ ), Viridans streptococcus ( $p = 0.013$ ), *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Pseudomonas aeruginosa*, *Escherichia coli*, *Candida albicans*, *Candida tropicalis* ( $p < 0.001$ ).

**Conclusions:** The combination extract of Munamal pothu and clove has a potential antibacterial and anticandidal activity. It is more effective than either one alone. Therefore, the potential of this combination to develop as an effective antimicrobial agent should be explored further. Further, methanol extraction appears to be a better procedure to preserve antimicrobial properties.

## PP 7

### **Antibacterial activity of polysaccharides extracted from the root of *Premna serratifolia* (Wind killer)**

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**Background:** Emerging infectious diseases, especially skin infections pose significant threats to human health. Conventional antibiotics encounter challenges of antibiotic resistance and side effects, necessitating the screening of novel antibiotics. Various plant polysaccharides exhibit significant antimicrobial efficacy. *Premna serratifolia* is a vital traditional herbal plant in which the root is used for treating various diseases including skin diseases, diabetes and fever.

**Objective:** To evaluate the antibacterial activity of polysaccharides extracted from the root of *P. serratifolia*.

**Methods:** *P. serratifolia* root collected from the Government Herbal Garden and Siddha Central Dispensary in Jaffna, was subjected to shade drying, powdering, defatting with petroleum ether, oligosaccharides removal by 80% ethanol followed by polysaccharide extraction through hot water extraction. Deproteinization was done at pH 8-9 with CaCl<sub>2</sub> and the mixture was freeze dried. Total sugar content was estimated using phenol-sulphuric acid method using glucose as the standard. Antibacterial activity of polysaccharides of *P. serratifolia* root was evaluated using agar well diffusion method against *Staphylococcus aureus* (ATCC 25923) and *Escherichia coli* (ATCC 25922), with ciprofloxacin as the standard. Data were analyzed using one-way ANOVA followed by Turkey's test at 5% significance level.

**Results:** Yield percentage and total sugar content of polysaccharides of *P. serratifolia* root was found to be 5.25% and 69.46% respectively. Mean values of inhibition zones of polysaccharides of *P. serratifolia* root against *S. aureus* and *E. coli* at 60 mg/mL were 30.67±0.58 mm and 30.33±0.58 mm respectively, whereas standard showed 40.33±0.58 mm and 37 mm at 0.5 mg/mL respectively. The inhibitory effects showed by standard and polysaccharides of *P. serratifolia* root differed significantly (P<0.05) while there was no significant difference noted between the bacterial isolates.

**Conclusions:** Polysaccharides derived from *P. serratifolia* root has an antibacterial potential. Further studies are required to isolate the active polysaccharide/s responsible for the observed antibacterial activity.

## PP 8

### Assessing *Dillenia retusa* fruit and bark extracts' antifungal power against superficial mycosis-causing fungi, and identifying the best storage conditions for the most effective extract

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**Background:** In Sri Lanka, *Dillenia retusa* has been traditionally employed as medicinal remedies for skin infections.

**Objective:** To evaluate the antifungal potential of *D.retusa* fruit and bark extracts against selected pathogens causing superficial mycosis, and identify the best storage conditions for the most effective extract.

**Methods:** *D.retusa* fruits ( $F_{D.retusa}$ ) were initially extracted using methanol, decoction and acetone. Of them, methanol proved most effective solvent. Consequently, methanol was chosen for extracting *D.retusa* bark ( $B_{D.retusa}$ ). These extracts were assessed for antifungal activity against superficial mycosis-causing fungi: *C.albicans*, *C.tropicalis*, *Trichophyton rubrum*, *Trichophyton mentagrophytes* and *Epidermophyton floccosum* using well-diffusion assay with positive (fluconazole) and negative-controls (solvents), minimum inhibitory concentration (MIC) and minimum fungicidal concentration(MFC) determination. Further, the most effective extract (bark) was stored at room-temperature, +4°C and -20°C, and optimal storage condition was determined by quality assessment using physical inspection and microbiological testing. Each test was triplicated. Antimicrobial activity of the plant extract was statistically compared with negative-control (Two-sample t-test) at 5% significance level using R language.

**Results:** In comparison to negative-control,  $F_{D.retusa}$  methanolic-extract exhibited antifungal activity with notable zones of inhibition against *T.rubrum* (17.66±0.58mm,p<0.001), but *E.floccosum* (32.66±2.67mm,p=0.060).  $B_{D.retusa}$  methanolic-extract showed significant antifungal activity only against *E. floccosum* (13.33±0.58mm,p=0.024). Neither fruit nor bark methanolic-extracts showed antifungal activity against *Candida* and *T.mentagrophytes*. Further, decoction and acetone-extracts of fruits showed significant antifungal activity against *T.rubrum* (24.40±0.53mm,p=0.0004, 25.27±0.64mm,p<0.001). The fruits and bark extracts demonstrated MIC and MFC values respectively for *C.albicans* (No MIC,0.60g/mL), *C.tropicalis* (0.80g/mL,0.40g/mL), *T.rubrum* (0.50g/ml,0.25g/mL), *T.mentagrophyte* (No MIC,0.0156g/mL), *E.floccosum* (0.00078g/mL,0.0156g/mL). Storing the bark extract at different temperatures for 14 days didn't alter its antifungal effectiveness.

**Conclusions:** Potent antifungal properties of  $F_{D.retusa}$  and  $B_{D.retusa}$  extracts indicates their potential as natural sources of antifungal agents for combating superficial mycosis.

## PP 9

### ***In vitro* antioxidant activity of methanolic extract of selected polyherbal drug used in Diabetes Mellitus in Northern Province, Sri Lanka.**

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**Background:** The antioxidants are mainly involved in preventing the oxidative stress and these are used in diabetes mellitus patients in preventing the further damage to the beta cells caused by the radicals formed due to elevated blood glucose in the blood and worsening of the condition. *Neerizhivu chooranam 2* is a polyherbal drug used in treating diabetes mellitus (*Neerizhivu*) in Northern Province, Sri Lanka. It consists of *Terminalia chebula*, *Emblia officianalis*, *Murraya koenigii*, *Cyprus rotundus*, *Tinospora cordifolia*, *Syzygium cumini* and *Phyllunthus amarus*.

**Objective:** To evaluate the antioxidant activity of *Neerizhivu chooranam 2* using 2,2-Diphenyl-1-picrylhydrazyl radical scavenging activity and phosphomolybdenum assay.

**Methods:** The plant parts were collected individually and dried. They were powdered and sieved within 45 sieve plates and they were mixed in the ratio of 2:2:2:1:1:1:1 of *Terminalia chebula*: *Emblia officianalis*: *Murraya koenigii*: *Cyprus rotundus*: *Tinospora cordifolia*: *Syzygium cumini*: *Phyllunthus amarus* to make the *Neerizhivu chooranam 2*. The chooranam was extracted with methanol using maceration process. In vitro antioxidant activity of methanolic extract was evaluated using DPPH (2,2-Diphenyl-1-picrylhydrazyl) radical scavenging activity and phosphomolybdenum assay by having L-Ascorbic acid as a standard. The IC<sub>50</sub> values of the DPPH assay and the ascorbic acid equivalents from phosphomolybdenum assay were determined. Data of DPPH assay was analysed with one-way ANOVA at 5% significance level.

**Results:** The IC<sub>50</sub> of methanolic extracts of *Neerizhivu chooranam 2* was found to be 2.1633 µg/mL whereas ascorbic acid IC<sub>50</sub> was found to be 1.1588 µg/mL. The ascorbic acid equivalents in phosphomolybdenum assay for *Neerizhivu chooranam 2* was found to be 72.36 Ascorbic acid Equivalent. The Antioxidant activity shown by standard and methanolic extract of *Neerizhivu chooranam 2* differed significantly (P<0.05).

**Conclusions:** Methanolic extract of *Neerizhivu chooranam 2* was found to exhibit antioxidant activity. Further studies needed to understand the in vivo potential of the polyherbal.

## PP 10

### **Antifungal efficacy of some selected medicinal plant extracts in Sri Lanka against *Candida* Species**

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**Background:** The high burden and growing prevalence of invasive fungal infections (IFIs), increasing resistance, and toxicity, enquire for the development of new antifungal drugs. The most common classes of antifungal agents consist of Nitrogen heterocycles in their structure. Hence, alkaloids isolated from plants may have similar mechanisms toward antifungal activity.

**Objective:** This research aims to identify the antifungal efficacy of the alkaloid extracts isolated from seven selected medicinal plants in Sri Lanka.

**Methods:** The alkaloids of the leaves of *Justicia adhatoda*, *Coffea arabica*, *Senna alata*, and *Psidium guajava*, the ground stem of *Alpinia calcarata*, the bark of *Neolitsea cassia* and whole plant of *Mimosa pudica* were extracted by an acid-base extraction process from the methanolic crude extracts separately and concentrated using roto evaporator. Antifungal susceptibility was performed by measuring the diameter of the zone of inhibition (ZOI) in mm around the well using the cut-well diffusion method against five standard strains of *Candida* sp. (*C. tropicalis*, *C. albicans*, *C. parapsilosis*, *C. krusei* and *C. glabrata*). The solvent was used as the negative control.

**Results:** Alkaloids of *N. cassia* showed significant antifungal activity against *C. albicans*, *C. parapsilosis*, *C. krusei* and *C. glabrata* with ZOI of 17, 12, 14.5 and 14 mm respectively. ZOI showed by the alkaloids of *A. calcarata* against *C. tropicalis*, *C. parapsilosis* and *C. krusei* are 13, 14 and 12 respectively. Alkaloids of *J. adhatoda*, *S. alata* and *P. guajava* showed moderate antifungal activity against *C. parapsilosis*, *C. krusei*, and *C. albicans* (ZOIs are 12, 12 and 14 respectively). However, the alkaloid extracts of *C. arabica* and *M. pudica* did not show antifungal activity against any of the tested strains.

**Conclusions:** These results revealed that the alkaloids of *Neolitsea cassia* and *Alpinia calcarata* can be used further to develop as antifungal lead compounds.

## PP 11

### Assessment of antibacterial activity and brine shrimp lethality of *Amorphophallus paeoniifolius* (Kidaram) inflorescence extracts

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**Background:** *Amorphophallus paeoniifolius* (Dennst.) Nicolson, commonly known as “Kidaram” in Sinhala, holds medicinal significance, primarily utilizing its tubers in ethnomedicine to address gastrointestinal and inflammatory disorders. Despite this, the medicinal attributes of *A. paeoniifolius* inflorescence remain relatively unexplored.

**Objectives:** To investigate the antibacterial activity and brine shrimp lethality, of various solvent extracts (dichloromethane, ethyl acetate, and n-butanol) of *A. paeoniifolius* inflorescence

**Methods:** A fresh *A. paeoniifolius* inflorescence (630 g) was collected from Galle district, Sri Lanka, ground into pulp, and subjected to sequential extraction with dichloromethane, ethyl acetate, and n-butanol, yielding 533 mg, 207 mg, and 95 mg of crude extracts, respectively. The antibacterial activity of crude extracts (100 mg/mL in DMSO; 10 µL per disc) was assessed against *Staphylococcus aureus* (SA) (ATCC 25923), *Escherichia coli* (EC) (ATCC 25922), *Salmonella typhi* (ST), *Shigella dysenteriae* (SD), and *Pseudomonas aeruginosa* (PA) (ATCC 27853) using the agar disk diffusion method. Ciprofloxacin (3 mg/mL in DMSO; 10 µL per disc) and DMSO served as positive and negative controls, respectively. Brine shrimp lethality assay determined the LC<sub>50</sub> values of crude extracts to predict the cytotoxicity. Potassium dichromate (K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>) and 1% DMSO in natural sea water were used as positive control and negative control, respectively.

**Results:** The ethyl acetate extract exhibited inhibition of growth against SA, EC, ST, SD, and PA, with inhibition zone diameters (IZD) of 11.3 ± 0.6 mm, 7.7 ± 0.6 mm, 12.0 ± 1.0 mm, 12.7 ± 1.2 mm, and 8.0 ± 1.0 mm, respectively. Dichloromethane extract demonstrated activity against SA, with an IZD of 7.3 ± 0.6 mm, while n-butanol extract and the negative control showed no inhibition. Ciprofloxacin exhibited significant growth inhibition (IZD > 30 mm) against the tested organisms. Brine shrimp lethality assay indicated LC<sub>50</sub> values higher than 500 µg/mL for dichloromethane, ethyl acetate, and n-butanol extracts. LC<sub>50</sub> of positive control was 112 µg/mL while the negative control showed no toxicity. Phytochemical screening identified phenolic compounds, terpenes, and alkaloids in ethyl acetate and dichloromethane extracts, while n-butanol extract showed the presence of phenolic compounds but not alkaloids or terpenes.

**Conclusions:** The study concludes that the ethyl acetate extract of *A. paeoniifolius* flowers contains antibacterial compounds with low cytotoxicity, as evidenced by the antibacterial assay and brine shrimp lethality assay results. Further investigations are required to isolate and characterize the antibacterial compounds from *A. paeoniifolius* inflorescence.

## PP 12

### ***In vitro* antioxidant activity of polysaccharide in *Hemidesmus indicus* (Nannari) leaves**

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**Background:** Polysaccharides are potent natural antioxidants which can greatly slow down or prevent substrate oxidation. *Hemidesmus indicus* has been recognized in traditional medicine system for its medicinal attributes such as hepatoprotective, anticancer, antidiabetic, antioxidant, nephroprotective, antiulcerogenic, anti-inflammatory and antimicrobial properties.

**Objective:** To evaluate *in vitro* antioxidant activity of the polysaccharide extracted from the leaves of *H. indicus*.

**Methods:** The matured leaves of *H. indicus* were collected from Jaffna in Sri Lanka, were authenticated at the Department of Plant & Molecular Biology, University of Kelaniya. The leaves were washed, and shade dried. The dried leaves were powdered and constituents such as lipid and oligosaccharide were removed using petroleum ether and 80% of ethanol by maceration process, respectively. Then, the resulting crude product was extracted with hot water and subsequently deproteinized with CaCl<sub>2</sub> and recrystallized with ethanol to obtain the polysaccharide. The antioxidant property of the polysaccharide sample was assessed through the 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging assay and ferric reduction assay using ascorbic acid as the standard, all these procedures were replicated for both standard and samples. The IC<sub>50</sub> value and the ascorbic acid equivalent of the polysaccharide were calculated from the said assays. The statistical significance was evaluated by the analysis of variance (ANOVA) followed by Tukey's test using SPSS software. Differences were considered significant when p-value was less than 0.05.

**Results:** The IC<sub>50</sub> values of the polysaccharide extracted from the leaves of *H. indicus* and ascorbic acid were found to be 16, 783 and 39 mg/mL, respectively. Further, the extracted polysaccharide exhibited an ascorbic acid equivalent of 18.316 µg/mL for ferric reduction assay. The IC<sub>50</sub> value of the polysaccharide extracted from the leaves of *H. indicus* and ascorbic acid were differed significantly (p < 0.05).

**Conclusions:** The polysaccharide extracted from the leaves of *H. indicus* has exhibited notable antioxidant properties. Further studies will be carried out to purify and characterize the active polysaccharide.

**PP 13**

**Knowledge, attitudes, and practices of pharmacists on cold chain management of vaccines at Regional Medical Supplies Divisions (RMSDs) of Sri Lanka**

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**Background:** Cold chain management is the process of handling vaccines in a potent state until they reach the recipients. If vaccines are not handled at the correct temperatures as specified in the manufacturer’s instructions it may lead to loss of potency, efficacy, and quality. In Sri Lanka, Pharmacists working at RMSDs are responsible for assuring the required conditions for vaccines.

**Objective:** This study explored knowledge, attitudes, and practices of cold chain management by pharmacists at RMSDs of Sri Lanka.

**Methods:** A quantitative, descriptive cross-sectional design was used. Pharmacists actively managing cold chains at RMSDs for over 3 months were included while pharmacists at RMSDs currently on leave during study were excluded. All the pharmacists in all 26 RMSDs were included for this study (48 pharmacists). Questionnaire with structured questions regarding knowledge, attitudes and practices was developed as a Google Form using existing literature and content validity ensured through a sample reviewed by subject experts. Scores for the knowledge and attitude categorized as poor (0-50%), fair (51-69%), and good (70% and above), aligning with existing literature while participant’s responses to practice-related questions were compared to established correct practices by the Sri Lankan epidemiology unit and WHO. A significance level of 0.001 was considered.

**Results:** Out of 48 participants, 6 refused to co-operate due to their busy work schedules therefore response rate was 87.5% but data collected from all relevant RMSDs. Out of participants, 92.9% had good knowledge and 95.2% had positive attitudes towards cold chain management, with a positive knowledge-attitude correlation ( $r=0.738$ ,  $p<0.001$ ). Nearly 90% demonstrated approved practices in shake tests, temperature recording, vaccine storage, and refrigerator defrosting.

**Conclusions:** The majority of the participants had good knowledge, attitudes and correct practices concerning cold chain and attitudes could be further enhanced through educational programmes.

**PP 14**

**Relationship between medication knowledge and medication adherence in patients with bipolar disorder. Evidence from an observational study from outreach clinics conducted by National Institute of Mental Health, Sri Lanka**

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**Background:** Bipolar disorder (BD) is a chronic psychiatric disorder characterized by mania and depression. It is a prominent mental health challenge around the globe. Medication knowledge and adherence are effective pillars in the management of bipolar disorder.

**Objective:** To assess the medication knowledge and medication adherence in BD patients attending outreach clinics conducted by National Institute of Mental Health (NIMH), Sri Lanka and to determine the relationship between medication knowledge and medication adherence.

**Methods:** A descriptive cross-sectional study was conducted from July to September 2023 in five outreach clinics conducted by NIMH, located in Kotahena, Modara, Pannipitiya, Rajagiriya and NIMH. One hundred and forty-two patients diagnosed with BD were randomly selected. A questionnaire developed by McPherson et al was used to assess medication knowledge and 4 item Morisky Green Levin Medication Adherence Scale (MGLS) was used to assess medication adherence. Validated Sinhala translations of the questionnaires were used, and they were interviewer-administered. Medication knowledge score ranged between 0-7 and it was dichotomized considering score of 3 as the cut off. A score  $\geq 3$  denoted as high knowledge and a score ( $<3$ ) denoted as low knowledge. Spearman rank correlation was used to assess the correlation between medication knowledge and medication adherence. The study was approved by the ethics review committee, NIMH.

**Results:** Patients' mean age was 45.17 ( $\pm 9.55$ ) years. Medication knowledge score  $\geq 3$  (62.7%) and score  $<3$  (37.3 %). MGLS score of 4 (38%), score of 2-3 (36.6%) and score of 0-1 (25.4%) were classified as high, medium, and low medication adherence respectively. A strong positive correlation was observed in between medication knowledge and medication adherence ( $r=0.90$ ,  $p<0.01$ ).

**Conclusions:** BD patients' medication knowledge and medication adherence were strongly associated. The findings suggest that improving medication knowledge could potentially improve the medication adherence among BD patients in selected settings.

**PP 15**

**A SWOT analysis on using allopathic medication concomitantly with herbal medication in patients attending diabetes clinics in selected state hospitals in Sri Lanka**

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**Background:** Concomitant use of allopathic medications and herbal medications for diabetes mellitus is a common practice among patients in Sri Lanka. This practice could affect patients negatively and positively. A SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis helps to identify positive and negative outcomes of concomitant use of allopathic and herbal medications for diabetes mellitus.

**Objective:** To analyze strengths, weaknesses, opportunities, and threats of using allopathic medication concomitantly with herbal medications (herbal medications, herbal diets with therapeutic intention, and Ayurveda medications) in patients attending diabetic clinics in selected state hospitals in Sri Lanka.

**Methods:** In-depth interviews were conducted according to a pre-determined and pre-tested interview guide developed in-house with thirty diabetes patients, attending diabetes clinics of five selected state hospitals, representing different ages, gender, and geographically five Provinces in Sri Lanka. Purposive sampling was used to select patients. The data were analyzed thematically as described by Thomas and Harden (2008). The SWOT analysis was from the view point of the allopathic healthcare provider.

**Results:** Thirty in-depth interviews were conducted. 172 initial codes were created, leading to 81 subthemes and four themes: strengths, weaknesses, opportunities, and threats. From the subthemes 11 strengths, 18 weaknesses, 16 opportunities, and 31 threats were identified. Weaknesses and threats were mostly related on poor knowledge and lack of confidence of patients about allopathic medicines and diabetes, and poor communication like incomplete instructions. A responsible healthcare system offered free-of-charge, and the scientific approach of allopathic medicines led to many strengths and opportunities.

**Conclusions:** Patients used allopathic and herbal medications concomitantly for diabetes mellitus without guidance from healthcare professionals and proper knowledge about either treatment. This practice appeared to be like a double-edged sword which had positive and negative outcomes. We need to improve strengths, minimize weaknesses, harness opportunities, and convert threats to benefit of the healthcare system in Sri Lanka.

## PP 16

### **Prevalence of dysmenorrhea and use of over-the-counter medication for dysmenorrhea among undergraduates of a selected university in Sri Lanka**

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**Background:** One of the most common gynecological problems that most women of children bearing age experience is dysmenorrhea. Although numerous studies have been conducted on dysmenorrhea across the globe, teenage girls’ self-care practices for this have received far less attention.

**Objective:** This study aims to determine the prevalence of dysmenorrhea and the proportion of undergraduates who use over-the-counter medication (OTC) during menstruation and the association between the severity of menstrual periods and the use of over-the-counter medication (OTC) in the study population.

**Methods:** A descriptive cross-sectional study was conducted among 207 Female undergraduates in selected girls’ hostels in University of Sri Jayewardenepura, Sri Lanka using convenience sampling. Duration of the study was from January 2023 to April 2023. A validated interviewer-administered questionnaire was used to gather data. Pearson Chi square tests (or Fisher’s exact tests for cells less than 5) were used as appropriate to test the association between those variables using Statistical Package for the Social Sciences (SPSS) version 25. WaLIDD score stands for working ability, Location of pain, Intensity of pain, Days of pain and Dysmenorrhea. Dysmenorrhea was classified according to the total score gained. Modified original WaLIDD score was called as Modified WaLIDD score.

**Results:** Prevalence of dysmenorrhea was 95.7% and 96.1% (n=207) according to original WaLIDD score and modified WaLIDD score respectively. More than half (58.5%) of the study population used over-the-counter medication during menstruation. Further, 91.7% of undergraduates of study population took only paracetamol as an over-the-counter medication. No statistically significant difference existed between the socio-demographic characteristics & occurrence of dysmenorrhea according to original (p=0.560) as well as modified WaLIDD score (p=0.670). No statistically significant difference existed between perceived bleeding amount (p= 0.602), duration of menstrual bleeding and the use of OTC medication (p= 0.949).

**Conclusions:** A higher prevalence dysmenorrhea was observed among undergraduates of University of Sri Jayewardenepura. More than half of the participants in the study used over-the-counter medication for dysmenorrhea. Paracetamol is the most commonly used over-the-counter medication for dysmenorrhea and there is a statistically significant association between dysmenorrhea and the use of OTC medication.

**PP 17**

**Knowledge, attitudes and practices on insulin therapy and number of experienced hypoglycemic episodes during past month among insulin users attending diabetic clinic, Teaching Hospital, Peradeniya.**

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**Background:** Diabetes mellitus (DM) is a prevalent metabolic disorder. Insulin is one of the therapeutic options to treat DM. Hypoglycemia is the commonest adverse effect of insulin therapy and patients' knowledge, attitudes and practices (KAP) on insulin therapy can influence its adverse effects.

**Objective:** To assess patients' KAP of insulin therapy and to determine the number of experienced hypoglycemic episodes among insulin users attending diabetic clinic, Teaching Hospital (TH), Peradeniya.

**Methods:** A descriptive cross-sectional study was conducted in out-patient diabetic clinic, TH Peradeniya. A sample of 334 patients were randomly selected. Male and female adults on insulin therapy for more than 03 months were included and patients under 18 years, severely ill patients and patients with speaking or hearing difficulties were excluded from the study. Patients' KAP on insulin therapy and number of experienced hypoglycemic episodes during past month were collected using self-developed, validated questionnaire. More than 50% of correct answers in separate parts of KAP questionnaire were considered as good knowledge, favorable attitudes and good practices respectively. Pearson correlation was used and descriptively analyzed using SPSS version 21 software.

**Results:** Many patients were in 56-65 years age group (39.82%) and 60.50% of the sample were females. The majority were married (98.20%), most educated up to G.C.E. (O/L) (64.37%) and 67.36% were unemployed. Of the sample 81.68% had good knowledge, 95.81% had favorable attitudes and the majority (99.40%) had good practices on insulin therapy. Most of the participants (97.01%) had not experienced hypoglycemic episodes and a few patients were 2.99% experienced hypoglycemic episodes during the past month.

**Conclusions:** Most of the insulin using out-patients in TH Peradeniya had good knowledge, favorable attitudes and good practices on insulin therapy. A minority of the patients experienced hypoglycemic episodes during the past month in TH Peradeniya.

**PP 18**

**Self-medication practices among older adults in Mawanella Divisional Secretariat, Sri Lanka**

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**Background:** Self-medication is defined as the consumption of medicines without a supervision of a doctor. Even though the non-prescribed medicines (Schedule I and IIA) can be useful with self-medication, prescription-only medicines can cause serious health effects with the same. Self-medication in older adults, complicates these serious issues even more due to the physiological changes with aging.

**Objective:** To assess the practice of self-medication and its related factors among older adults in Mawanella Divisional Secretariat, Sri Lanka.

**Methods:** This is a descriptive cross-sectional study, carried out in three selected public places (OPD at base hospital, Mawanella, Post office, Mawanella, Regional development bank, Mawanella.) of Mawanella Divisional Secretariat from September 2022 to June 2023. A statistically calculated sample of 204 adults of the age of  $\geq 60$  years, through a systematic random sampling method was recruited. Data were collected using a pretested and validated interviewer-administered questionnaire that comprised of demographics, knowledge and socioeconomic characters of older adults. Both descriptive and inferential statistics were used in analysis and  $p$ -value of 0.05 was taken as statistically significant.

**Results:** Prevalence of self-medication for common ailments was 78.9% and for chronic diseases was 19.1%. Mostly self-medicated common ailment and chronic disease were common cold (61.8%) and arthritis (74.6%) respectively. Antipyretics were the mostly used (69.6%) in self-medicating common ailments. Most commonly self-medicated prescription-only medicines were diclofenac sodium and azithromycin. Of the total, 51.6% of participants had experienced adverse drug reactions (ADRs) during self-medicating. Most common ADR was gastritis (47%). There was a significant association between self-medication and gender ( $p=0.0035$ ), ethnicity ( $p=0.0033$ ), religion ( $p>0.001$ ), income group ( $p=0.0000$ ), educational level (0.000), distance to nearest health care facility ( $p=0.0000$ ), marital status ( $p=0.0000$ ) and living status ( $p=0.0000$ ).

**Conclusions:** Study findings showed that self-medication was significant for common ailments and half of the users suffered ADRs. Self-medication has a significant association with socio-demographic factors of older adults. The irrational distribution of medicines by pharmacies is evident and the need for intervention.

**PP 20**

**Awareness on medications among customers attending selected community pharmacies in Western Province, Sri Lanka**

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**Background:** Identifying factors affecting customer awareness on the medications they are purchasing and its relationship with adherence to medications are important in optimising patient care.

**Objective:** To assess the customers’ awareness of medications and associated factors.

**Methods:** Descriptive cross-sectional study was conducted among the customers attending selected community pharmacies (CPs) in Colombo, Gampaha and Kalutara districts including ‘Rajya Osusala’ outlets, private and supermarket pharmacies. CPs were selected by convenient sampling and 390 customers were recruited (130 from each district). Data were collected using interviewer administered questionnaire and each customer was given a score, according to their knowledge on purchased medications. Ethical approval obtained from Ethics Review Committee, Faculty of Medical Sciences, University of Sri Jayewardenepura. SPSS Version 26 was used for data analysis and chi square, percentages, mean values used. Statistical significance was set at  $p < 0.05$  with 95% CI.

**Results:** Mean age of the sample was  $47 \pm 1$  years and majority were females (56.41%). Majority of customers (64.10%) had prescription/clinic book to purchase medications, of them only 33.20% ( $n=83$ ) had visited a clinic/ physician before coming to CPs. From the total sample, majority (64.00%) had not visited a clinic/ physician and most of them were from lower income group which was significant ( $p=0.00$ ). Only 1.06% participants had outstanding knowledge about the purchased medications according to the knowledge score. Significant positive associations were observed between the customers’ awareness of medications and visiting a clinic/ physician before purchasing medications ( $p=0.00$ ), as well as the highest educational level ( $p=0.01$ ). Statistically significant association was found between medication adherence and the highest educational level ( $p=0.00$ ), as well as the awareness ( $p=0.01$ ). Both adherence and awareness were not associated with the gender ( $p=0.07$  and  $p=0.57$  respectively).

**Conclusions:** The education level of customers and their access to clinics and physicians play crucial roles in medication awareness and adherence.

**PP 21**

**Availability and stock levels of essential medicines in government healthcare institutions in Batticaloa District, Sri Lanka**

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**Background:** The availability of essential medicines is a major important aspect of quality healthcare services. The provision of quality health services can be adversely affected by a stock-out of essential medicines. Adhering to good storage practices is essential to maintain the quality, safety, and efficacy of the medicines provided.

**Objective:** To assess the availability, stock-out periods, adequacy of record-keeping, and storage facilities of selected essential medicines in different levels of Government Healthcare Institutions (GHCI) of Batticaloa District Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted, and retrospective data were used where necessary. Study conducted over 2 months. Six GHCI representing four different levels of care were selected in Batticaloa District as per convenience. Ethics review approval was obtained from the Ethics Review Committee, OUSL, and institutional permission was obtained from the relevant authorities. Forty-four essential medicines for 28 diseases were selected from the 5<sup>th</sup> edition of Essential Medicine List of Sri Lanka. Data were collected using survey forms adapted from the WHO operational package for assessing, monitoring, and evaluating country pharmaceutical situations.

**Results:** The average availability of key essential medicines was high (81%) in Batticaloa District, while the teaching hospital reported the “highest” availability of key essential medicines (93 %). The highest average stock-out days (212) were reported from the Primary Medical Care Unit, while the lowest was 38 days reported from the teaching hospital. None of the GHCI reported having expired medicines on shelves. All six GHCI reported more than (70%) for record-keeping on medicines. Divisional hospital type-C reported having the lowest score for warehouse management.

**Conclusions:** Availability and record keeping of essential medicines at the GHCI of Batticaloa was high while the average number of stock-out days varied as per the institution. Storage conditions of the dispensing areas of the GHCI in the Batticaloa district should be improved.

## PP 22

### **The antibiotic consumption in state sector hospitals in a selected district of Sri Lanka between 2016 and 2021**

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**Background:** The overuse and misuse of antibiotics are leading to a serious public health security problem of antibacterial resistance (ABR). Surveillance of Antibiotic Consumption (ABC) is useful in combating ABR.

**Objective:** To quantify and describe the pattern of annual ABC in state sector hospitals of selected district of Sri Lanka between 2016 and 2021.

**Methods:** The ABC of state hospitals data was collected from the Regional Medical Supplies Division (RMSD) of the selected district between 2016 and 2021. The selected district RMSD provides medicines to 21 state sector hospitals. Only J01 antibacterials were included. Anatomical Therapeutic Chemical (ATC) classification, defined daily doses (DDD), defined daily doses of DDD per 1,000 inhabitants per day (DID), and AWaRe classification used to classify and quantify (ATC level 3 and level 5) the ABC. The ABC pattern is presented using standard indicators.

**Results:** Over the observed study period, the highest (2010 DID) and the lowest (117 DID) ABC were reported in 2017 and 2021 respectively. Beta-lactam antibacterials, penicillins (J01C) were the highest consumed group. The consumption of macrolides (J01F) has increased and the consumption of other beta-lactam antibacterials (J01D) has decreased during 2020-2021. Amoxicillin was the leading antibacterial until 2019 (25% to 28%), and changed to co-amoxiclav (23% to 26%). Consumption of broad to narrow spectrum ratio was increased (6:1 to 16:1). The consumption of the access group decreased from 71.8 % to 64.9% and the watch group increased (28.2% to 35.1%).

**Conclusions:** This surveillance shows the ABC pattern of the state sector hospitals of the selected district. Increasing the consumption of broad-spectrum antibiotics and reducing the use of access group antibiotics underscores the importance of ongoing monitoring to ensure the appropriateness of antibiotic use and to surveil the emergence of ABR to commonly used antibiotics.

**PP 23**

**Exploring serum uric acid levels in pregnant women with pregnancy induced hypertension**

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**Background:** In Sri Lanka, approximately 10-15% of pregnancies encounter pregnancy related hypertensive disorders. These conditions embark unfavorable outcomes for both mothers and infants. Uric acid is primarily eliminated through the kidneys and serves as an element in understanding the intricacies of hypertensive disorders.

**Objective:** To investigate the serum uric acid level among pregnant women with normal blood pressure and pregnancy-induced hypertension.

**Methods:** This is a population based analytical cross sectional study conducted at the Antenatal clinic, Teaching Hospital Jaffna. In this study, 34 normal pregnant women and 34 pregnant women with pregnancy-induced hypertension (140/90 mmHg on two or more occasion and without proteinuria) were enlisted. Serum uric acid levels were measured by the uricase method. Ethical approval was obtained from Ethical Review Committee, Faculty of Medicine, University of Jaffna. Independent sample t-test was carried out to compare the mean values of serum uric acid between Group 1 and Group 2 pregnant women.

**Results:** Age of total participants ranged from 18-43 years. The serum uric acid level ranged from 1.73 -6.77 mg/dL among the total population. The selected pregnant women were categorized into 18-25, 26-34 and 35-43 years and the differences in mean serum uric acid levels within these age groups were did not differ significantly ( $p>0.05$ ). Group-1 and Group-2 pregnant women had the mean serum uric acid level of 3.04 ( $\pm 0.49$ ) and 4.66 ( $\pm 0.89$ ) mg/dL respectively. Mean serum uric acid level of pregnancy-induced hypertension women [4.66 ( $\pm 0.89$ ) mg/dL] was significantly ( $p<0.001$ ) elevated than that of normotensive pregnant women [3.04 ( $\pm 0.49$ ) mg/dL].

**Conclusions:** Our study highlights a significant elevation in serum uric acid level among individuals with pregnancy induced hypertension compared to the normotensive group. Suggesting its potential utility as a marker for early detection of pre-eclampsia-like pregnancy-induced hypertensive diseases.

## PP 24

### **Evaluation of anthropometric patterns in women with polycystic ovarian syndrome; at Teaching Hospital Jaffna.**

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**Background:** Polycystic Ovary Syndrome (PCOS) is one of the endocrine metabolic disorders. Evaluation of the association between anthropometric measurements in the PCOS women is crucial to understand the potential relationship. The relationship may offer the insights of metabolic risks, reproductive health, and overall well-being, aiding in tailored interventions and improve healthcare strategies of PCOS women.

**Objective:** To assess the anthropometric patterns in women diagnosed with PCOS at Teaching Hospital Jaffna.

**Methods:** This is a descriptive cross-sectional study. Convenient sampling method was used. Women diagnosed with PCOS (n=125) during the clinical visit through ultra sound scanning were recruited based on Rotterdam criteria. Serum triglyceride level was measured by enzymatic method. HDL-C was measured by precipitation method. The weight, height, waist circumference, hip circumference was measured during the clinical visit according to standard protocols, and the subsequent values of BMI, WHR, WHtR and VAI were calculated. Descriptive analysis and chi squared test were performed to analyse the data. Ethical approval was obtained by Ethical Review Committee, Faculty of Medicine, University of Jaffna.

**Results:** The mean BMI of the sample was 27.75 ( $\pm 5.69$ ) kg/m<sup>2</sup>. Among them, 35.2% and 48% of the PCOS women were overweight (23.0-27.5 kg/m<sup>2</sup>), and obese ( $\geq 27.5$  kg/m<sup>2</sup>) respectively. Around 60% (n=75) of the women had increased WHR ( $>0.85$ ) with the mean WHR 0.92 ( $\pm 0.07$ ). The majority of PCOS women (77.6%) had increased WHtR ( $\geq 0.5$ ) with the mean WHtR 0.58 ( $\pm 0.06$ ). Mean VAI of total PCOS women was 1.98 ( $\pm 1.23$ ). Increased ( $>4.28$ ) VAI was observed only in 8% (n=10). Significant association between BMI and WHR (p=0.034); BMI and WHtR (p<0.001) were observed. Further, WHR had significant association with WHtR (p<0.001).

**Conclusions:** The study highlights that the majority exhibit increased BMI, WHR, WHtR and normal VAI, emphasizing the need for targeted preventive measures and awareness among PCOS women.

PP 25

### **Menstrual irregularities and their association with menstrual cycle characteristics and demographic factors among female undergraduates residing in hostels of a selected state university in Sri Lanka**

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**Background:** Menstrual health is a significant facet in reproductive health, impacting women’s quality of life from adolescence onward. Untreated menstrual issues have the potential to escalate into life-threatening conditions. The transitional phase of university life brings about substantial lifestyle changes, rendering female undergraduates particularly susceptible to menstrual irregularities.

**Objective:** To assess the prevalence and types of menstrual irregularities and their association with menstrual cycle characteristics and demographic factors among female undergraduates residing in hostels of university of Sri Jayewardenepura.

**Methods:** An analytical cross-sectional study was conducted after obtaining ethical approval, involving 218 female undergraduates residing in hostels. Participants were selected according to simple random sampling method. Demographic factors and menstrual cycle characteristics within the past two years were retrieved through a self-prepared pretested self-administered questionnaire. Diagnosis of menstrual irregularities was done by a qualified medical officer based on WaLIDD score and clinical criteria. Data analysis was done using Pearson’s chi-square test and Mann-Whitney U test.

**Results:** Study participants had a mean age of 23.75 ( $\pm$  1.68) years. Among participants 98.6% had dysmenorrhea, 14.2% had secondary amenorrhea, 10.6% had metrorrhagia, 8.7% had hypomenorrhea, 7.8% had oligomenorrhea, and 6.4% had menorrhagia. None of them was diagnosed as having polymenorrhea. There were statistically significant associations between severe dysmenorrhea with taking painkillers ( $p < 0.001$ ) and passage of clots ( $p = 0.002$ ), secondary amenorrhea with passage of clots ( $p = 0.013$ ) and number of heaviest bleeding days ( $p < 0.001$ ), metrorrhagia with length of longest menstrual cycle ( $p = 0.048$ ), and hypomenorrhea with number of sanitary napkins used ( $p = 0.044$ ). There were no statistically significant associations between menstrual irregularities with age at menarche, abnormal vaginal discharge, and family history. 21.1% of participants were diagnosed for menstrual irregularities while 32.57% of participants refrain from seeking medical advice for issues related to menstrual cycle.

**Conclusions:** Based on the findings, it is evident that despite experiencing menstrual irregularities, a significant number of participants do not seek medical advice. Therefore, advocating for menstrual health education within university setting is recommended.

PP 27

**Isolate the *Streptococcus mutans* from dental caries in patients attending Dental Clinic, Teaching Hospital, Jaffna**

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**Background:** Oral diseases, affecting 3.5 billion people globally, pose significant public health challenges. Dental caries, a chronic microbiological disease, ranks third in medical costs. Odontogenic infections are due to polymicrobial biofilm, which contains multiple bacterial strains. *Streptococcus mutans*, a key cariogenic pathogen, is linked to caries initiation. This bacterium also contributes to various infections such as infective endocarditis. Early detection of antibiotic resistance and effective prophylactic therapy are crucial for prevention.

**Objective:** This study aimed to assess the prevalence and characteristics of *Streptococcus mutans* from dental caries in patients, attending the Dental clinic, Teaching Hospital, Jaffna.

**Methods:** This research study was approved by the Ethical Review Committee, Faculty of Medicine, University of Jaffna. This was a laboratory-based experimental study involving 120 dental caries patients at the Dental Clinic, Teaching Hospital Jaffna in September 2023. Caries samples were collected and transported in BHI broth to the microbiology laboratory at Teaching Hospital and incubated at 37°C for 24 hours. The broth was plated on Selective Mitis agar with bacitracin and sucrose. *Streptococcus mutans* strains isolated from samples were initially identified based on their distinct colony morphology observed on selective agar, with reference to the colony morphology of a standard strain (ATCC 700610) grown on the same medium. Following this preliminary identification step, the selected colonies underwent Gram staining and additional biochemical tests for laboratory confirmation of their identity.

**Results:** Of the participants, there were 34.2% males and 65.8% females. Nearly 90% (109/120) of samples showed positive cultures for any microorganisms. Among the positive cultures, 70% (84/120) were identified as *S. mutans*. Nearly 20% (25/120) of samples isolated other microorganisms.

**Conclusions:** In this study, the rate of isolation of *Streptococcus mutans* was 70% (84/120). The findings will contribute valuable insights into the microbiology of dental caries, forming a basis for preventive and therapeutic strategies.

**PP 28**

**Awareness of dental fluorosis among school children in Dimbulagala Educational Zone**

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**Background:** Dental fluorosis (DF) is a common oral health problem in dry zone areas in Sri Lanka due to continuous exposure to high quantities of fluoride in children during tooth-forming ages and nearly two-thirds of students are affected worldwide. DF is a preventable condition, and awareness of this condition is an important aspect of implementing preventive measures to reduce this burden in rural areas of dry zones in Sri Lanka.

**Objective:** The study aimed to assess the awareness of DF and determine its associated factors among school children in Dimbulagala Educational Zone.

**Methods:** A descriptive cross-sectional study was conducted using 273 students aged between 12 to 15 years in Dimbulagala Educational zone in Polonnaruwa district, using a pretested self-administered questionnaire. Data were analyzed using chi-square tests in SPSS (25th version). A Level of significance considered as P-values <0.05.

**Results:** The majority (n=146;53.5%) were females. Most of the participants (n=267;97.8%) lived in rural areas. Hundred and ninety students (68.1%) were not aware of the DF and the point that high concentration of fluoride in water is the main factor of DF (n =234;85.7%). Nearly 88 % of children (n=240) were not aware of the presence of fluoride in their drinking water and 185 (67.8%) of them were not aware of the presence of fluoride in toothpaste. There was a statistically significant association between the awareness of DF and some socio-demographic characteristics such as age (p=0.004), and living area (p=0.007).

**Conclusions:** The majority of the children in Dimbulagala educational zone in Polonnaruwa district were not aware of DF. Rural children exhibit a lower awareness of DF compared to their urban counterparts. Implementation of health education programs through public health professionals will be a prompt initiative to prevent this condition among school-aged children in high fluoride-containing areas in Sri Lanka.

PP 29

**Evaluation of probiotic characteristics of *Lactobacillus* spp. isolated from plaque samples taken from patients with dental caries attending dental unit, Teaching Hospital, Jaffna**

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**Background:** *Lactobacillus* is a normal inhabitant in the oral cavity and acts as a probiotics. Dental caries is a common chronic infection resulting from primarily *Streptococcus mutans*. Previous studies indicate that *Lactobacillus* from dental plaque microbiota have antimicrobial effects against *Streptococcus mutans* and this indicates that *Lactobacillus* reduces caries severity. Thus, a need arises to study probiotic characteristics of *Lactobacillus* spp. from plaque microbiota.

**Objective:** This study was aimed to evaluate the probiotic characteristics of *Lactobacillus* spp. isolated from plaque samples of dental caries patients thereby determining its potential for use as an oral probiotics.

**Methods:** Plaque samples were collected from patients (n=120) with dental caries attending the Dental Unit, Teaching Hospital, Jaffna. Plaque samples were inoculated on de Man Rogosa and Sharpe (MRS) agar and incubated at 37°C at 5%-10% CO<sub>2</sub> for 24 - 48 hrs. Gram staining and Catalase test were performed on isolated *Lactobacillus* spp. Next, it was again inoculated on MRS broth and incubated at 37°C at 5%-10% CO<sub>2</sub> for 24 hrs. Acid and bile tolerance of isolated *Lactobacillus* species were tested by spectrophotometric method. Antimicrobial assay was done using agar well diffusion against standard *Streptococcus mutans* (n=120), *E.coli* (n=120), and *Candida albicans* (n=120) streaked on Mueller Hinton agar. Hydrophobicity was assessed using microbial adhesion to hydrocarbon.

**Results:** Of the sample 120 were positive for *Lactobacillus*. The acid tolerance test was positive for 78.33% (94/120) of the isolates while 67.5% (81/120) of the isolates were positive for the bile tolerance test. Nearly 68% (82/120) of the isolates were hydrophobic. Moreover, 80% (96/120) of the isolates showed antimicrobial activity against *Streptococcus mutans*, while 65.83% (79/120) of the isolates showed antimicrobial activity against *E. coli*. None of the isolates showed antimicrobial activity against *Candida albicans*.

**Conclusions:** More than 50% of the *Lactobacillus* isolated from dental plaque/caries have potential probiotic characteristics. Hence, *Lactobacillus* holds the potential to be used as probiotics for oral health.

**PP 30**

**Knowledge, attitudes, and practices on managing childhood post-vaccination fever: A cross-sectional survey among the primary caregivers in the Dangedara MOH area in Sri Lanka**

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**Background:** One typical side effect of immunization is post-vaccination fever. During infancy, people have a reduced immune system. Therefore, nearly every child experiences a post-vaccination fever. Additionally, an infant's immunity steadily develops from birth, enabling it to combat the antibody-antigen interaction. Effective management of post-vaccination fever enhances the child's comfort and relieves caregivers' psychological distress. Caregivers' knowledge, attitudes, and practices toward managing post-vaccination fever play a key role in effective management.

**Objective:** The current study was conducted to assess knowledge, attitudes, and practices on managing post-vaccination fever among the primary caregivers at the Dangedara MOH area in Sri Lanka

**Methods:** A descriptive, cross-sectional study was conducted among 300 primary caregivers of children <12 years old in the Dangedara MOH area, Sri Lanka. Data were collected using a validated, pre-tested self-administered questionnaire. The questionnaire consists of 30 knowledge-related questions, 25 practice-related questions, and 10 attitudes-related questions. Data analysis was done by using descriptive and inferential statistics using SPSS Version 26. Computed knowledge scores were graded into “Good knowledge (30 – 20)” and “Poor knowledge (less than 20)”, Attitudes scores were graded into categories from “Poor attitudes (less than 8)”, and “Good attitudes (10 – 8)” and the practices score were graded into “Good practices (25 – 20)” and “Poor practices (less than 20)”. The study was ethically approved by the ethical review committee at KIU.

**Results:** Most of the respondents were mothers (68%, n=204). The mean age was 35.49, (SD ± 10.59). Among the total participants (n=300), 55.7% (SD ± 33.31%) had good knowledge, 54.7% (SD ± 20.59) had good attitudes, and 58% (SD ± 29.16%) had good practices towards childhood post-vaccination fever management. The chi-square test exhibited there was an association between the primary caregiver (p=0.001), an education level (p=0.026), occupation (p=0.018), monthly income (p=0.018), and the knowledge score and there was no association between socio-demographic data and the attitudes and the practices (p>0.01) related to childhood post-vaccination fever management.

**Conclusions:** Most caregivers reported good knowledge, attitudes, and practices in the management of post-vaccination fever. There was an association between the socio-demographic data and the knowledge score and there was no association between socio-demographic data and the attitudes and practices related to childhood post-vaccination fever management.

**PP 31**

**Prevalence of illicit drug usage and associated socio demographic factors among students of University of Jaffna, Sri Lanka**

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**Background:** Illicit drug usage and addiction is known to exert detrimental effects on student’s overall well-being and academic performance. Among the university students in Sri Lanka, illicit drug usage and addiction have been noticed to be increasing which require a public health concern and special attention.

**Objective:** To measuring the rates of illicit drug usage and to find out the socio-demographic factors associated with illicit drug usage among the students of University of Jaffna.

**Methods:** An institutional based descriptive cross-sectional study was conducted among both male and female undergraduate students (n=327) from nine faculties and two units of University of Jaffna. A predesigned self-administered questionnaire was administered to participants who were enrolled with systematic random sampling approach. A chi squared test was utilized, with a significance level set at  $p < 0.05$ . Approval was obtained from Ethical Review Committee, Faculty of Medicine, University of Jaffna.

**Results:** Prevalence of illicit drug usage among university students was 9.4%. Cannabis (4.8%) and mawa (5.5%) were the only illicit substances reported by the participants. The majority of the illicit substance users were 1st year students (29.1%) ( $p < 0.001$ ), males (62.1%) ( $p < 0.001$ ) and within the age range of 23.36 ( $\pm 1.75$ ) years ( $p = 0.005$ ). Further, the majority (61.2%) started using illicit drug/s while they were living with friends ( $p = 0.005$ ). Ethnicity, family income, way of income, scholarship and marital status were not associated with illicit drug usage ( $p = 0.219, 0.670, 0.111, 0.672$  and  $0.218$  respectively), but perceived good family support was found to be associated with illicit drug usage ( $p = 0.023$ ).

**Conclusions:** Illicit drug usage was associated with modifiable factors like living arrangements, family support and non-modifiable factors like age, gender and year of study among the undergraduates of the University of Jaffna. Interventions should be designed and implemented to reduce the illicit drug usage among university students.

PP 33

***In-vitro* antioxidant properties of unripen and ripen fruits of *Momordica balsamina***

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**Background:** - Antioxidants are the substances that can inhibit or delay unwanted reactions of oxidation through one or more numerous mechanisms. Antioxidant phytochemicals that are found in medicinal plants could play an important role in the prevention and treatment of chronic diseases caused by oxidative stress. This study focus on evaluation of antioxidant properties of methanolic extracts of ripen & unripen fruits of *Momordica balsamina* (Tamil-Kuruvithalai pagal & Sinhala-Karawila) as its parts are used traditionally for the treatment of diabetes in northern province.

**Objective:** - To find out antioxidant properties of unripen and ripen fruits of *M.balsamina* using 2,2-Diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activity and phosphomolybdate total antioxidant assay.

**Methods:** - Unripen fruits and ripen fruits of *M.balsamina* were collected and allowed to dry in shade and powdered. Powdered materials were extracted using maceration with methanol. The mixtures were filtered, and solvents were evaporated using rotary evaporator under reduced pressure. Resulted extracts were evaluated for their antioxidant properties through DPPH method and phosphomolybdate total antioxidant assay using ascorbic acid as positive control. IC<sub>50</sub> values were calculated for DPPH radical scavenging action and statistically analyzed using one-way ANOVA at 5% significance level and total antioxidant capacity was reported as ascorbic acid equivalents.

**Results:** - IC<sub>50</sub> value of methanolic extract of unripen fruits, ripen fruit and ascorbic acid was found to be 92.40 µg/mL, 147.72 µg/mL and 4.33 µg/mL respectively. Unripen fruits and ripen fruit were statistically significant with the ascorbic acid (p > 0.05). Unripen fruits and ripen fruit exhibited an ascorbic acid equivalent of 138.50 µg/ 50 µg and 319.30 µg/ 50 µg of dry weight.

**Conclusions:** - Methanolic extracts of unripen fruits and ripen fruits of *M.balsamina* were found to contain considerable potential for free radical scavenging action and good total antioxidant capacity in phosphomolybdate total antioxidant assay. Further studies will be carried out to purify and characterize the active phytoconstituents.

**PP 34**

**Attitudes toward family involvement in nursing care among second-year nursing students in School of Nursing, Colombo Sri Lanka**

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**Background:** Family involvement is a vital component in patient-centred care. Nurses’ knowledge, skills, and interpersonal relationships with patients’ family members are key to providing quality patient care. There is a lack of data regarding student nurses' attitudes towards family involvement in care in the Sri Lankan context.

**Objective:** This study aimed to examine the second-year Nursing students’ attitudes toward family involvement in nursing care in a selected School of Nursing in Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among purposively selected (N= 353) nursing students. A Families’ Importance in Nursing Care - Nurses Attitudes (FINC – NA) Scale (26 items), with author permission, was used to collect data. The scale measures four dimensions, namely: Family as a conversational partner, family as a coping resource, family as a resource in nursing care, and family as a burden. The internal consistency of the FINC-NA scale was compared and assessed through Cronbach’s alpha coefficient of more than 0.7. Descriptive statistics was used to analyse the data and consider three levels of attitudes: negative, positive and neutral. Ethical approval was obtained from the relevant authorities.

**Results:** Among the participants, most of them were female (90.5%, n=286), and belonged to the 23 -25 years age group (83%, n= 263). According to the results, participants have a more positive attitude toward family as a resource in nursing care (M=37.16, SD=4.88) and family as a conversational partner (Mean (M) =30.59, SD= 4.06). Participants have a neutral attitude toward family as a coping resource (M=15.11, SD= 2.38) and family as a burden (M=14.38, SD = 2.77).

**Conclusions:** Student nurses have positive attitudes toward family as a resource in nursing care and as a conversational partner. They have neutral attitude toward family as a coping resource and family as a care burden. Associated factors toward the attitudes should be investigate.

PP 35

### **Validating a guideline on calculating the cost of medication errors in hospitals in Sri Lanka using a hypothetical case**

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**Background:** A Standard List of Cost Variables (SLCV) (Nine variables) for calculating the cost of medication errors (MEs) in Sri Lanka (SL) was developed using Delphi consensus (Phase-I) and was identified as accessible/measurable (Phase-II) previously. A preliminary guideline on using SLCV was also developed in Phase I.

**Objective:** To validate the guideline for calculating the cost of MEs in hospitals in SL using a hypothetical case.

**Methods:** A pilot study was carried out on a hypothetical medication error case (HMEC), for validating the guideline. The HMEC was designed by two medical professionals and a working patient record was developed with expert consensus. A cost sheet with SLCV was developed and used to cost the HMEC using methods suggested by key personnel in Phase-II. Results of Phase I and Phase II were also considered in the amendments of the guideline.

**Results** The guideline underwent six changes during the validation. Three new points were added; (1) ‘Cost of patient's long-term medications during the extended hospital stay’ was added to sub variable 1.2, (2) ‘Cost of surgical procedure’ and ‘Cost of medical procedure’ was added under variable 3, (3) ‘Opportunity cost for treating another patient’ was added to the section, ‘minor variables not considered in the cost calculation’ in the guideline. Three changes were done for clarity; (4) the name of the sub-variable 7.3 was changed as “cost for nursing officers”, (5) three points that existed under sub-variable 2.2 were re-arranged as ‘ward consumables/ surgical consumables’ and ‘ward CSSD charges, linen and laundry’. Finally, (6) Variable 9 was included as a sub-variable of Variable 2 so that the total number of variables reduced from nine to eight.

**Conclusions:** The SLCV was finalized to eight variables. The guideline was validated for the feasibility in calculating the cost of MEs in healthcare settings.

**PP 36**

**Knowledge, practices and associated factors of first aid among school teachers in selected schools in Nugegoda Education Division**

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**Background:** First aid knowledge empowers immediate care, reducing injuries, and saving lives. Trained school teachers enhance the first aid skills of students and contribute to a secure learning environment.

**Objective:** The study aimed to assess the level of knowledge, practices, and associated factors of first aid among school teachers in selected schools in the Nugegoda education division.

**Methods:** This study employed a descriptive cross-sectional approach, focusing on schools in the Nugegoda education division. The research included a stratified random sample of 285 teachers with a minimum of 2 years of experience. Data was gathered through a pretested self-administered questionnaire based on relevant literature. Statistical analysis was conducted using SPSS version 26. Descriptive statistics summarized the data, while Chi-square tests assessed variable associations, and bivariate correlations scrutinized attitudes and practices. Ethical approval was obtained from the Ethics Review Committee, Faculty of Medical Sciences, University of Sri Jayewardenepura, with permission from the Sri Jayewardenepura Zonal office.

**Results:** A considerable percentage demonstrated moderate first aid knowledge (59.6%), while a majority exhibited commendable practices (92.6%). About 64.5% lacked formal first aid training, relying on media (62.1%) and health professionals (56.5%). Chi-square tests revealed significant associations between knowledge and various factors, including age, gender, training, and incidents requiring first aid ( $P < 0.05$ ). The teaching section significantly influenced first-aid practices ( $P = 0.026$ ) and prior training significantly influenced first aid administration and teachers' confidence ( $P < 0.0001$  and  $P = 0.011$ , respectively). The bivariate correlations showed a strong association between attitude and practices ( $P = 0.024$ ).

**Conclusions:** Most teachers in the study possessed moderate first-aid knowledge, and their practices varied based on teaching sections. Participants commonly relied on media and health professionals for information. Knowledge scores significantly differed based on age, gender, prior training, time gap, and first aid incidents encountered.

**PP 37**

**Exploring parental knowledge and practices in seizure and epilepsy: A descriptive cross-sectional study**

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**Background:** Inadequate parental awareness and fear of childhood epilepsy may lead to life-threatening situations, while mistreatment and social isolation can impede a child's development.

**Objective:** To determine the level of parental knowledge of childhood epilepsy, first-aid practices, and long-term management strategies related to seizures and epilepsy and to analyse the factors associated with the knowledge and practices among parents or caregivers.

**Methods:** A descriptive cross-sectional study was carried out among 250 parents using a convenient sampling method, visiting the paediatric neurology clinic at Teaching Hospital Karapitiya. Data were gathered using a self-developed, pre-tested interviewer administered questionnaire. Descriptive statistics, the chi-square test, and Pearson correlation were used to analyse the factors associated with knowledge and practices ( $p=0.05$ ) using the Statistical Package of Social Sciences (SPSS) version 25.

**Results:** Among the parents who participated in the study, 13.2% ( $n=33$ ) had good knowledge of seizures and epilepsy, while the majority, 82.4% ( $n=206$ ), had moderate knowledge, and 4.4% ( $n=11$ ) had less knowledge of seizures and epilepsy. Only 35.7% ( $n=68$ ) of parents with prior experience had good practices regarding seizure and epilepsy first-aid and long term management, 60.5% ( $n=115$ ) had moderate practices, and 3.6% ( $n=7$ ) had poor practices. Only 23.3% ( $n=14$ ) of the parents with no prior experience had good practices; the majority, 70% ( $n=42$ ), had moderate practices, and 6.6% ( $n=4$ ) had poor practices. When analysing the factors associated with the knowledge and practices, a significant positive relationship was observed between parental knowledge and parents' occupations in health-related fields ( $p = 0.05$ ), as well as previous experience with epileptic children ( $p = 0.026$ ).

**Conclusions:** In terms of first aid procedures, long-term management, and awareness of childhood seizures and epilepsy, parents showed a moderate degree of proficiency.

**PP 38**

**Health-seeking behavior and its associated factors among patients with non-communicable diseases attending medical clinics at Divisional Hospital, Sri Lanka**

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**Background:** Health-seeking behavior significantly impacts healthcare delivery and patient outcomes. Healthcare providers, policymakers, and researchers need to comprehend the factors shaping it. However, local exploration in this area remains limited.

**Objective:** To evaluate health-seeking behavior and its influencing factors among patients at Divisional Hospital Weeraketiya in Hambantota, Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted to investigate health-seeking behavior and its associated factors among 400 patients attending the medical clinic at Divisional Hospital Weeraketiya in Hambantota, Sri Lanka. Participants were selected through a simple random sampling method. A self-administered pre-tested structured questionnaire was used for data collection. The questionnaire was developed based on reviewed relevant literature. Computed HSB were graded into categories from “Good, and “Poor.” The data were interpreted by calculating the frequencies and Chi-square tests.

**Results:** The majority of the respondents were aged 63 – 73 (42.8%, n=171) years, females (71.8%, n=280), married (82.3%, n=329), and education level up to O/L (53%, n=212). Among the total participants (n=400), 55.4% of them had poor health-seeking behavior, and 44.6% had good health-seeking behavior. The chi-square test exhibited there was a significant association between the monthly income (p=0.000), employment status (p=0.009), marital status (p=0.000), living place (p=0.020), number of children (p=0.008), availability of the medical facility (p=0.04), availability of transport facility (p=0.021), and treatment taking place (p=0.017) background with the health-seeking behavior.

**Conclusions:** Future studies can aim at gaining an in-depth understanding of the same results, helping improve the health-seeking behavior of medical clinic clients, and enhancing their quality of life. In this study, poor health-seeking behavior is experienced in more than half of the participants. So that organizing future health education sessions can effectively enhance health-seeking behaviors among patients.

**PP 39**

**Assessing patient awareness and knowledge gaps in hypertension and diabetes mellitus: A study in Base Hospital Karawanella, Sri Lanka**

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**Background:** Non-Communicable Diseases (NCDs) including hypertension and diabetes mellitus (DM) are a major threat to global health, particularly in Sri Lanka where prevalence rates are high. Insufficient patient awareness increases the risk of complications associated with these conditions.

**Objective:** This study aimed to evaluate patients' comprehension of hypertension and DM, understand their lifestyle preferences and identify knowledge gaps in lifestyle modifications.

**Methods:** A descriptive cross-sectional study involving 308 subjects with both hypertension and DM was conducted at general medical clinic at Base Hospital Karawanella (BHK) in Sri Lanka. Systematic random sampling was utilized following ethical approval from the BHK and the University of Sri Jayewardenepura. Data collection involved interview-administered questionnaire covering socio-demographic details, knowledge on hypertension, DM, and lifestyle. Patient selection relied on available medical records. Questionnaire responses were scored, with total achievable scores of 28. Data analysis employed SPSS version 25 software, including F-tests and ANOVA.

**Results:** The study cohort comprised predominantly comprised female participants (73.7%), with the mean age of  $56.2 \pm 0.71$  years. A substantial proportion of the participants were married (70%) and had not completed senior secondary education (62%), while 89.6% were unemployed. Alarming, 65.9% demonstrated poor knowledge (scoring 10-13 marks) regarding their conditions and lifestyle impact. Furthermore, 76% were unaware of their height and body weight, 95.5% had not consulted a dietitian, and 94% were unaware of the recommended exercise regimen.

**Conclusions:** The findings underscore a widespread lack of understanding among participants regarding hypertension, DM, and lifestyle interventions. Addressing this knowledge deficit is crucial for the Karawanella community, necessitating targeted educational campaigns and lifestyle modification programs to enhance awareness and mitigate associated risks.

**PP 40**

**Knowledge, practices, and associated factors on prevention of diabetic foot among diabetic patients attending a selected teaching hospital, Sri Lanka**

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**Background:** Ulceration of the foot (diabetic foot) is one of the most prevalent complications of diabetes mellitus (DM) that not only worsens the Patient’s disease condition but also has substantial socioeconomic consequences.

**Objective:** To assess knowledge, practice, and associated factors on diabetic foot care among patients with DM attending the diabetic clinic in Colombo South Teaching Hospital, Kalubowila.

**Methods:** A descriptive cross-sectional study was conducted among 272 patients using a modified pre-tested interviewer-administered questionnaire which was originally developed by Kaluarachchi et al. (2020). A simple random sampling technique was used to recruit the patients. The ethical approval was obtained from the Ethics Review Committee, KIU (KIU/ERC/23/008).

**Results:** The majority (73.5%, n= 200) were females and 39.7% (n=108) were between 51-60 years. Out of all, 25.7% (n=70) had monthly income between 3000 to 40000 rupees. The majority (83.8%) had DM less than ten years. The overall mean score of knowledge was 47.05% denoting a low knowledge level on diabetic foot care. However, the overall mean score of practice was 65.01%, denoting a moderate level of practice. The majority (81.6%, n=222) did not attend the class conducted by the clinic regarding “how to care for your feet” while 58.1% (n=158) did not read the given handouts on proper footwear usage. According to the Chi-Square test significant relationships were between knowledge of foot care and age (p=0.001), foot care knowledge and level of education (p=0.001), foot care practices and age (p=0.001), foot care practices and level of education (p=0.001).

**Conclusions:** The study concluded that the majority had a low knowledge level of diabetic foot care and a moderate level of practices related to diabetic foot care while age and education were significantly associated with knowledge and attitude on diabetic food care.

**PP 41**

**Attitudes and practices on Attention Deficit Hyperactive Disorder (ADHD) and its associated factors among primary school teachers in the Kegalle educational zone, Sri Lanka**

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**Background:** Attention Deficit Hyperactive Disorder (ADHD) is a neuro developmental disorder that affects both children and adults. Children with this disorder are at risk for academic and psychological difficulties. Teachers are an important group of individuals who would assist in the diagnosis, treatment, and management of these children.

**Objective:** Assess attitudes and practices on ADHD and its associated factors among primary school teachers in the Kegalle educational zone, Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted using stratified random sampling among 307 primary school teachers in four educational divisions in the Kegalle zone. Data were collected utilizing a researcher-developed pre-tested, self-administered questionnaire. Five-point scale, multiple choice questions were used to assess the attitudes and practices. SPSS versions 26 were employed to analyze. The findings were presented as descriptive statistics including percentages, mean, and standard deviation. Chi-square test of independence was used to assess the relationship. Ethical approval was obtained from the Ethics Review Committee, Faculty of Medical Sciences, University of Sri Jayewardenepura.

**Results:** The majority (n=267,87%) were female with a mean age of 45±8.81 years. 36%(n=109) of the sample, had 11-20 years of teaching experience. From the total number of participants 56.4% of the participants had positive attitudes towards child with ADHD. The majority (n=203,66%) of the participants’ practiced to refer an advisor and making parents’ involvement as the first intervention for child with ADHD. Most of the participants (n=112,36%) used training courses and referred educational books as sources of information. There is no any significant association with the level of attitude and work experience. (p=0.61)

**Conclusions:** Primary teachers had a good level of attitudes towards ADHD. The minority of the participants didn’t know how to manage a child with ADHD. The educational – authorities should plan necessary training to improve attitudes and practices towards ADHD in primary teachers.

PP 42

### **Knowledge on first aid following road traffic accidents among three-wheel drivers in Galle municipal area, Sri Lanka**

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**Background:** Road traffic accidents (RTA) are a leading cause of death and injury across the world. Three-wheel drivers (TWD) can quickly reach a scene of a RTA as they usually stay close to the road. In the event of a RTA, the first few minutes are critical for providing emergency treatment to the injured person before the arrival of professional medical help. This is where the knowledge of first aid among TWD becomes crucial.

**Objective:** To assess the knowledge on first aid following road traffic accidents among three-wheel drivers in Galle Municipal area, Sri Lanka

**Methods:** A Community-based descriptive cross-sectional study was carried out with the participation of 340 conveniently selected TWD from Galle municipal area. A pretested, prepared, self-administered questionnaire was used for the data collection. Knowledge was categorized into two levels (poor; 0-4 marks, good; 5-8 marks) Descriptive statistics, one-way ANOVA, and independent sample t-tests were used to analyze the data with SPSS 26 version ( $p=0.05$ ). Ethical clearance was obtained from the Ethics Review Committee, Faculty of Allied Health Sciences, University of Ruhuna.

**Results:** All participants were male (340). The Overall Mean ( $\pm$ SD) for knowledge score of the participant was 3.36( $\pm$ 1.79). The Majority of the participants (76.5%, $n=260$ ) had poor knowledge and only 23.5%( $n=80$ ) had good knowledge regarding first aid. Knowledge level has shown a statistically significant association with the level of education of TWD ( $p=0.001$ ). Participants who received first aid training had good knowledge than participants who did not receive any first aid training ( $p=0.001$ ).

**Conclusions:** Most of the TWD had poor knowledge regarding spinal cord injury, bone fracture, and bleeding. Comparatively minimum awareness was seen in Cardiopulmonary resuscitation. The importance of introducing training programs for TWD in first aid can be highlighted to save lives following RTA.

**PP 44**

**Patients’ lived experiences of using non-pharmacological methods in managing constipation after undergoing hysterectomy surgery at the de Soysa Hospital for Women**

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**Background:** Hysterectomy is one of the most common gynecological surgeries performed worldwide, with millions of women undergoing the procedure each year. While it can provide relief from various gynecological conditions, postoperative complications, such as constipation, often arise. Its management has traditionally relied on pharmacological methods (PM). However, there is a growing interest in exploring non-pharmacological methods considering potential side effects of pharmacological methods (NPM).

**Objective:** To explore patients’ lived experiences of using non-pharmacological methods in managing constipation after hysterectomy surgery.

**Methods:** This is a qualitative phenomenological study. Participants were selected by purposive sampling method and authors collected data from women undergone hysterectomy and suffered from constipation using semi-structured interviews. Data saturation was achieved at the fifteenth participant. Data analysis was done by interpretive phenomenological analysis method developed by Smith et al in 1990s. Ethical clearance was obtained from Ethics Review Committee of De Soysa Hospital for Women, Colombo.

**Results:** After analyzed data, three themes were generated: beneficial effects, beliefs and expectations, and perceived barriers. The first theme “beneficial effects” describes how high fiber diet and herbal beverages, water therapy, more fruits, and leafy vegetables were identified as non-pharmacological methods with low cost, easy access, and fewer side effects in managing their constipation. Under the second theme “beliefs and expectations” NPM to manage constipation were believed to be successful with no side effects against the side effects of PM. Based on their experiences participants expected to recommend NPM for others who require assistance in managing their constipation. The third theme “perceived barriers” describes participants’ poor income, lack of resources and knowledge related to NPM, and poor family support as barriers for using NPM among some participants.

**Conclusions:** Non-pharmacological methods for preventing and treating constipation were believed to be effective but were found to be challenging in the diverse individual care situations. Therefore, there is a need for more support for information, specific guidance, and adequate access to resources for patients with different backgrounds to manage their constipation during hospitalization and follow-up care.

PP 45

**Association of dietary intake with body mass index and antioxidant status in patients with type 2 diabetes mellitus: A cross-sectional study in Galle, Sri Lanka**

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**Background:** Type 2 diabetes mellitus (T2DM) is one of the most common metabolic syndrome traits worldwide. Dietary management is known to alleviate T2DM and its related complications by directly acting against the oxidative stress generated by excessive formation of free radicals.

**Objective:** To determine the association of dietary intake with body mass index and antioxidant status among a selected group of previously diagnosed patients with T2DM.

**Methods:** A descriptive cross-sectional study was carried out on 136 previously diagnosed patients with T2DM attending the Diabetes and Endocrinology Clinics at Teaching Hospital Karapitiya, Galle, Sri Lanka. An interviewer-administered, pre-tested questionnaire was employed in the data collection on intake of dietary antioxidants. Venous blood samples were collected for the laboratory investigations on antioxidant assays. The antioxidant status of the plasma samples was quantified through thiobarbituric acid and total antioxidant status assays.

**Results:** Of the 136 patients, 126 (92.6%) consumed more carbohydrates than recommended. Only 20 (14.7%) and 6 (4.4%) met the recommended daily protein and fat consumption, respectively. Dietary carbohydrates ( $r=0.229$ ,  $p=0.007$ ) was positively and significantly correlated with the body mass index of the study subjects. Dietary intake of carotene ( $r=-0.170$ ,  $p=0.048$ ) and vitamin E ( $r=-0.191$ ,  $p=0.026$ ) showed significantly negative correlations with plasma malondialdehyde concentration. Total dietary antioxidants ( $r=0.183$ ,  $p=0.033$ ) and vitamin C ( $r=0.172$ ,  $p=0.046$ ) showed positive and significant correlations with total antioxidant status assay. No significant differences were observed in BMI and the results of antioxidant assays between men and women ( $p>0.05$ ).

**Conclusions:** Consumption of dietary antioxidants was associated with elevated plasma total antioxidant status among patients with T2DM. This association suggests that integrating dietary antioxidants in to dietary regimens may confer advantages in the management of T2DM.

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**PP 46**

**Satisfaction of expectant mothers on the support of husbands in the preparation for motherhood; A hospital based cross-sectional study**

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**Background:** Preparation for motherhood (POM) during pregnancy is defined as an intermediate process of active, conscious, and positive participation that favors the transition toward motherhood. The support provided by the husband, during this critical period is vital for POM. The satisfaction of pregnant mothers (PM) with the support from their husbands becomes an important factor influencing the overall well-being of both the mother and the unborn child.

**Objective:** To assess the satisfaction of PM on the support of husbands for the POM

**Methods:** A hospital-based cross-sectional study was carried out with the participation of 310 conveniently selected 2<sup>nd</sup> and 3<sup>rd</sup> trimester PM in all parities who attended the antenatal clinics of Teaching Hospital Mahamodara with their husbands over the period of one month (April 2023). A pre-tested self-administered questionnaire with close-ended questions was administered that included 9 statements to evaluate the satisfaction. The satisfaction was categorized into 3 levels (highly satisfied;31-41 marks, moderately satisfied;15-30 marks and less satisfied; 0- 14 marks). Data analysis was done by descriptive statistics with SPSS version 26.

**Results:** The majority 230 (74.2%) of participants were below 30 years old. Of them, 245 (79%) were highly satisfied with the husbands participation on clinics, buying medication and supplements 263 (84.8%), reminding to get supplements 261 (84.2%), arranging a safe transports method 277 (89.4%), and strengthening the economy 264 (85.2%). Mothers were less satisfied with their husbands regarding doing domestic chores 73.5% (228) and taking care of children at home 78.7% (244). The mean ( $\pm$ SD) total satisfaction score was 42.02 ( $\pm$  3.33). Of the sample, 99.4% (308) were highly satisfied with the support of their husbands.

**Conclusions:** The satisfaction level of PM regarding their husband support during pregnancy was high. It promotes better pregnancy outcomes. Affection and the relationship with the husband may be the results of this higher satisfaction during pregnancy.

PP 47

### **Glasgow coma scale in the clinical practice: Gaps in knowledge and practical administration among nursing undergraduates in Sri Lanka**

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**Background:** The Glasgow Coma Scale (GCS) is a tool that is applied in worldwide health care facilities to identify neurologic dysfunctions and monitor progress in level of consciousness, predict diagnosis and maintain communication among health care professionals.

**Objective:** To assess the level of knowledge, practice and attitudes towards GCS.

**Methods:** A descriptive cross-sectional study was conducted among conveniently selected final year nursing undergraduates from three randomly selected universities in Sri Lanka namely, Sri Jayewardenepura (n=20), Colombo (n=70) and Peradeniya (n=33) using a developed and pre-tested self-administered questionnaire with different sections to measure the level of knowledge (mean scores <22 inadequate; >23 adequate knowledge), attitude (marks <30 negative; >31 positive) and practices (marks <12 unsatisfactory, >13 satisfactory) respectively

**Results:** Of the 123 total study subjects, 59% (n=72) had adequate knowledge on the application of GCS assessment. There were 59% (n=73) had a positive attitude towards GCS. The satisfactory level in clinical scenario practice and the satisfactory practical application were seen among 51% (n=61) and 36 % (n= 44) of study subjects respectively. There were no significant difference (p=0.71) means knowledge score between the universities. However, the mean scores of attitudes and practices were shown a significant difference (p<0.001) between their university's affiliations.

**Conclusions:** Even though the fairly a majority of final year nursing undergraduates demonstrate adequate theoretical knowledge and positive attitude towards the GCS, some gaps were identified in the practice. Clinical application of GCS should be further addressed through specialized training, varied clinical exposure, and increased support and supervision in clinical areas in order to bridge these gaps.

P 48

### **Knowledge and associated factors of exposure to chemotherapy among cleaning personnel at the National Cancer Institute, Sri Lanka**

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**Background:** Occupational exposure to chemotherapy and related adverse effects are well-known. Healthcare workers are at risk of getting exposed and awareness of exposure is vital. However, it is less explored related to cleaning personnel.

**Objective:** To assess the knowledge and associated factors of exposure to chemotherapy among cleaning personnel at the National Cancer Institute, Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among randomly selected fifty cleaning personnel at the National Cancer Institute (NCI), Sri Lanka. Data was collected using a validated interviewer-administered questionnaire consisting of the twelve-item chemotherapy exposure knowledge questionnaire and higher scores indicate higher knowledge (Sum of items; 0-100 scale - good (> 66), moderate (33-66), and poor (<33) level of knowledge). The data was analyzed using descriptive and inferential statistics (Chi-square test; level of significance <0.05) using SPSS version 25 and the study was approved by MRI and USJ Ethics Review Committees.

**Results:** Mean age and working experience at NCI were 48.64±13.84 and 5.97±6.87 years, respectively. The majority were female (72%), educated below the GCE O/L examination (76%), and Sinhalese (70%). The main learning sources were seniors' guidance (64%) and working experience (44%). Perceived exposure routes are inhalation (74%), dermal contact (64%), vapours (68%), damaged skin (72%), and contaminated food/ beverages (72%). However, the majority were not aware of the possibility of absorption of oral forms (54%), low-level protection of surgical masks (46%), gloves not designed to handle chemotherapy (48%), and use of alcohol sanitizers (28%). The mean value of the overall knowledge was 51.16±28.57 (0-100 scale). Only 41% represented good knowledge (moderate – 35%, poor – 24%). Knowledge was associated with ethnicity (p=0.026), religion (p=0.04), and working experience at NCI (p=0.011).

**Conclusions:** Chemotherapy exposure knowledge is associated with ethnicity, religion, and working experience. Periodic surveys are important in identifying the awareness of other aspects of handling chemotherapy. Knowledge of exposure to chemotherapy needs to be expanded.

**PP 49**

**Attitudes and practices on chronic kidney disease and its associated factors among patients attending a rural hospital, Sri Lanka**

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**Background:** Chronic Kidney Disease (CKD) is a significant health burden worldwide, affecting more than 10% of the global population. Better attitudes and practices on CKD are contributing to the prevention of disease and effective disease management. Hence it may be influencing better health and quality of life.

**Objective:** The study aimed to assess the attitudes, practices, and associated factors on CKD among patients attending a base hospital in Thambuththegama, Sri Lanka.

**Methods:** A descriptive cross-sectional study was carried out among randomly selected 412 volunteered patients attending OPD/medical clinics at base hospital Thambuththegama in Sri Lanka. Base Hospital Thambuththegama is a rural hospital in Sri Lanka and belongs to the Anuradhapura district which is a city where CKD is highly prevalent. A researcher developed a pre-tested interviewer-administered questionnaire was utilized to collect the data. Data were analyzed using descriptive statistics and chi-square tests. Ethical clearance for the study was obtained from the Ethics Review Committee at KIU (KIU/ERC/23/096).

**Results:** The mean (SD) age was 46.25±15.04 years. The majority were male (58%), Sinhalese (95.1%), Buddhist (92.2%) and Farmers (32.5%). The majority did not report a positive family history towards CKD (51.7%). The majority exhibited a negative attitudes on managing CKD (61.4%). The prevalence of alcohol consumption and smoking was reported as 64.5%. Only 5.3% of the study participants were having routine checkups and 24.5% of the study participants were following their medication regimen properly. The mean (SD) value for practices on managing CKD level was 31.53±3.733. The attitudes on managing CKD were associated with the patient's age (p=0.001), nationality (p=0.001), religion (p=0.001), education level (p=0.001), occupation (p=0.001) and family history (p=0.001) at the 95% confidence level (p<0.05). Interestingly the gender (p=0.138) and marital status (p=0.786) were not associated with the attitudes towards CKD. Also, patient's age (p=0.001), marital status (p=0.043), education (p=0.001), occupation (p=0.001), family history (p=0.001) was associated with the practices on managing CKD.

**Conclusions:** Negative attitudes and insufficient practices on managing renal health were common in the study. Strategic initiatives aimed at enhancing attitudes and practices towards CKD are essential.

**PP 50**

**Knowledge and attitudes on secondary prevention of cardiovascular diseases among adult patients attending the cardiology clinic at a selected hospital Jaffna.**

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**Background:** Cardiovascular diseases (CVDs) are a group of conditions affecting the heart and blood vessels, such as coronary artery disease and stroke, leading to high morbidity and mortality. Effective management necessitates comprehensive primary and secondary prevention strategies. Yet, local research in this field remains limited.

**Objective:** This study aimed to evaluate the knowledge and attitudes toward secondary prevention of CVDs among adult patients attending a cardiology clinic in a selected hospital in Jaffna.

**Methods:** A descriptive-cross-sectional study was carried out among 310 patients registered in the Cardiology Clinic at Teaching Hospital Jaffna. A self-administered researcher-developed pretested structured questionnaire was used for data collection. Data analysis was done by using SPSS Version 26. The data were analyzed through frequency calculations and Chi-square tests. Computed knowledge scores were graded into categories from “Good (26 -29)”, and “Poor” (20 – 25)”. Attitudes scores were graded into categories from “Positive attitudes (64 – 80)”, and Negative attitudes (34 – 63)”. Ethical approval was obtained from the Ethical Review Committee, Kaatsu International University, and Jaffna Hospital, Sri Lanka.

**Results:** The majority of the respondents were aged 40-50 years (29.4%,n=91), male (68.1%, n=211), Tamil (42.3%, n=131), married (80%,n=248), had secondary education (44.5%, n=138), and had a small business (43.9%, n=136). Among the total participants (n=310), 40% of them had good knowledge, and 33.8% of participants had positive attitudes toward secondary prevention of cardiovascular disease. There was a significant association between the level of education with the knowledge score ( $p<0.01$ ). The chi-square test exhibited there was no association between socio-demographic data with attitudes ( $p>0.01$ ) related to secondary prevention of cardiovascular disease.

**Conclusions:** According to this study, the knowledge, and attitudes on secondary prevention of cardiovascular diseases among adult patients attending the cardiology clinic at a selected hospital Jaffna need improvement of the secondary prevention measures and their importance.

## PP 51

### **Knowledge and attitudes among student nurses regarding the management of patients with physical restraining at the National Institute of Mental Health, Sri Lanka.**

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**Background:** Psychiatric nurses frequently have difficulties in handling the violent behavior of patients who are being hospitalized. Physical restraint and seclusion are used to manage most severe mental disorders characterized by aggressive and violent behavior, to ensure the patient's safety, and to safeguard others from them.

**Objective:** The current study aimed to assess the level of Knowledge and attitudes among student nurses regarding the management of patients with physical restraining at the National Institute of Mental Health, Sri Lanka.

**Methods:** During the 02 monthly data collection period, 300 government student nurses were assigned to NIMH for clinical experience in their first, second, and third years for this descriptive cross-sectional study. A self-administered pre-tested structured questionnaire was used for data collection. Data analysis was done by using SPSS Version 26. Chi-square test and frequency calculations were used to interpret the data. Computed knowledge scores were graded into categories from “Good (16 -22)”, and “Poor” (0 – 15)”. Attitudes scores were graded into categories from “Positive attitudes (45 – 31)”, and Negative attitudes (30 – 0)”.

**Results:** The majority of the respondents were aged 20-25 years (67.7%,n=203), female (84.7%, n=257), Buddhist (93%, n=279), unmarried (99.3%,n=298), 3rd year nursing students (53.7%, n=161). Among the total participants (n=300), 59.7% of them had good knowledge, and 52% of participants had positive attitudes among student nurses regarding the management of patients with physical restraining at NIMH, Sri Lanka. There was a significant association between the year of training with the knowledge score ( $p<0.01$ ). The chi-square test exhibited there was no association between socio-demographic data with attitudes ( $p>0.01$ ) related to student nurses regarding the management of patients with physical restraining at NIMH, Sri Lanka.

**Conclusions:** According to the tailor-made survey tool used in this study, the knowledge, and attitudes among student nurses regarding the management of patients with physical restraining at NIMH, Sri Lanka need improvement.

**PP 53**

**Assessment of knowledge regarding hypothyroidism among patients diagnosed with hypothyroidism attending endocrinology clinic in Teaching Hospital, Karapitiya**

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**Background:** Hypothyroidism is one of the most life-threatening conditions among adult worldwide. Lack of knowledge regarding hypothyroidism among diagnosed patients leads to poor clinical outcomes and increased healthcare cost.

**Objective:** To assess the knowledge level regarding hypothyroidism of patients diagnosed with hypothyroidism attending to endocrinology clinic in Teaching Hospital- Karapitiya.

**Methods:** A descriptive cross-sectional study was conducted during May 2023 among the patients who attended the endocrinology clinic diagnosed with hypothyroidism for more than three months, using convenience sampling method. Data were obtained from 359 participants through an interviewer-administered pre-tested questionnaire which included socio-demographic data and knowledge based questions. The scoring of knowledge was categorized into three, which were poor (0-49%), moderate (50-74%), and good (more than 74%). Data were analyzed using descriptive and inferential statistics using SPSS version 26.0.

**Results:** Most of the participants were females (89.7%) and they (31.5%) belonged to the age group 41-50 years. The study findings indicate that 28.7% of participants had good, 30.9% moderate, and 40.4% poor knowledge regarding hypothyroidism. Participants had moderate knowledge regarding clinical features, causes and risk factors, investigations, and treatments while they had comparatively poor knowledge regarding complications of hypothyroidism. Only 315 (87.7%) participants were known “Hypothyroidism is a medical condition due to low thyroid hormone levels”. The 67.1% knew that thyroid disorders can come in the family and 63.1% knew elders have a greater risk of developing hypothyroidism. Only 49.0% of patients knew that levothyroxine is a common tablet used to treat hypothyroidism.

**Conclusions:** The majority of participants had either good or moderate knowledge, but 1/3 had poor knowledge regarding hypothyroidism. Doctors and Nurses can play the main role to improve patients’ knowledge and increasing the availability of leaflets and health education sessions in clinic setup may be effective.

PP 54

**Exploration of competency to emotional management and emotional well-being of undergraduate nursing students of University of Peradeniya who experienced emotional situations during clinical placement: A Qualitative Inquiry**

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**Background:** Emotional management is an essential skill in the nursing profession. The emotional well-being of healthcare professionals directly affects the patient care that they provide. Good emotional regulation skills can also enhance communication with patients and colleagues, promote positive relationships, and lead to a more fulfilling and satisfying professional life. Nursing students should strive to develop strong emotional regulation skills to ensure their academic and professional success.

**Objective:** To explore how nursing students manage their emotions and maintain their emotional well-being during clinical placement.

**Methods:** An exploratory qualitative study was conducted to explore how nursing students manage their emotions and maintain their emotional well-being during clinical placement. A purposive sample of undergraduate nursing students from the Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya participated in in-depth semi-structured interviews. A semi-structured interview guide which included open-ended questions was used to collect data. Colaizzi’s seven-step method was used in thematic analysis.

**Results:** Twelve participants included eight females and four males. Four themes emerged: (1) Emotional management is challenging during early clinical placement. (2) Strategies used for emotional management during clinical placement. (3) Determinants impacting emotional well-being. (4) The imperative need for support in managing emotions during clinical placements. Positive patient interaction, self-regulation strategies, religiosity for emotional impact, and peer supportiveness were identified as the strategies for emotional management. Previous experiences, improved interaction with hospital staff, and positive engagement with patients have been identified as factors influencing the emotional well-being of students.

**Conclusions:** Nursing students confronted diverse challenges while navigating emotionally challenging situations during their early clinical placements. This study suggests the establishment of individualized support is essential for emotional management. Furthermore, additional proper assistance and guidance in clinical settings, proactive guidance before the initiation of clinical practice, and counseling and mentorship are essential for student nurses.

PP 55

### **Knowledge, attitude, and practice of antenatal exercises among pregnant women attending National Hospital, Kandy, Sri Lanka**

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**Background:** Antenatal exercises (ANEx) aim to enhance the health of expectant mothers and fetuses, yet many pregnant women experience a notable decrease in physical activity, influenced by factors like personal beliefs, education, safety concerns, culture, and economics.

**Objective:** This study aimed to evaluate the knowledge, attitudes, and practices (KAP) of ANEx and their associations with socio-demographic characteristics among pregnant women attending the National Hospital, Kandy.

**Methods:** A cross-sectional survey employing simple random sampling involved 396 pregnant women at the Obstetric clinic. This study utilized an interviewer administered structured KAP questionnaire, which was both validated and pretested. p value <0.05 was considered statistically significant in all analyses.

**Results:** 382 participated (96.4%) in the survey. The mean age was 29.5±6.78 years. The study found that 64.40% of pregnant women had adequate knowledge of ANEx, 52.09% exhibited positive attitudes towards them, but only 33.8% actively practiced. Socio-demographic factors, notably education level significantly influenced KAP. Among the 25-35 age group, a positive attitude towards ANEx is notably observed (AOR: 2.1, 95% CI: 1.21 to 4.7) compared to those under 25. Urban residency is significantly associated with improved ANEx practice (AOR: 1.91, 95% CI: 1.43 to 2.9). Higher education levels exhibit strong associations with KAP, with a progressive increase in these factors observed as educational levels rise. Women with a degree or higher education demonstrated the highest odds for ANEx knowledge (AOR: 2.91, 95% CI: 1.45 to 5.32), positive attitudes (AOR: 1.82, 95% CI: 1.55 to 3.13), and practices (AOR: 3.81, 95% CI: 1.91 to 6.57). Those who were not advised about ANEx were less likely to practice (AOR: 0.29; 95% CI: 0.09 to 0.94).

**Conclusions:** This study reveals that while many pregnant women, are aware of and understand ANEx, a significant gap remains between their knowledge, positive attitudes, and actual participation. Furthermore, factors like age, education, and residency significantly affect their engagement with ANEx.

**PP 57**

**Diabetic peripheral neuropathy and its associated complications among the patients attending a diabetic clinic at a selected hospital in Galle district, Sri Lanka**

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**Background:** Diabetic Peripheral Neuropathy (DPN) is the most common complication of diabetes mellitus, affecting a substantial proportion of patients and leading to significant morbidity.

**Objective:** The study aimed to assess DPN and its associated complications among the patients attending a diabetic clinic at Karapitiya Teaching Hospital, Galle, Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among 332 patients diagnosed with diabetic peripheral neuropathy using the convenience sampling method. Pretested interviewer - administered questionnaire was used to collect data. Neuropathic pain and walking disability were assessed using Douleur Neuropathique (DN4) and Walking Scale questionnaires. Data were analyzed using descriptive and inferential statistics using the Statistical Package of Social Sciences (SPSS) version 25. The standard scoring protocols were used to analyze the data of neuropathic pain and walking disability.

**Results:** The majority were males (n = 171, 51.5%). Most of them were in age between >50years (n =283, 85.2%). According to DN4 questionnaire there were 28% respondents with diabetic peripheral neuropathic pain. According to the walking scale 33.8% were with walking disabilities. There was an association between age, neuropathic pain, walking ability (p=0.003, p=0.000, p=0.041) among the patients. There was a positive correlation found between neuropathic pain and walking disabilities indicating (p=0.029) that the patients experiencing more neuropathic pain are more likely to face limitations in their ability to walk.

**Conclusions:** Overall, the study reveals a substantial prevalence of neuropathic pain (28%) and walking disabilities (33.8%), underscoring the significant impact of these complications within the studied population. The findings provide a scientific basis for a further understanding of neuropathic pain and walking disabilities among the patients diagnosed with type 2 diabetes. The data can serve as a cornerstone for devising effective strategies to manage DPN and walking disabilities at the Teaching Hospital Karapitiya and other similar healthcare settings.

**PP 58**

**Perceived occupational health hazards among health care workers at National Hospital Sri Lanka**

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**Background:** The World Health Organization (WHO) estimated the global burden of occupational health is prevalent in 40% of different occupational categories. Health workers (HCWs) are exposed to a wide range of occupational hazards, and risk reduction mechanisms and safety actions were inadequately implemented.

**Objective:** The study aimed to assess the prevalence of perceived occupational health hazards among HCWs at National Hospital, Sri Lanka.

**Methods:** A descriptive cross-sectional study was carried out among randomly selected 392 healthcare workers (Doctors, Pharmacists, Nurses, Cleaning Personnel, and Supportive Staff) who are working at National Hospital, Sri Lanka. The data was collected using a pre-tested self-administered questionnaire consisting of baseline characteristics and occupational health hazards. Data were analyzed using SPSS version 25. Descriptive statistics such as frequencies, means and standard deviation was used to describe the characteristics of the sample and the Chi-square test was used to determine associations between the variables. Ethical clearance for the study was obtained from the Ethics Review Committee at KIU (KIU/ERC/23/100).

**Results:** The mean (SD) age was 39.06+10.10 years and ages ranged from 25-59 years old. The majority were female (70.7%), married (56.6%), and Buddhist (85.5%). The higher proportion were occupied as nurses (34.7%) and the least proportionate were occupied as pharmacists (11%). Back pain (59.69%), respiratory infection (28.82%), and needle prick injury (26.78%) were widely reported among HCWs. Headaches (85.45%), subfertility (72.7%), psychological distress (48.46%), and unusual fatigue (48.21%) were widely perceived symptoms among HCWs. Occupation categories were associated with back pain ( $p<0.001$ ), respiratory infection ( $p<0.001$ ), needle prick injury ( $p<0.001$ ), falls ( $p<0.001$ ), fractures ( $p<0.001$ ) and cut injuries ( $p<0.001$ ) with the 95% confidence level ( $p<0.05$ ). Work experiences were associated with back pain ( $p<0.001$ ), respiratory infection ( $p<0.001$ ), needle prick injury ( $p<0.001$ ), wounds ( $p<0.001$ ), falls ( $p<0.001$ ), fractures ( $p<0.001$ ), direct contamination of hazardous chemicals ( $p<0.001$ ) and cut injuries ( $p<0.001$ ) with the 95% confidence level ( $p<0.05$ ).

**Conclusions:** Occupational health hazards were common among HCWs. Strategies need to be taken to minimize the perceived occupational health hazards among HCWs to enhance productivity by ensuring occupational health safety.

**PP 59**

**Assessment of knowledge, awareness, and attitudes regarding Neonatal Jaundice among pregnant women attending antenatal units at Colombo South Teaching Hospital, Sri Lanka.**

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**Background:** The effects of Neonatal Jaundice (NJ) can be fatal or cause irreversible complications. Early identification and take immediate relevant medical interventions are important, to decrease the morbidity and mortality of neonates.

**Objective:** To assess knowledge, awareness, and attitudes towards neonatal jaundice among pregnant women attending antenatal units at Colombo South Teaching Hospital (CSTH), Sri Lanka.

**Methods:** A descriptive cross-sectional study was done at three antenatal wards and clinics at CSTH. Randomly selected 231 pregnant women were interviewed using a translated, pre-tested, and validated interviewer-administered questionnaire. The questionnaire assessed knowledge, awareness, and attitudes towards NJ. The total score was 30 for these questions. More than 76% were taken as good knowledge. 50% - 75% as moderate knowledge, and below 50% were taken as poor knowledge according to the literature. The level of attitude was measured by using the Likert scale. SPSS version 26 software was used. The chi-square test and Fisher's exact test were used to test the association between the socio-demographic characteristics and their knowledge. The level of significance,  $p < 0.05$ , and confidence level at 95%.

**Results:** The mean age was 22.15; SD  $\pm$  3.15 years) and 69.3% of participants had secondary education, and 85.7% had less than Rs.100,000 monthly income. Many of them (38.2%) of participants had experiences with NJ. Most of the pregnant women (57.1%) had poor knowledge but the majority had good awareness (95.2%) regarding NJ. Most of the participants had negative attitudes (52.8%) such as usage of traditional remedies, etc. The knowledge level of women was associated with educational level ( $p = 0.00$ ) their occupation ( $p = 0.00$ ), their partner's occupation ( $p = 0.00$ ), educational level ( $p = 0.00$ ), and their average monthly income ( $p = 0.00$ ).

**Conclusions:** Pregnant women had poor knowledge of Neonatal Jaundice but they had good awareness. Improving the antenatal women's teaching sessions regular follow up and clinic facilities will help to improve maternal knowledge, awareness, and attitudes.

**PP 60**

**Knowledge, attitudes and practices regarding diabetic retinopathy and eye care among diabetes patients visiting Teaching Hospital Karapitiya**

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**Background:** Diabetic retinopathy (DR) is a common complication of diabetes and a leading cause of vision loss. It is reported that a thorough understanding of the DR and eye care will certainly improve use of screening procedures and preventative measures, significantly impacted early detection and reduced morbidity.

**Objective:** To assess the knowledge, attitudes and practices (KAP) regarding DR and eye care among diabetic patients attending the diabetic and endocrinology clinic in Teaching Hospital Karapitiya, Galle.

**Methods:** A descriptive cross-sectional study enrolled 362 participants selected randomly from clinic register applying inclusion (age 20-60, diabetic for >6 months, understand Sinhala/English) and exclusion (cognitive impairments, refuse participation) criteria. Data on KAP were collected using a pre-tested, self-administered questionnaire and participants were categorized as, ‘good/ poor’ knowledge, ‘positive/negative’ attitude and ‘good/poor’ practice based on a score. Statistical analysis was performed using SPSS (version 25) and Chi-square test was applied to assess association among categorical variables. Level of significance was  $p < 0.05$ .

**Results:** Out of 362 participants, 30.9% (n=112) had good knowledge of DR while 69.1% (n=250) had poor knowledge. However, 82.6% (n=299) demonstrated good knowledge of DR-related eye care (regular eye screening, factors affected to progress of DR). Positive attitudes were observed in 83.4% (n=302) while 16.6% (n=60) exhibited negative attitudes toward DR-related eye care. Among participants, 46.1% (n=167) demonstrated good practices while 53.9% (n=195) had poor practices. There was a significant association between education levels and knowledge of DR ( $p=0.042$ ), knowledge level of eye care ( $p=0.000$ ), and attitudes toward eye care ( $p=0.035$ ). Practices related to DR eye care were significantly associated with age ( $p=0.006$ ) and duration of diabetes ( $p=0.011$ ).

**Conclusions:** Participants displayed varying levels of KAP regarding DR and eye care. Education significantly impacted knowledge and attitudes, whereas age and diabetes duration affected practices. These findings emphasize importance of tailored education programs to enhance awareness and promote early detection of DR among diabetic patients.

**PP 62**

**Does fisherman have a high prevalence of musculoskeletal pain? A descriptive Cross-sectional study in Point Pedro divisional secretariat in Jaffna, Sri Lanka.**

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**Background:** Musculoskeletal pain is a pervasive health concern worldwide, affecting diverse populations and professions. Among the occupations prone to this health issue, the fishing industry stands out due to its physically demanding nature and exposure to ergonomic risk factors.

**Objective:** To assess the prevalence of musculoskeletal pain among fishermen in the Point Pedro divisional secretariat, Jaffna, Sri Lanka.

**Methods:** A descriptive cross-sectional survey employing a simple random sampling method was conducted to gather data from 153 registered active fishermen within three randomly selected Fishermen's Co-Op Societies. Data was collected through a pretested interviewer-administered questionnaire, incorporating the Nordic Musculoskeletal Questionnaire Scale. Ethical approval for the study was obtained from the Ethics Review Committee at KIU (KIU/ERC/23/183). After data collection, descriptive statistical analyses were performed utilizing SPSS 25.

**Results:** In the study, the predominant age group was 39-48 years (29.4%, n=45), with the majority being married (75.8%, n=116) and having completed education up to grade 10 (39.9%, n=61). Additionally, 52.3% (n=80) of participants were identified as overweight. A significant portion of the participants (53.2%, n=82) possessed more than five years of work experience, and the majority (73.2%, n=112) were engaged in daily work. The study found that 60.8% (n=93) of participants reported moderate pain levels. Notably, lower back pain (49%, n=78) and shoulder pain (48.4%, n=74) were prevalent types of pain, with the mean overall pain score among fishermen being 20.43 ( $\pm$  8.371). Most participants acknowledged that pain impacted their daily activities, with 20.9% (n=32) managing pain through rest and massage. Furthermore, a significant proportion (74.5%, n=114) resorted to the use of painkillers for relief.

**Conclusions:** The findings highlighted most of the participants were overweight, with a majority experiencing moderate levels of pain, particularly in the lower back and shoulders.

**PP 63**

**e-Health literacy among health science students at the University of Peradeniya, Sri Lanka**

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**Background:** Health science students will make up the next generation of healthcare professionals. Therefore, they should have the necessary skills of e-Health literacy to provide an optimal level of patient care.

**Objective:** This study was conducted to assess e-Health literacy, barriers, and associated factors toward e-Health literacy among health science students.

**Methods:** This descriptive cross-sectional online survey conducted among 578 students from medical, dental science, and allied health sciences faculties in the University of Peradeniya, Sri Lanka. Data was collected using a pre-tested, self-administered questionnaire. The Sinhala Version of e-Health Literacy Scale was used to assess e-Health literacy. Data were analyzed using SPSS version 26.0. The Chi-square and binary logistic regression analysis identified the determinants of e-Health literacy ( $p=0.05$ ). Ethical clearance was obtained from the Ethics Review Committee of the Faculty of Allied Health Science, University of Peradeniya, Sri Lanka.

**Results:** Out of 578 students, 45.5% of students were female and 54.2% of students were male. The mean age of the sample was 25.19 years ( $SD \pm 1.79$ ), ranging from 20 years to 29 years. The total score ranged from 11 to 40 with a mean score of 28.87 ( $SD \pm 5.87$ ). Based on the categorization according to the mean score, 65.2% of respondents reported adequate e-Health literacy skills. From the sample, 29.2% agreed that they did not have sufficient time to access the internet with their clinical practices. Some students did not have sufficient home internet coverage (26.5%). Furthermore, 54.7% of the respondents stated that their maintaining cost of internet access devices was high. This study also found that knowledge regarding how to use health-related apps ( $P < 0.001$ ) was significantly associated with e-Health literacy.

**Conclusions:** Nearly one-third of students held inadequate e-Health literacy skills. Hence, there is a need for the basic health science curriculum to be reviewed with greater emphasis on how to include e-Health Literacy concepts.

PP 64

### **Correlation between serum total bilirubin level and body mass index in apparently healthy women**

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**Background:** Bilirubin is a bile pigment. It has been reported that serum total bilirubin level is affected by body mass index (BMI). Bilirubin has both harmful and beneficial effects on humans.

**Objective:** To determine the correlation between serum total bilirubin level and BMI in apparently healthy women and to derive a mathematical model to express the serum total bilirubin level in terms of BMI.

**Methods:** A descriptive cross-sectional study was conducted recruiting 109 apparently healthy women within 20-28 years from general public of Colombo suburbs. The height and weight were measured using standard protocol to calculate the BMI. The serum total bilirubin level was measured by bilirubin total kit (VOX method) with Mindray BS-240 fully automated biochemistry analyzer. The normality test (Shapiro-Wilk) was used to determine whether the distribution of BMI and serum total bilirubin is normal or not in the study population. The Spearman's correlation coefficient was used to evaluate the correlation between serum total bilirubin level and BMI.

**Results:** Percentage distribution of individuals according to BMI categories was 25.7, 28.4, 19.3 and 26.6% for underweight, normal, overweight and obese, respectively. Median BMI was 21.3 kg/m<sup>2</sup>, (interquartile range (IQR) of 6.9 kg/m<sup>2</sup>). Median serum total bilirubin level was 0.69 mg/dL (IQR of 0.21 mg/dL). The underweight group had the maximum median value (1.12 mg/dL) and obese group had the minimum median value (0.41 mg/dL) for serum total bilirubin. The serum total bilirubin level was negatively correlated with BMI ( $r=-0.686$ ,  $p<0.001$ ). Based on the findings, the mathematical model derived was “serum total bilirubin level= $0.1(SE=0.058)+13.051/BMI(SE=1.202)$ ”. This shows when there is an increase in 1/BMI by one unit, serum total bilirubin level is predicted to be increased by 13.051 units.

**Conclusions:** Statistically significant moderately strong negative relationship was observed between serum total bilirubin levels and BMI in the study population.

PP 65

**Relationship between ABO and Rhesus-positive blood groups and lipid profile parameters in healthy individuals**

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**Background:** Dyslipidemia is one of the major risk factors for cardiovascular diseases which considered as leading causes for morbidity and mortality. Lipid profile is an important diagnostic test to detect dyslipidemia. ABO blood groups have a greater relationship with different diseases.

**Objective:** To investigate the relationship between ABO and Rhesus-positive blood groups and lipid profile parameters [total cholesterol (TC), High Density Lipoprotein (HDL), Low Density Lipoprotein (LDL) and triglyceride (TG)] in healthy subjects.

**Methods:** The study recruited apparently healthy individuals (n=146) between 20-26 years of age. A self-administered questionnaire was used to gather information. From each participant, 5 mL of whole blood specimen was collected. Lipid profile parameters were assayed enzymatically using a commercial kit and Friedewald's equation. Monoclonal ABO blood grouping kit was used to determine the blood groups. Statistical analysis was done by SPSS using One Way ANOVA and Kruskal-Wallis tests.

**Results:** Similar percentages of individuals (27.4%) represented in A<sup>+</sup>, B<sup>+</sup> and O<sup>+</sup> blood groups whereas 17.8% belonged to AB<sup>+</sup> group. Serum total cholesterol (p=0.043) and HDL levels (p=0.007) were significantly different (One way ANOVA) among positive ABO blood groups. There was a significant difference (Post Hoc test, Tukey's test) in serum total cholesterol (p=0.039) in the A<sup>+</sup> and AB<sup>+</sup> blood groups, and HDL (p=0.005) in individuals with B<sup>+</sup> and AB<sup>+</sup> blood groups. There was no significant association (Kruskal-Wallis test) between LDL (p=0.105), TG (p= 0.174), VLDL (p=0.168), and TC/HDL ratio (p=0.051) with different four blood groups. Further, individuals with A<sup>+</sup> blood group presented higher levels of lipid variables such as total cholesterol, LDL, triglyceride and VLDL compared to other blood groups.

**Conclusions:** A significant association was observed between serum total cholesterol and HDL levels with positive ABO blood groups, particularly noting higher levels in individuals with A<sup>+</sup> blood group. Findings indicate a potential link between specific blood types and lipid metabolism, warranting further investigation into the underlying mechanisms driving this observed association.

**PP 66**

**Effects of incubation of buffer solution and smear on routine Leishman staining of thin blood films**

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**Background:** High humidity can affect Leishman staining quality, causing under-staining of peripheral blood smears. Optimal staining can be achieved by incubating smears and/or buffer beforehand.

**Objective:** To determine the effectiveness of incubation of buffer solution and smear at 37°C on standard Leishman staining of thin blood films.

**Methods:** A descriptive comparative study was conducted using, 120 non-hemolyzed leftover Dipotassium Ethylenediaminetetraacetic Acid anticoagulated blood samples. Four thin blood smears were prepared from each blood sample and stained with Leishman stain by three modified techniques (using one hour incubated smear/using one hour incubated buffer/using four hours incubated smear and incubated buffer) by incubating at 37°C and the standard Leishman technique. Each smear was observed blindly and independently under the oil immersion objective by three observers and evaluated the staining characteristics of blood elements (WBC nucleus, WBC granules, WBC cytoplasmic features, background staining quality) using a previously published scoring scale. The smears were given a score from 0- poor, 1- satisfactory, and 2- excellent for each of the four characteristics.

**Results:** Highest mean scores for WBC nucleus (1.58), WBC granules (1.24), WBC cytoplasmic features (1.43), and background staining quality (0.98) were observed in smears stained using incubated buffer and incubated smear method. The mean total score per smear was significantly higher (5.23) ( $p < 0.05$ ) in the incubated buffer and incubated smear method than the other three methods. Pairwise comparison Independent Samples Kruskal Wallis test of the total scores demonstrated that both incubated buffers alone method (4.46) ( $p = 0.010$ ) and incubated buffer and smear method (5.23) ( $p = 0.000$ ) had significantly higher mean total scores than the standard Leishman method (3.66).

**Conclusions:** Incubation of smear, buffer solutions, or both at 37°C improves the quality of the Leishman staining. Incubated smear and buffer method significantly outperformed incubated smear alone and incubated buffer alone methods.

PP 67

### **Knowledge, attitude and practices on internal quality control use among medical laboratory technologists in the biochemistry laboratories of selected hospitals in Colombo District**

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**Background:** Internal quality control (IQC) is a critical aspect of laboratory quality management system that can be defined as a collection of procedures used by the laboratory staff to monitor operations and the outcomes of measurements to assess the precision of results. Medical Laboratory Technologists (MLTs) are responsible for effective and successful implementation of IQC.

**Objective:** To assess the knowledge, attitude and practices on IQC use among MLTs in the Biochemistry Laboratories of selected hospitals in the Colombo District.

**Methods:** A descriptive cross-sectional study was conducted among MLTs who had >6 months working experience in Biochemistry Laboratories of seven selected hospitals in the Colombo District. A self-administered questionnaire was used to assess the knowledge, attitude and practices containing 10, 5, 15 questions respectively. Attitude was categorized in a five-points Likert scale. Knowledge, attitude and practices were dichotomised based on mean/median score. Data were analyzed using SPSS version 25.0 software. Chi-square test was used to find an association between knowledge and practice with sociodemographic factors. P values <0.05 was taken as statistically significant.

**Results:** From a total of 68 study participants, the majority (75%) had good knowledge about IQC while 51.5% had good attitudes towards IQC. Around fifty nine percent (58.8%) had bad practice. Among the participants, 23.5% perform IQC for biochemistry tests twice daily while majority (76.5%) perform it only once daily. Of the 14 respondents who utilized expired quality control (QC) materials, 42.9% stated that the high cost and limited availability of new QCs and time limitation to renew controls (7.1%) as some of the reasons. Age ( $p = 0.387, 0.245$ ), gender (Fisher's Exact test;  $p = 0.251, p = 0.881$ ), educational level ( $p = 0.150, 0.245$ ), working experience ( $p = 0.889, 0.839$ ) and training on IQC ( $p = 0.299, 0.452$ ) had no statistically significant association with knowledge and practices of MLTs towards IQC respectively ( $p > 0.05$ ).

**Conclusions:** This study showed that majority of MLTs have good knowledge and attitudes regarding IQC while demonstrating poor IQC practices.

PP 68

**Comparison of sheep blood agar and human blood agar for isolation and identification of pneumococcal strains**

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**Background:** Sheep blood agar (SBA) is recommended for the identification of *Streptococcus pneumoniae*; human blood agar (HBA) is used in developing countries. This study assessed the impact of this on pneumococci isolation and identification.

**Objective:** The study aims to compare the colony sizes, colony counts, antibiotic sensitivity (ABST) and minimum inhibitory concentration (MIC) of *S. pneumoniae* isolates on SBA and HBA.

**Methods:** Four strains of *S. pneumoniae* each from the five commonest serotypes found in Sri Lanka (19F, 6B, 6A, 14, 23F) and *S. pneumoniae* ATCC 49619 were used. Proportions of colonies  $\geq 1$  mm, colony counts in 0.5 McFarland,  $10^{-1}$ ,  $10^{-2}$ ,  $10^{-3}$ ,  $10^{-4}$  dilutions (on blood agar), ABST (on blood-MHA), and MIC (in blood-MHB) were compared between two blood types. Data analyzed using non-parametric tests.

**Results:** All the isolates demonstrated alpha hemolysis and Draughtsman appearance on SBA but not on HBA. Considering all isolates together, mean number of colonies  $\geq 1$  mm on HBA was 8 ( $\pm 9$ ) while it was 23 ( $\pm 10$ ) for SBA. In higher dilutions ( $10^{-3}$ ,  $10^{-4}$ ), number of colonies on SBA was higher than HBA. Mean ABST zone diameters for tetracycline, erythromycin, and levofloxacin on human blood-MHA were 24.5, 17.5, 25.2 mm; on sheep blood-MHA were 21.2, 12.7, 23.5 mm. MIC50 and MIC90 for penicillin were similar in both media (2 and 4  $\mu\text{g/ml}$ ). MIC50, MIC90 for cefotaxime in human blood-MHB was 0.5 and 2  $\mu\text{g/ml}$ ; in sheep blood-MHB was 0.75 and 2  $\mu\text{g/ml}$ .

**Conclusions:** The typical colony characteristics were not seen on HBA. There is a possibility to misidentify pneumococci. Pneumococci isolation on HBA is diminished when the microbial concentration is lower. Larger ABST zones on human blood-MHA may alter sensitivity interpretation. MIC values may be affected with the blood source. Therefore, Human blood cannot be recommended for the isolation and identification of *S.pneumoniae*.

**PP 69**

**Correlation of fasting blood glucose with lipid parameters in patients with diabetes mellitus attending a tertiary care hospital in Sri Lanka**

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**Background:** Cardiovascular disease is one of the common complications of diabetes mellitus that occurs due to diabetic dyslipidemia.

**Objective:** To assess the correlation of fasting blood glucose (FBG) with lipid profile parameters and lipid ratios in patients with diabetes mellitus.

**Methods:** This was a cross sectional study carried out at Colombo South Teaching Hospital, Sri Lanka recruiting 344 Patients aged of 30-70 years, who had been confirmed with diabetes mellitus at least one year before the date of recruitment. Lipid profile and FBG analysis were conducted in the hospital laboratory. Dyslipidemia was defined according to the guidelines of the World Health Organization (WHO), and diabetes was defined based on the criteria of WHO and American Diabetes Association. Spearman’s test was used to analyze the correlation of FBG with total cholesterol (TC), high density lipoprotein (HDL), low density lipoprotein (LDL), triglycerides (TG), TC/HDL, TG/HDL and LDL/HDL. A p-value < 0.05 indicated statistical significance.

**Results:** Among 344 patients with diabetes mellitus, 253 were females, and 91 were males. The median value of FBG, TC, HDL, LDL, TG, TC/HDL, TG/HDL, and LDL/HDL were 119.20 mg/dL, 172.00 mg/dL, 48.05 mg/dL, 95.41 mg/dL, 109.20 mg/dL, 3.59, 2.26 and 2.06 respectively. FBG showed statistically significant weak positive correlations with TG ( $r = 0.133$ ,  $p = 0.014$ ), and TG/HDL ( $r = 0.108$ ,  $p < 0.001$ ). There was no significant correlation of FBG with TC ( $r = 0.083$ ,  $p = 0.124$ ), HDL ( $r = -0.010$ ,  $p = 0.861$ ), LDL ( $r = 0.081$ ,  $p = 0.135$ ), TC/HDL ( $r = 0.078$ ,  $p = 0.149$ ), and LDL/HDL ( $r = 0.073$ ,  $p = 0.177$ ).

**Conclusions:** The study indicates that FBG levels have a weak but statistically significant correlation with TG levels, and TG/HDL ratio, and not with TC, HDL, LDL, TC/HDL, LDL/HDL, suggesting FBG may not be a major independent predictor of overall cardiovascular risk in patients with diabetes mellitus.

PP 70

**Correlation between blood pressure and serum creatinine levels in pregnant women: a comparative study between pregnant women with normal blood pressure and pregnancy induced hypertension**

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**Background:** Monitoring serum creatinine alongside blood pressure measurements can offer clinicians valuable insights into the severity and progression of Pregnancy-Induced Hypertension (PIH).

**Objective:** This study was conducted to assess the correlation between blood pressure and serum creatinine levels in pregnant women with PIH and normal blood pressure.

**Methods:** A cross sectional study was designed, and the population was stratified into two categories based on blood pressure readings. Pregnant women with normal blood pressure of 120/80 mmHg on two or more occasions were selected as Group 1 and those who had blood pressure more than 140/90 mmHg on two or more occasions and not having proteinuria were selected as Group 2. The analysis focused on assessing creatinine levels by Jaffe alkaline picric acid kinetic methods. The Pearson correlation coefficient was employed to examine correlations between these parameters.

**Results:** Group 1 had the mean systolic blood pressure (SPB) of 116.71 ( $\pm$  6.65) mmHg, while Group 2 had the mean SPB of 144.59 ( $\pm$ 7.62) mmHg. The mean diastolic blood pressures (DBP) of Groups 1 and 2 were 74.06 ( $\pm$ 6.23) and 91.74 ( $\pm$ 8.52) mmHg respectively. The study revealed a strong and statistically significant positive correlation between serum creatinine levels with SBP ( $r= 0.742$ ,  $p<0.001$ ) and DBP ( $r=0.680$ ,  $p<0.001$ ) across entire population. Among the subgroups, Group 1 displayed a significant positive correlation between serum creatinine levels and both SBP ( $r=0.457$ ,  $p=0.007$ ) and DBP ( $r=0.344$ ,  $p=0.046$ ). Similarly, in Group 2, a significant positive correlation was observed between serum creatinine levels and both SBP ( $r=0.434$ ,  $p=0.010$ ) and DBP ( $r=0.352$ ,  $p=0.041$ ).

**Conclusions:** The significant positive correlation between serum creatinine and blood pressure levels showed that monitoring serum creatinine level could potentially serve as a screening test to detect hypertensive disorders during pregnancy.

**PP 71**

**Awareness regarding routine laboratory investigations, satisfaction towards the clinical laboratory services, and their associated factors among patients with Type 2 Diabetes Mellitus attending to diabetes clinic at a selected hospital in Sri Lanka**

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**Background:** Type 2 Diabetes Mellitus (T2DM) poses a global health challenge, demanding vigilant monitoring and management. Routine laboratory investigations are pivotal for assessing disease progression and treatment efficacy. Enhancing patient satisfaction with clinical laboratory services is crucial for effective laboratory medicine management.

**Objectives:** To assess the awareness regarding routine laboratory investigations, level of satisfaction towards the clinical laboratory services, and their associated factors among patients with Type 2 Diabetes Mellitus attending a diabetic clinic in a selected hospital in Sri Lanka.

**Methods:** A cross-sectional study involving 422 T2DM patients at Colombo South Teaching Hospital (CSTH), Kalubowila was conducted using systematic random sampling. A pretested, validated interviewer-administered questionnaire including modified Patient Satisfaction with Clinical Laboratory Services scale was used to collect data. SPSS (version 26) was used to analyze data using descriptive statistics, Independent Sample T-tests, and ANOVA test. Statistical significance was set at  $p=0.050$ .

**Results:** The sample consisted of 111 males and 311 females, with a mean age of 54.1 ( $\pm 11.7$ ) years. Poor awareness existed in 59.7% and good awareness in 40.3%. High awareness existed for Fasting Blood Sugar (FBS) tests (98.1%) and fasting duration (88.6%), but declined for other tests. Significant relationships were found between awareness, age ( $p=0.000$ ), education ( $p=0.000$ ), income ( $p=0.012$ ), T2DM duration ( $p=0.003$ ), report interpretation ( $p=0.000$ ), marital status ( $p=0.000$ ), spouse's education ( $p=0.000$ ), medical advice from doctors ( $p=0.022$ ) and family advice ( $p=0.018$ ). Satisfaction with laboratory services was 65.7% with high satisfaction (63.3%) for staff availability. Factors influencing satisfaction included age ( $p=0.001$ ), ethnicity ( $p=0.000$ ), education ( $p=0.000$ ), distance to CSTH ( $p=0.000$ ), and income ( $p=0.000$ ).

**Conclusions:** A substantial lack of awareness exists among T2DM patients regarding routine laboratory investigations. The development of patient education programs is pivotal, with a focus on routine laboratory investigations. Improving cleanliness, reducing waiting times, and promoting staff courtesy are essential to enhance patient satisfaction.

PP 72

### **Prevalence of non-communicable diseases among the employee community of the University of Peradeniya: A prospective descriptive study**

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**Background:** Non-communicable diseases (NCDs) are non-infectious, chronic diseases that have become a global health challenge, necessitating the monitoring, and management strategies.

**Objective:** This study was conducted at the University of Peradeniya, to assess NCD prevalence and associated risk factors among both academic and non-academic employees.

**Methods:** The study was carried out as a prospective descriptive study incorporating the university employees who are participating in the university's NCD screening programme and aged  $\geq 35$  years. There were two screening rounds. In the first round, data were collected from the database of the University Health Centre. It included demographic, behavioral, medical history and medical observation data. At the 2<sup>nd</sup> round, records of the newly diagnosed NCD cases and who were subjected to an intervention were used to collect the data under the same above categories. In the analysis pre- and post-intervention data were compared to identify any improvements in the data. SPSS software was used in data analysis using descriptives, cross-tabulation, Chi-square tests, and T-tests. Ethical approval was obtained from the Ethics Review Committee, Faculty of Allied Health Sciences, University of Peradeniya.

**Results:** The study included 546 employees in the 1<sup>st</sup> round revealing a 59.4% NCD prevalence. Chi-square analysis revealed a significant relationship between physical activity and obesity ( $p=0.022$ ), overweight ( $p=0.000$ ), and tobacco use with diabetes ( $p=0.009$ ) and the gender and age exhibited significant relationships with various NCDs ( $p<0.05$ ). The 2<sup>nd</sup> round with 225 employees showed a significant reduction in their biomarkers in post-intervention. Even though the attendance was low (23.1%).

**Conclusions:** The study indicated a high prevalence of NCDs among university employees (59.4%) and unexpected high prevalence of undetected NCDs. Physical inactivity, tobacco use, gender, and age were significant factors influencing NCD prevalence. The findings provide valuable insights for tailored health interventions and in regular monitoring within the university setting to address the growing burden of NCDs.

PP 73

**Do Waist-to-Hip ratio and BMI of males influence their seminal parameters?**

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**Background:** Male obesity and infertility are growing health concerns, yet the link between them remains unclear despite increased focus on their connection.

**Objective:** Study aimed to explore the association of waist-to-hip ratio (WHR), and Body Mass Index (BMI), of males, with their seminal parameters.

**Methods:** A descriptive study was conducted from September to November 2023 at Colombo South Teaching Hospital and included a total of 104 male volunteers. Waist, hip, weight, and height were measured following standard protocols; semen samples were collected after a three-day abstinence. WHR categories were  $\leq 0.9$  (normal) and  $> 0.9$  (obese); BMI was categorized into normal (18.5-24.9 kg/m<sup>2</sup>), overweight (25.0–29.9 kg/m<sup>2</sup>), and obese ( $> 30$  kg/m<sup>2</sup>). Seminal parameters assessed included volume, sperm viability, count, motility, and morphology. Statistical analysis was performed using SPSS 27.0, employing t-tests, correlation, and regression analyses, with a significance threshold of  $P < 0.05$ .

**Results:** Males with a  $WHR > 0.9$  showed higher semen volume (1.82±0.74 ml), sperm concentration (85.42±55.20 million/ml), sperm count (163.28±142.47 million/ml), and normal sperm morphology (11.04±5.99%) compared to those with a  $WHR \leq 0.9$  (1.76±0.86 ml, 74.58±64.71 million/ml, 125.65 ± 128.13 million/ml, 11.04±5.997% respectively). There was no consistent linear trend observed for BMI with sperm concentration ( $p = 0.42$ ), count ( $p = 0.61$ ) or viability ( $p = 0.89$ ). Sperm motility showed slight variations across BMI categories, with higher values in overweight group, yet overall correlations between WHR or BMI and seminal parameters were statistically non-significant ( $p = 0.95$ ,  $p = 0.617$ ). However, WHR indicated a potential positive association with sperm morphology ( $r^2 = 0.06$ ,  $p = 0.05$ ) and emerged as an independent risk factor for sperm morphology in multivariate analysis (95% CI: 48.3-1.08,  $p = 0.041$ ).

**Conclusions:** This study revealed non-significant correlations between WHR or BMI and most sperm parameters. However, higher WHR has a positive influence on normal sperm morphology which has to be verified in a larger study sample.

## Oral Presentations

International Research Conference in Health Sciences 2024 (IRCHS 2024)		
SN	OP ID	Title
<i>Session I - Research in Natural Products</i>		
1.	OP 1	<b>Determination of in vivo larvicidal activity of <i>Evolvulus alsinoides</i> aqueous plant extract on <i>Aedes albopictus</i> mosquito larvae</b> Madhuranga HDT <sup>1*</sup> , Samarakoon DNAW <sup>1</sup> , Herath HMLPB <sup>2</sup> , Salim N <sup>1</sup> <sup>1</sup> Department of Biomedical Science, Faculty of Health Science, KIU, Sri Lanka, <sup>2</sup> Department of Chemistry, Faculty of Science, University of Colombo, Sri Lanka.
2.	OP 3	<b>In vitro litholytic effect of selected siddha drugs with the aqueous extract of <i>Musa sapientum</i> inner stem as an adjuvant on oxalate stone</b> Aranraj T <sup>*</sup> , Arasaratnam V, Thayaananthan K, Sutharsan M Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka.
3.	OP 4	<b>In-vitro dissolution activity of Calcium oxalate kidney stones by the extract of <i>Cucumis melo</i> seeds</b> Manel GACH <sup>1*</sup> , Perera PKH <sup>1</sup> , Uluwaduge DI <sup>2</sup> , Peiris KPP <sup>3</sup> , Walpita J <sup>4</sup> , Diyabalanage S <sup>5</sup> <sup>1</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup> Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup> Department of Shalya Shalakya, Faculty of Indigenous Medicine, Gampaha Wickramarachchi University of Indigenous Medicine, Sri Lanka, <sup>4</sup> Department of Multidisciplinary Studies, Faculty of Urban and Aquatic Bioresources, University of Sri Jayewardenepura, Sri Lanka, <sup>5</sup> Instrument Centre, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.
4.	OP 5	<b>Exploring antidiabetic properties of <i>Aponogeton rigidifolius</i> H. Bruggen and developing a micropropagation protocol for conservation purposes</b> Walpolaarachchi WAB <sup>1*</sup> , Khan MMF <sup>1</sup> , Suresh TS <sup>2</sup> , Senarath WTPSK <sup>3</sup> , Gunawardena AN <sup>4</sup> <sup>1</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup> Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup> Department of Botany, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>4</sup> Department of Biology, Dalhousie University, Canada.
5.	OP 6	<b>Comparative analysis of cytotoxicity of saponins fractions isolated from <i>Garcinia</i> and <i>Guava</i> leaves against Hep-G2 cells</b> Madhushika KTS <sup>1</sup> , Kokilananthan S <sup>2</sup> , Bulugahapitiya VP <sup>1*</sup> <sup>1</sup> Department of Chemistry, Faculty of Science, University of Ruhuna, Matara, Sri Lanka, <sup>2</sup> Department of Chemistry, Faculty of Natural Science, The Open University, Batticaloa, Sri Lanka.

6.	OP 7	<p><b>Impact of atorvastatin on triple-negative and hormone receptor-positive breast cancer cells-an <i>in vitro</i> study</b>  <u>Jinadasa AGRG</u><sup>1</sup>, Akalanka HMK<sup>1*</sup>, Wageesha NDA<sup>2</sup>, Samarakoon SR<sup>3</sup>, Ekanayake S<sup>4</sup>  <sup>1</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Biochemistry, Faculty of Medicine, Sabaragamuwa University of Sri Lanka, <sup>3</sup>Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, Sri Lanka, <sup>4</sup>Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
7.	OP 8	<p><b>Development of novel low glycaemic indexed breads incorporating <i>Cinnamomum verum</i> (Cinnamon) and <i>Curcuma longa</i> (Turmeric) powders</b>  <u>Wijewardhana US</u><sup>*</sup>, Jayasinghe MA, Wijesekara I, Ranaweera KKDS  Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
<b>Session II - Medication safety and Public Health</b>		
8.	OP 9	<p><b>Development of indicators to determine the safety of dispensing medicines in Sri Lanka</b>  <u>Weliwatte IP</u><sup>1*</sup>, Samaranayake NR<sup>1</sup>, Jayawardane P<sup>2</sup>, Galappathy P<sup>3</sup>  <sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Pharmacology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Department of Pharmacology, Faculty of Medicine, University of Colombo, Sri Lanka.</p>
9.	OP 10	<p><b>Advancing Ivermectin Therapeutics: Population Pharmacokinetic Model Approach</b>  <u>Dissanayaka H</u><sup>1*</sup>, Thambavita TMDD<sup>2</sup>, Galappathy P<sup>2</sup>  <sup>1</sup>Department of Chemistry, Faculty of Science, University of Colombo, Sri Lanka, <sup>2</sup>Department of Pharmacology, Faculty of Medicine, University of Colombo, Sri Lanka.</p>
10.	OP 11	<p><b>Identifying perspectives on medication adherence among patients and healthcare professionals relevant for the development of a medication adherence tool for Sri Lanka</b>  <u>Wijesinghe DS</u><sup>*</sup>, Senadheera GPSG, Samaranayake NR  Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
11.	OP 12	<p><b>Accessibility and measurability of cost variables required to calculate the cost of medication errors in hospitals in Sri Lanka</b>  <u>Navodaya KD</u><sup>1*</sup>, Ranasinghe RAS<sup>1</sup>, Nadeshkumar A<sup>1</sup>, Senadheera GPSG<sup>1</sup>, Karandagoda W<sup>2</sup>, Samaranayake NR<sup>1</sup>  <sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, <sup>2</sup>Formerly Director Medical Services, Lanka Hospitals PLC.</p>
12.	OP 21	<p><b>Challenges in accomplishing sustainable recovery among individuals who reported relapses in substance use disorder after residential rehabilitation in Sri Lanka</b>  <u>Dharmarathna HHND</u><sup>1,5*</sup>, Jayamaha AR<sup>2</sup>, Rajapakse IH<sup>3</sup>, Gunasekara C<sup>4</sup>, Fernando N<sup>4</sup>, Meegoda MKDL<sup>5</sup>  <sup>1</sup>Faculty of Nursing, KIU, Sri Lanka, <sup>2</sup>Faculty of Graduate Studies, KIU, Sri Lanka, <sup>3</sup>Faculty of Medicine, University of Ruhuna, Sri Lanka, <sup>4</sup>Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>5</sup>Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>

13.	OP 22	<p><b>The outpatient adherence and related problems to antibacterial therapy among outpatients attending selected healthcare settings; A qualitative study.</b></p> <p><u>Jayakody JPTS</u><sup>1*</sup>, Senadheera GPSG<sup>1</sup>, Samaranayake NR<sup>1</sup></p> <p><sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
14.	OP 26	<p><b>Unraveling the dual faces of Tuberculosis (TB): Analyzing pulmonary and extra-pulmonary TB patterns in Colombo, Sri Lanka</b></p> <p><u>Thilakarathne GKYC</u><sup>1</sup>, Lakmini MS<sup>1</sup>, Dilhari KAA<sup>2*</sup>, Munasinghe JA<sup>3</sup>, Jayaweera JMS<sup>4</sup>, Karunasekera C<sup>5</sup>, Weerasekera MM<sup>6</sup></p> <p><sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Boffin Institute, Sri Lanka, <sup>4</sup>Division of Bioresources, International institute for Zoonosis Control, Graduate School of Infectious Diseases, Hokkaido University, Japan, <sup>5</sup>General Hospital, Polonnaruwa, Sri Lanka, <sup>6</sup>Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
<b>Session III - Current trends in laboratory diagnostics</b>		
15.	OP 29	<p><b>Anthropometric and biochemical parameters: In predicting development of hepatic fibrosis and hepatic steatosis in metabolic dysfunction associated fatty liver disease</b></p> <p><u>Karunaratna AMDS</u><sup>1</sup>, Ekanayake S<sup>1*</sup>, Ranawaka CK<sup>2</sup></p> <p><sup>1</sup>Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Gastroenterology, Colombo North Teaching Hospital, Ragama, Sri Lanka.</p>
16.	OP 30	<p><b>Serum cytokines in lumbar disc herniation: Expression and interaction network analysis</b></p> <p><u>Aravinth P</u><sup>1</sup>, Withanage ND<sup>2*</sup>, Sujatha Pathirage<sup>3</sup>, Athiththan SP<sup>4</sup>, Perera S<sup>5</sup>, Athiththan LV<sup>6</sup></p> <p><sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Medical Research Institute, Sri Lanka, <sup>4</sup>Teaching Hospital Jaffna, Sri Lanka, <sup>5</sup>The Central Hospital, Sri Lanka, <sup>6</sup>Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
17.	OP 31	<p><b>Comparison of Thyroid Imaging Reporting and Data System (TIRADS) and Bethesda System with histology for thyroid tumour diagnosis</b></p> <p><u>Kulatunga KMHH</u><sup>1</sup>, Pathirana AA<sup>2</sup>, Fernando SSN<sup>3</sup>, Gamage BD<sup>2</sup>, Epa A<sup>4</sup>, Sampath MKA<sup>5</sup>, Sosai C<sup>6</sup>, Seneviratne BS<sup>1*</sup></p> <p><sup>1</sup>Department of Pathology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Surgery, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>4</sup>Department of Radiology, Colombo South Teaching Hospital, Sri Lanka, <sup>5</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>6</sup>Department of Pathology, Colombo South Teaching Hospital, Sri Lanka.</p>

18.	<b>OP 32</b>	<p><b>Anthocyanin-incorporated PEO: EC electrospun fiber mat as a cost-effective and stable ocular pH detection sensor during ocular chemical burns</b></p> <p><u>Sandaruwan HHPB</u><sup>1</sup>, Manatunga DC<sup>1*</sup>, Liyanage RN<sup>2</sup>, Costa NP<sup>3</sup>, Dassanayake RS<sup>1</sup>, Wijesinghe RE<sup>4</sup></p> <p><sup>1</sup>Department of Biosystems Technology, Faculty of Technology, University of Sri Jayewardenepura, Pitipana North, Homagama, Sri Lanka, <sup>2</sup>Department of Materials and Mechanical Technology, Faculty of Technology, University of Sri Jayewardenepura, Pitipana North, Homagama, Sri Lanka, <sup>3</sup>Ipswich General Hospital, Heath Rd, Ipswich IP4 5PD, <sup>4</sup>Department of Electrical and Electronic Engineering, Faculty of Engineering, Sri Lanka Institute of Information Technology, Malabe, 10115, Sri Lanka.</p>
19.	<b>OP 33</b>	<p><b>Early detection of hyperlipidemia through analysis of finger pulse images using machine learning</b></p> <p><u>Gunathilaka PADHJ</u><sup>1,2*</sup>, Rajapaksha RARS<sup>3</sup>, Kumarika BMT<sup>3</sup>, Perera DP<sup>4</sup>, Herath MHMUP<sup>5</sup>, Jayathilaka KMDC<sup>2</sup>, Liyanage JA<sup>6</sup>, Kalingamudali SRD<sup>2</sup></p> <p><sup>1</sup>Department of Rogavignana, Faculty of Indigenous Medicine, Gampaha Wickramarachchi University of Indigenous Medicine, Sri Lanka, <sup>2</sup>Department of Physics and Electronics, Faculty of Science, University of Kelaniya, Sri Lanka, <sup>3</sup>Department of Statistics and Computer Science, Faculty of Science, University of Kelaniya, Sri Lanka, <sup>4</sup>Department of Family Medicine, Faculty of Medicine, University of Kelaniya, Sri Lanka, <sup>5</sup>Base Hospital, Kiribathgoda, Sri Lanka, <sup>6</sup>Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka.</p>
20.	<b>OP 34</b>	<p><b>Establishing an <i>in vitro</i> bladder model to study <i>in vitro</i> crystalline biofilm formation on Foley catheters by <i>Proteus mirabilis</i></b></p> <p><u>Nissanka NMC</u><sup>1,2</sup>, Dilhari KAA<sup>3*</sup>, Weerasekera MM<sup>1</sup></p> <p><sup>1</sup>Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Faculty of Graduate Studies, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
21.	<b>OP 35</b>	<p><b>Evaluating the significance of unilateral neck of femur bone mineral density measurement for the diagnosis of osteoporosis</b></p> <p><u>Samarakoon ASMUDB</u><sup>1*</sup>, Jeevaruban S<sup>1</sup>, Nawaz SI<sup>2,3</sup>, Nanayakkara DKK<sup>1</sup>, Rathnayake NMMS<sup>1</sup></p> <p><sup>1</sup>Nuclear Medicine Unit, Faculty of Medicine, University of Peradeniya, Sri Lanka, <sup>2</sup>Professorial Medical Unit, Teaching Hospital, Peradeniya, Sri Lanka, <sup>3</sup>Postgraduate Institute of Medicine, University of Colombo, Sri Lanka.</p>
<b>Session IV - Nursing, Management &amp; Health Promotion</b>		
22.	<b>OP 19</b>	<p><b>Undergraduate nursing students’ perspectives towards and experiences in caring for older people: An exploratory qualitative study in a selected state university in Sri Lanka</b></p> <p><u>Madhushani GDCK</u><sup>*</sup>, Rathnayake S</p> <p>Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.</p>

23.	OP 20	<p><b>Health literacy, eHealth literacy and adherence to physiotherapy treatment of patients attending department of physical medicine in National Hospital, Kandy and Teaching Hospital, Peradeniya: A Cross-Sectional Survey</b>                  Gunawardhana TKS<sup>1*</sup>, <u>De Silva RTI</u><sup>1</sup>, Amarasinghe PHN<sup>1</sup>, Dasanayake WDHA<sup>1</sup>, Farwin ASFA<sup>1</sup>, Hussain MAA<sup>1</sup>, Prasanna ALI<sup>1</sup>, Rathnayake S<sup>2</sup></p> <p><sup>1</sup>Department of Physiotherapy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka,<sup>2</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.</p>
24.	OP 23	<p><b>Depression, anxiety and stress among parents of children with Autism Spectrum Disorder (ASD) attending Lady Ridgeway Hospital (LRH) for children, Sri Lanka</b>                  Bobuwala UG<sup>1*</sup>, Narangaspitiya NGSM<sup>1</sup>, Jayasinghe HC<sup>1</sup>, Anuththara WTD<sup>1</sup>, Ranasingha RDI<sup>1</sup>, Kariyawasam KHAY<sup>1</sup>, Nisansala MWN<sup>2</sup></p> <p><sup>1</sup>Faculty of Nursing, KIU, Sri Lanka,<sup>2</sup>Department of Fundamentals of Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.</p>
25.	OP 24	<p><b>Prevalence of occupational health hazards, self-reported symptoms, and risk perception among printing workers at the Department of Government Printing, Sri Lanka</b>                  Jayawickrama RKN<sup>*</sup>, Ilankoon IMPS</p> <p>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
26.	OP 25	<p><b>Screen Addiction and its Impact on the Health among Secondary - Level School Children in Galle Educational Division</b>                  Palihawatta PKTP<sup>1*</sup>, Wickramarachchi BI<sup>1</sup>, Chandrasiri PAA<sup>2</sup></p> <p><sup>1</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Galle, Sri Lanka,<sup>2</sup>Consultant Community Physician, Department of health, Sri Lanka.</p>
27.	OP 28	<p><b>Demographic characteristics, lipid profile and grade of non-alcoholic fatty liver disease (NAFLD) in a selected patient population: a retrospective study at a tertiary care and a primary care facility</b>                  Rupasinghe SJ<sup>1</sup>, Gnanapragash G<sup>1</sup>, Rajapaksha DIG<sup>2*</sup>, Dias P<sup>3</sup>, Matthias T<sup>4</sup>, Fernando DMS<sup>5</sup></p> <p><sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,<sup>2</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,<sup>3</sup>Department of Statistics, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka,<sup>4</sup>Department of Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka,<sup>5</sup>Department of Physiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
<b>Session V - Novel Formulation</b>		
28.	OP 13	<p><b>Synthesis of ascorbic acid/ Zn-Al layered double hydroxide/agar bio-nanohybrids for skincare cosmetics</b>                  Chandradasa HWWT<sup>1</sup>, <u>De Silva SSK</u><sup>1</sup>, Pahalagedara MN<sup>2*</sup></p> <p><sup>1</sup>Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,<sup>2</sup>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>

29.	OP 14	<b>Protein-Ligand Docking of 4MZC with AutoDock Vina: Unveiling Potential Anti-Malarial Ligands for Novel Therapeutic Strategies</b> Fernando AMF, Ominda P, Mudalige H* <i>BMS School of Science, Colombo 6, Sri Lanka.</i>
30.	OP 15	<b>Synthesis of nanosuspensions of <i>Carica papaya</i> fruit extract and evaluation of the antioxidant activity</b> Mendis MST <sup>1</sup> , Wijewardhana LKDN <sup>1</sup> , Liyanage THD <sup>1</sup> , Neranja AGK <sup>1</sup> , Kumari KDKP <sup>2*</sup> <sup>1</sup> <i>Department of Pharmacy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka,</i> <sup>2</sup> <i>Faculty of Health and Social Sciences, Bournemouth University, UK.</i>
31.	OP 16	<b>A novel pregelatinized and acetylated water lily seed starch to be used as excipients: Characterization of structural and physicochemical properties</b> Kankanamge SU <sup>1*</sup> , Jayasuriya WJABN <sup>2</sup> , Herath HMDR <sup>2</sup> , Pathirana RN <sup>1</sup> <sup>1</sup> <i>Department of Pharmacy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka,</i> <sup>2</sup> <i>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
32.	OP 17	<b>Analysis of physicochemical properties and in-vitro sun-protective activity of fish oil extracted from waste products (skin) of fresh water carp <i>Catla catla</i> and formulation of a sun-protective serum</b> Madurya PAK*, Hettihewa SK, Dissanayake AS <i>Department of Pharmacy, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.</i>
33.	OP 18	<b>Evaluation of antimicrobial activity of Modified Emulgel Based on Ayurveda Formulation ‘Ratha taila’</b> Jayathilaka SPNS <sup>1</sup> , Jayasuriya WJABN <sup>1*</sup> , Herath HMDR <sup>1</sup> , Nadeshkumar A <sup>1</sup> , Dahanayaka J <sup>2</sup> <sup>1</sup> <i>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>

## Poster Presentations

International Research Conference in Health Sciences 2024 (IRCHS 2024)		
Serial Number	PP ID	Title
<b>Track I - Research in Natural Products</b>		
1.	PP 1	<b><i>In vitro</i> evaluation of antibacterial activity of leaf extracts of <i>Atalantia ceylanica</i></b> Uthpala RM <sup>1</sup> , Wijewardhana BADIM <sup>1</sup> , Pemadasa DAIS <sup>1</sup> , Sivasinthujah S <sup>1</sup> , Gnanakarunyan TJ <sup>2</sup> <sup>1</sup> Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.
2.	PP 2	<b>Determination of antioxidant activity of Balabilvashunti decoction and its raw materials through different analytical methods</b> Madhushika KDC <sup>1,2</sup> , Hapuarachchi SD <sup>1</sup> , Suresh TS <sup>3</sup> , Perera PK <sup>1</sup> , Kodithuwakku ND <sup>1</sup> , Dahanayake JM <sup>1</sup> , Arawwawala LADM <sup>4</sup> <sup>1</sup> Faculty of Indigenous Medicine, University of Colombo, Sri Lanka, <sup>2</sup> Faculty of Graduate Studies, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup> Faculty of Medicine, University of Sri Jayewardenepura, Sri Lanka, <sup>4</sup> Herbal Technology Section, Industrial Technology Institute, Sri Lanka.
3.	PP 3	<b>Investigation of anti-inflammatory, anti-diabetic properties and phytochemical analysis of <i>Osbeckia octandra</i> methanolic leaf extract</b> Shavindi PAIS <sup>1</sup> , Mathangadeera RW <sup>1</sup> , Jayasinghe MA <sup>2</sup> <sup>1</sup> Department of Applied Sciences, Faculty of Humanities and Sciences, Sri Lanka Institute of Information Technology (SLIIT), Malabe, Sri Lanka, <sup>2</sup> Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.
4.	PP 4	<b>Comparative analysis of phytochemical and antioxidant activities of different parts of the medicinal plant; <i>Ocimum sanctum</i> Linn in Jaffna district</b> Vilochana AAS <sup>1</sup> , Rajkumar G <sup>1</sup> , Sanmugarajah V <sup>2</sup> <sup>1</sup> Department of Botany, Faculty of Science, University of Jaffna, Sri Lanka, <sup>2</sup> Unit of Siddha Medicine, University of Jaffna, Sri Lanka.
5.	PP 5	<b><i>In vitro</i> Bio-activity and Preliminary Cytotoxicity Evaluation of Sri Lankan Plant <i>Crudia zeylanica</i></b> Madasanka IWAC <sup>1</sup> , Liyanarachchie LCPT <sup>1</sup> , Nilanthi RMR <sup>2</sup> , Sooriyabandara C <sup>2</sup> <sup>1</sup> Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, <sup>2</sup> Department of Wildlife Conservation, Sri Lanka.
6.	PP 6	<b><i>In-vitro</i> antimicrobial activity of bark of <i>Mimusops elengi</i> (munamalpothu) alone and in combination with <i>Zyzygium aromaticum</i> (cloves)</b> Thathsarani JAG <sup>1</sup> , Chamika DMS <sup>1</sup> , Dissanayake DMBT <sup>2</sup> <sup>1</sup> Department of Medical Laboratory Sciences, Faculty of Allied Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup> Deptment of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

7.	PP 7	<b>Antibacterial activity of polysaccharides extracted from the root of <i>Premna serratifolia</i> (Wind killer)</b> Ginthujah V <sup>1</sup> , Jayapria S <sup>1</sup> , Thirtsha G <sup>1</sup> , Sivasinthujah S <sup>1</sup> , Tharmila CJ <sup>2</sup> , Srithevi S <sup>1</sup> <sup>1</sup> Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup> Department of Botany, Faculty of Science, University of Jaffna, Sri Lanka.
8.	PP 8	<b>Assessing <i>Dillenia retusa</i> fruit and bark extracts' antifungal power against superficial mycosis-causing fungi, and identifying the best storage conditions for the most effective extract</b> Hajara MMF <sup>1</sup> , Jayasinghe LMSI <sup>1</sup> , Nissanka NMC <sup>2</sup> , Weerasekera MM <sup>2</sup> , Dilhari KAA <sup>3</sup> <sup>1</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup> Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup> Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
9.	PP 9	<b><i>In vitro</i> antioxidant activity of methanolic extract of selected polyherbal drug used in Diabetes Mellitus in Northern Province, Sri Lanka.</b> Merin Dinushiya J <sup>1</sup> , Nilanusha S <sup>1</sup> , Sugansika M <sup>1</sup> , Sivasinthujah S <sup>1</sup> , Sivarangini S <sup>2</sup> <sup>1</sup> Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup> Unit of Siddha Medicine, University of Jaffna, Sri Lanka.
10.	PP 10	<b>Antifungal efficacy of some selected medicinal plant extracts in Sri Lanka against <i>Candida</i> Species</b> Wickramasingha WGD <sup>1</sup> , Prasangika SB <sup>2</sup> , Dassanayake DMSC <sup>2</sup> , Jayasekera P <sup>3</sup> , Jayasinghe JMS <sup>2</sup> <sup>1</sup> Department of Biochemistry, Medical Research Institute, Sri Lanka, <sup>2</sup> Department of Chemistry, Faculty of Science, University of Peradeniya, Sri Lanka, <sup>3</sup> Department of Mycology, Medical Research Institute, Sri Lanka.
11.	PP 11	<b>Assessment of antibacterial activity and brine shrimp lethality of <i>Amorphophallus paeoniifolius</i> (Kidaram) inflorescence extracts</b> Karunathilaka S <sup>1</sup> , Madushani NT <sup>2</sup> , Darshana D <sup>2</sup> <sup>1</sup> Department of Botany, Faculty of Science, University of Ruhuna, Sri Lanka, <sup>2</sup> Department of Pharmacy, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.
12.	PP 12	<b><i>In vitro</i> antioxidant activity of polysaccharide in <i>Hemidesmus indicus</i> (Nannari) leaves</b> Salini N <sup>1</sup> , Aberame S <sup>1</sup> , Piriyanaka N <sup>1</sup> , Sivasinthujah S <sup>1</sup> , Senthilnathanan M <sup>2</sup> <sup>1</sup> Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup> Department of Chemistry, Faculty of Science, University of Jaffna, Sri Lanka.
13.	PP 33	<b><i>In-vitro</i> antioxidant properties of unripen and ripen fruits of <i>Momordica balsamina</i></b> Amirthavarshini A <sup>1</sup> , Abisha S <sup>1</sup> , Nushrath K L F <sup>1</sup> , Sivasinthujah S <sup>1</sup> , Srikanan R <sup>2</sup> <sup>1</sup> Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup> Department of Chemistry, Faculty of Science, University of Jaffna, Sri Lanka.

<b>Track II - Medication safety and Public Health 13,14,15,16,17,18,20,21,22,35</b>		
14.	<b>PP 13</b>	<p><b>Knowledge, attitudes, and practices of pharmacists on cold chain management of vaccines at Regional Medical Supplies Divisions (RMSDs) of Sri Lanka</b>  <u>Nanlath Gamage HD</u><sup>1,2</sup>, Buddhika RBJ<sup>1</sup>  <sup>1</sup>Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, , Sri Lanka, <sup>2</sup>Regional Medical Supplies Division Colombo, Sri Lanka.</p>
15.	<b>PP 14</b>	<p><b>Relationship between medication knowledge and medication adherence in patients with bipolar disorder. Evidence from an observational study from outreach clinics conducted by National Institute of Mental Health, Sri Lanka</b>  <u>Getamurutha GGSU</u><sup>1,2</sup>, Buddhika RBJ<sup>1</sup>, Wickramasinghe NDD<sup>1</sup>  <sup>1</sup>Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, , Sri Lanka, <sup>2</sup>National Institute of Mental Health, Sri Lanka.</p>
16.	<b>PP 15</b>	<p><b>A SWOT analysis on using allopathic medication concomitantly with herbal medication in patients attending diabetes clinics in selected state hospitals in Sri Lanka</b>  <u>Kekunawela KHSS</u><sup>1,2</sup>, Wijayabandara MDJ<sup>1</sup>, Senadheera GPSG<sup>1</sup>, Samaranayake NR<sup>1</sup>  <sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Science, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Pharmacy, National Dental Teaching Hospital, Sri Lanka.</p>
17.	<b>PP 16</b>	<p><b>Prevalence of dysmenorrhea and use of over-the-counter medication for dysmenorrhea among undergraduates of a selected university in Sri Lanka</b>  <u>Maddevithana MK</u><sup>1</sup>, Perera PPR<sup>2</sup>  <sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Faculty of Graduate Studies, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
18.	<b>PP 17</b>	<p><b>Knowledge, attitudes and practices on insulin therapy and number of experienced hypoglycemic episodes during past month among insulin users attending diabetic clinic, Teaching Hospital, Peradeniya.</b>  <u>Bandara WEWMRTW</u><sup>1,2</sup>, Buddhika RBJ<sup>2</sup>, Wickramasinghe NDD<sup>2</sup>  <sup>1</sup>Department of Pharmacy, Faculty of Health Sciences, The Open University Sri Lanka, <sup>2</sup>Teaching Hospital, Peradeniya, Sri Lanka.</p>
19.	<b>PP 18</b>	<p><b>Self-medication practices among older adults in Mawanella Divisional Secretariat, Sri Lanka</b>  <u>Nissanka SHSM</u><sup>1</sup>, Tennakoon V<sup>2</sup>, Senadheera GPSG<sup>1</sup>  <sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Science, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
20.	<b>PP 20</b>	<p><b>Awareness on Medications among Customers Attending Selected Community Pharmacies in Western Province, Sri Lanka</b>  <u>Dias MJK</u><sup>1</sup>, Samaranayaka TSP<sup>2</sup>  <sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Family Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka</p>

21.	PP 21	<p><b>Availability and stock levels of essential medicines in Government Healthcare Institutions in Batticaloa District Sri Lanka</b></p> <p><u>Safeer NM</u><sup>1</sup>, Wickramasinghe NDD<sup>1</sup>, Buddhika RBJ<sup>1</sup></p> <p><sup>1</sup>Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, Sri Lanka.</p>
22.	PP 22	<p><b>The antibiotic consumption in state sector hospitals in a selected district of Sri Lanka between 2016 and 2021</b></p> <p><u>Thilipkumar PJT</u><sup>1</sup>, Senadheera GPSG<sup>2</sup>, Venoden D<sup>3</sup></p> <p><sup>1</sup>Department of Pharmacy, The Open University of Sri Lanka, <sup>2</sup>Department of Pharmacy &amp; Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>3</sup>Regional Director of Health Services Office, Sri Lanka.</p>
23.	PP 35	<p><b>Validating a guideline on calculating the cost of medication errors inhospitals in Sri Lanka using a hypothetical case</b></p> <p><u>Navodaya KD</u><sup>1</sup>, Ranasinghe RAS<sup>1</sup>, Nadeshkumar A<sup>1</sup>, Senadheera GPSG<sup>1</sup>, Karandagoda W<sup>2</sup>, Samaranayake NR<sup>1</sup></p> <p><sup>1</sup>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Formerly Director Medical Services, Lanka Hospitals PLC, Sri Lanka.</p>
<b>Track III - Nursing management and health promotion</b>		
24.	PP 27	<p><b>Isolate the <i>Streptococcus mutans</i> from dental caries in patients attending Dental Clinic, Teaching Hospital, Jaffna</b></p> <p><u>Wathooth AMA</u><sup>1</sup>, Ashra MRF<sup>1</sup>, Mufceena MMF<sup>1</sup>, Gnanakarunyan TJ<sup>1</sup>, Shamil Mafras FS<sup>1</sup>, Jayatilake JAMS<sup>2</sup>, Rajanthi Ramachandran<sup>3</sup>, Thayalini T<sup>4</sup></p> <p><sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup>Department of Oral Medicine and Periodontology, Faculty of Dental Sciences, University of Peradeniya, Sri Lanka, <sup>3</sup>Teaching Hospital Jaffna, <sup>4</sup>Unit of Siddha Medicine, University of Jaffna, Sri Lanka.</p>
25.	PP 29	<p><b>Evaluation of probiotic characteristics of <i>Lactobacillus</i> spp. isolated from plaque samples taken from patients with dental caries attending Dental unit, Teaching Hospital, Jaffna</b></p> <p>Abinaya R, <u>Thupaksiga B</u>, Ashimi AGAS, Thillainathan K, Gnanakarunyan TJ</p> <p>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.</p>
26.	PP 31	<p><b>Prevalence of Illicit Drug usage and Associated Socio Demographic factors among Students of University of Jaffna, Sri Lanka</b></p> <p><u>Thuvarakan N</u><sup>1</sup>, Pakeerathan T<sup>1</sup>, Sathees S<sup>1</sup>, Umaharan T<sup>2</sup></p> <p><sup>1</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>2</sup>Department of Psychiatry, Faculty of Medicine, University of Jaffna, Sri Lanka.</p>
27.	PP 34	<p><b>Attitudes toward family involvement in nursing care among second-year nursing students in School of Nursing, Colombo Sri Lanka</b></p> <p><u>Dilrukshi KT</u><sup>1</sup>, Amarasekara AATD<sup>2</sup></p> <p><sup>1</sup>Faculty of Graduate Studies, KIU, Sri Lanka. <sup>2</sup>Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>

28.	PP 36	<p><b>Knowledge, practices and associated factors of first aid among school teachers in selected schools in Nugegoda Education Division</b>  <u>Gunasekara MGH*</u>, Damayanthi LC  <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i></p>
29.	PP 38	<p><b>Health-seeking behavior and its associated factors among patients with non-communicable diseases attending medical clinics at Divisional Hospital, Sri Lanka</b>  Liyana NS, Dilrukshi GS, Dhanushika RMG, Sanjeevani PHI, Sandaruwani AHM, <u>Hasanthika WWR</u>, Edirisooriya MD, Senarath NSASN  <i>Department of Nursing, Faculty of Nursing, KIU, Sri Lanka.</i></p>
30.	PP 39	<p><b>Assessing Patient Awareness and Knowledge Gaps in Hypertension and Diabetes Mellitus: A Study in Base Hospital Karawanella, Sri Lanka</b>  Weragoda WARN<sup>1</sup>, <u>Lakshani PHPC</u><sup>2</sup>, Madurya PAK<sup>3</sup>, Rajapaksha DIG<sup>4</sup>  <sup>1</sup><i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,</i> <sup>2</sup><i>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,</i> <sup>3</sup><i>Department of Pharmacy, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka,</i> <sup>4</sup><i>Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i></p>
31.	PP 40	<p><b>Knowledge, practices, and associated factors on prevention of diabetic foot among diabetic patients attending a selected teaching hospital, Sri Lanka</b>  Mallawaarachchi NT, Wickramasiri RPPRL, Senarathne ND, Sooriyaarachchi SAMMM, Madhushani HAI, Sandakumari HHHS, <u>Kanchana KTG</u>  <i>Department of Nursing, Faculty of Nursing, KIU, Sri Lanka.</i></p>
32.	PP 42	<p><b>Knowledge on first aid following road traffic accidents among three-wheel drivers in Galle municipal area, Sri Lanka</b>  <u>Madushan EMKG1</u>, Rathnaweera RHAI<sup>2</sup>  <sup>1</sup><i>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka,</i> <sup>2</sup><i>Department of Forensic Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka.</i></p>
33.	PP 44	<p><b>Patients’ lived experiences of using non-pharmacological methods in managing constipation after undergoing hysterectomy surgery at the de Soysa Hospital for Women</b>  Nadeeshani SDS, Senadheera MSS, Premarathna DALD, Dissanayaka HMTH, Fernando WIS, Madhavi AVP  <i>Department of Nursing, Faculty of Health Sciences, The Open University of Sri Lanka, Sri Lanka.</i></p>

34.	PP 45	<p><b>Association of dietary intake with body mass index and antioxidant status in patients with type 2 diabetes mellitus: A cross-sectional study in Galle, Sri Lanka</b></p> <p><u>Kaushalya RH</u><sup>1</sup>, Wasana KGP<sup>2</sup>, Amarasiri AMSS<sup>1</sup>, Attanayake AP<sup>2</sup></p> <p><sup>1</sup>Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, <sup>2</sup>Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Sri Lanka.</p>
35.	PP 47	<p><b>Glasgow coma scale in the clinical practice: Gaps in knowledge and practical administration among nursing undergraduates in Sri Lanka</b></p> <p>Perera RDHM<sup>1</sup>, Hettiarachi M<sup>2</sup></p> <p><sup>1</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, <sup>2</sup>Nuclear Medicine Unit, Faculty of Medicine, University of Ruhuna, Sri Lanka.</p>
36.	PP 48	<p><b>Knowledge and associated factors of exposure to chemotherapy among cleaning personnel at the National Cancer Institute, Sri Lanka</b></p> <p><u>Senarath NSASN</u><sup>1*</sup>, De Silva D<sup>3</sup>, Rathnayake RWMWK<sup>4</sup>, Warnakulasuriya SSP<sup>5</sup>, Meegoda MKDL<sup>6</sup>, Jayasinghe SS<sup>2</sup></p> <p><sup>1</sup>Faculty of Graduate Studies, University of Sri Jayewardenepura &amp; Faculty of Nursing, KIU, Sri Lanka, <sup>2</sup>Department of Pharmacology, Faculty of Medicine, University of Ruhuna, Sri Lanka, <sup>3</sup> Department of Pharmacology, Medical Research Institute, Sri Lanka, <sup>4</sup>National Cancer Institute, Sri Lanka, <sup>5</sup>Faculty of Nursing, University of Colombo Sri Lanka, <sup>6</sup>Department of Nursing and Midwifery, Faculty of Allied Health Science, University of Sri Jayewardenepura, Sri Lanka.</p>
37.	PP 49	<p><b>Attitudes and practices on chronic kidney disease and its associated factors among patients attending a rural hospital, Sri Lanka</b></p> <p>Weerathunga NP<sup>1</sup>, Jayasena MRVSA<sup>1</sup>, Senewirathna WGNK<sup>1</sup>, Jayaweera PGNM<sup>1</sup>, Karunarathna SATNK<sup>1</sup>, Edirisuriya MD<sup>2</sup>, <u>Hansini KHC</u><sup>2</sup>, Senarath NSASN<sup>2</sup></p> <p><sup>1,2</sup>Faculty of Nursing, KIU, Sri Lanka.</p>
38.	PP 50	<p><b>Knowledge and attitudes on secondary prevention of cardiovascular diseases among adult patients attending the cardiology clinic at a selected hospital Jaffna.</b></p> <p>Aranayaka AKS, Kariyapperuma DAM, Umaamahesan B, Vijayakumar K, Madhumali DH, <u>Hasanthika WWR</u>, Edirisooriya MD, Senarath NSASN</p> <p>Department of Nursing, Faculty of Nursing, KIU, Sri Lanka.</p>
39.	PP 51	<p><b>Knowledge and attitudes among student nurses regarding the management of patients with physical restraining at the National Institute of Mental Health, Sri Lanka.</b></p> <p>Premadasa WDD, Abesinghe MCPB, Kulasekara KND, Karunathilake AMAU, Palliyaguru PGS, <u>Hasanthika WWR</u>, Kanchana KTG</p> <p>Department of Nursing, Faculty of Nursing, KIU, Sri Lanka.</p>

40.	<b>PP 53</b>	<p><b>Assessment of knowledge regarding hypothyroidism among patients diagnosed with hypothyroidism attending endocrinology clinic in Teaching Hospital, Karapitiya</b>  <u>Hathurusinghe HMS<sup>1</sup></u>, Rodrigo M<sup>2</sup>  <sup>1</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, <sup>2</sup>Department of Anatomy, Faculty of Medicine, University of Ruhuna, Sri Lanka.</p>
41.	<b>PP 54</b>	<p><b>Exploration of competency to emotional management and emotional well-being of undergraduate nursing students of University of Peradeniya who experienced emotional situations during clinical placement: A Qualitative Inquiry</b>  <u>Hathurusinghe HDHN</u>, Dassanayake HDWTD  Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.</p>
42.	<b>PP 57</b>	<p><b>Diabetic peripheral neuropathy and its associated complications among the patients attending a diabetic clinic at a selected hospital in Galle district, Sri Lanka</b>  Thuduweewaththa IC<sup>1*</sup>, Ranasinghe GHSN<sup>1</sup>, Harshani PRV<sup>1</sup>, Arachchi CBK<sup>1</sup>, Madhushani W.H.B.I<sup>1</sup>, Kariyawasam KHAY<sup>1</sup>, Nisansala MWN<sup>2</sup>  <sup>1</sup>Faculty of Nursing, KIU, Sri Lanka, <sup>2</sup>Department of Fundamentals of Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.</p>
43.	<b>PP 58</b>	<p><b>Perceived occupational health hazards among health care workers at National Hospital Sri Lanka</b>  Sandamali WLADM<sup>1</sup>, Pabasara VGM<sup>1</sup>, Zoysa KSD<sup>1</sup>, Priyani RSR<sup>1</sup>, Basnayaka M<sup>1</sup>, Edirisuriya MD<sup>2</sup>, <u>Hansini KHC<sup>2</sup></u>, Senarath NSASN<sup>2</sup>  <sup>1,2</sup> Faculty of Nursing, KIU, Sri Lanka.</p>
44.	<b>PP 60</b>	<p><b>Knowledge, attitudes and practices regarding diabetic retinopathy and eye care among diabetes patients visiting Teaching Hospital Karapitiya</b>  <u>Padmasiri MIPSK<sup>1</sup></u>, Sandamali JAN<sup>2</sup>  <sup>1</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, <sup>2</sup>Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.</p>
45.	<b>PP 62</b>	<p><b>Does fisherman have a high prevalence of musculoskeletal pain? A descriptive Cross cross-sectional study in Point Pedro divisional secretariat in Jaffna, Sri Lanka.</b>  Sritharan RS, Sivarajah T, Sivapathamsiththiravadivel S, Kanthasamy K, Sandakumai HHHS, Sewwandi KPA  Faculty of Nursing, KIU, Sri Lanka.</p>
46.	<b>PP 63</b>	<p><b>e-Health literacy among health science students at the University of Peradeniya, Sri Lanka</b>  <u>Chamara GLPS</u>, Rathnayake S  Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.</p>

47.	PP 72	<p><b>Prevalence of non-communicable diseases among the employee community of the University of Peradeniya: A prospective descriptive study</b></p> <p><u>Jayasundara JMCPB</u><sup>1</sup>, Herath C<sup>2</sup>, Liyanaarachchie LCPT<sup>1</sup>, Ralapanawa U<sup>3</sup>, Ruwanjith HAD<sup>2</sup></p> <p><sup>1</sup>Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, <sup>2</sup>Health Centre, University of Peradeniya, Sri Lanka, <sup>3</sup>Department of Medicine, Faculty of Medicine, University of Peradeniya, Sri Lanka.</p>
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49.	PP 24	<p><b>Evaluation of anthropometric patterns in women with polycystic ovarian syndrome; at Teaching Hospital Jaffna.</b></p> <p><u>Viveka M</u><sup>1*</sup>, Kajanthini B<sup>2</sup>, Gowthame V<sup>1</sup>, Arasaratnam V<sup>1</sup>, Muhunthan K<sup>3</sup>, Sutharsan M<sup>1</sup></p> <p><sup>1</sup>Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka, <sup>2</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>3</sup>Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Jaffna, Sri Lanka.</p>
50.	PP 25	<p><b>Menstrual irregularities and their association with menstrual cycle characteristics and demographic factors among female undergraduates residing in hostels of a selected state university in Sri Lanka</b></p> <p><u>Ruchirani DMM</u><sup>1</sup>, Amithma MH<sup>1</sup>, Perera PPR<sup>2*</sup></p> <p><sup>1</sup>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka. <sup>2</sup>Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
51.	PP 28	<p><b>Awareness of Dental Fluorosis among School Children in Dimbulagala Educational Zone</b></p> <p><u>Pathirana WPTD</u>, Imendra KG, Dias MPHK</p> <p>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.</p>
52.	PP 30	<p><b>Knowledge, attitudes, and practices on managing childhood post-vaccination fever: A Cross-sectional survey among the primary caregivers in the Dangedara MOH area in Sri Lanka</b></p> <p>Chathurika WKE, Madushani RN, Champika HA, Ediriweewa GADR, <u>Hasanthika WWR</u>, Senarath NSASN</p> <p>Department of Nursing, Faculty of Nursing, KIU, Sri Lanka.</p>
53.	PP 37	<p><b>Exploring parental knowledge and practices in seizure and epilepsy: A descriptive cross-sectional study</b></p> <p><u>Liyanage SMU</u><sup>1</sup>, Dissanayake AS<sup>2</sup>, Jayasinghe M<sup>2</sup></p> <p><sup>1</sup>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, <sup>2</sup>Department of Pharmacy, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.</p>

54.	PP 41	<p><b>Attitudes and practices on Attention Deficit Hyperactive Disorder (ADHD) and its associated factors among primary school teachers in the Kegalle educational zone, Sri Lanka</b></p> <p><u>Wijethilaka AHR</u><sup>1</sup>, Wijesekara DS<sup>2</sup></p> <p><sup>1</sup>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Paediatrics, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
55.	PP 46	<p><b>Satisfaction of expectant mothers on the support of husbands in the preparation for motherhood; A hospital based cross-sectional study</b></p> <p><u>Rathnayake P</u>, Rathnayake N</p> <p>Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka.</p>
56.	PP 55	<p><b>Knowledge, attitude, and practice of antenatal exercises among pregnant women attending National Hospital, Kandy, Sri Lanka</b></p> <p><u>Bandara EMIA</u><sup>1,2</sup>, Kularathne WNI<sup>3</sup>, Thilini NSW<sup>3</sup>, Nakandala NDP<sup>3</sup>, Rathnamalala RBDK<sup>3</sup>, Weerasekara I<sup>4</sup>, Wadugodapitiya SI<sup>1</sup></p> <p><sup>1</sup>Department of Physiotherapy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, <sup>2</sup>Human Health Sciences, Graduate School of Medicine, Kyoto University, Japan, <sup>3</sup>Department of Physiotherapy, National Hospital Kandy, Sri Lanka, <sup>4</sup>Faculty of Health and Social Sciences, Western Norway University of Applied Sciences, Bergen 5063, Norway.</p>
57.	PP 59	<p><b>Assessment of knowledge, awareness, and attitudes regarding Neonatal Jaundice among pregnant women attending antenatal units at Colombo South Teaching Hospital, Sri Lanka.</b></p> <p><u>Nawodya RPP</u>, Abeyratne RMTB</p> <p>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
58.	PP 73	<p><b>Do Waist-to-Hip ratio and BMI of males influence their seminal parameters?</b></p> <p><u>Fernando WWRR</u><sup>1</sup>, Tennakoon V<sup>1</sup>, Jayawardane M<sup>2</sup></p> <p><sup>1</sup>Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup>Department of Obstetrics and Gynaecology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
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61.	<b>PP 66</b>	<b>Effects of incubation of buffer solution and smear on routine Leishman staining of thin blood films</b> Ayisha MMF <sup>1</sup> , De Silva VGDG <sup>1</sup> , Fernandopulle KHBP <sup>2</sup> , Darshana LGT <sup>1</sup> <sup>1</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup> Department of Pathology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
62.	<b>PP 67</b>	<b>Knowledge, attitude and practices on internal quality control use among medical laboratory technologists in the biochemistry laboratories of selected hospitals in Colombo District</b> Morawaka NM <sup>1</sup> , Zahra RF <sup>1</sup> , Vidanapathirana DM <sup>2</sup> <sup>1</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup> Department of Pathology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
63.	<b>PP 68</b>	<b>Comparison of sheep blood agar and human blood agar for isolation and identification of pneumococcal strains</b> Handapangoda HMNP <sup>1,2</sup> , Vidanapathirana G <sup>2</sup> , Dissanayake UPRU <sup>1</sup> , Ekanayake A <sup>1</sup> , Liyanapathirana LVC <sup>1</sup> <sup>1</sup> Department of Microbiology, Faculty of Medicine, University of Peradeniya, Sri Lanka, <sup>2</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.
64.	<b>PP 69</b>	<b>Correlation of fasting blood glucose with lipid parameters in patients with diabetes mellitus attending a tertiary care hospital in Sri Lanka</b> Ubeysekara CD <sup>1</sup> , Serasinghe THDS <sup>1</sup> , Wijesekara GUS <sup>1</sup> , Jinasena TMRR <sup>2</sup> <sup>1</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup> Colombo South Teaching Hospital, Sri Lanka.
65.	<b>PP 70</b>	<b>Correlation between blood pressure and serum creatinine levels in pregnant women: a comparative study between pregnant women with normal blood pressure and pregnancy induced hypertension</b> Madhurahini R <sup>1</sup> , Balayasothini V <sup>2</sup> , Jeneni J <sup>2</sup> , Arasaratnam V <sup>1</sup> , Muhunthan K <sup>3</sup> , Aranraj T <sup>1</sup> <sup>1</sup> Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka, <sup>2</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, <sup>3</sup> Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Jaffna, Sri Lanka.
66.	<b>PP 71</b>	<b>Awareness regarding routine laboratory investigations, satisfaction towards the clinical laboratory services, and their associated factors among patients with Type 2 Diabetes Mellitus attending to diabetes clinic at a selected hospital in Sri Lanka</b> Darshani PAA <sup>1</sup> , Bhagya NGT <sup>1</sup> , Jenoshan G <sup>1</sup> , Ilankoon IMPS <sup>2</sup> <sup>1</sup> Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, <sup>2</sup> Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

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