



INTERNATIONAL RESEARCH CONFERENCE IN HEALTH SCIENCES 2025

**Research-driven solutions for global
health challenges**

Book of Proceedings

28th March 2025

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



**INTERNATIONAL RESEARCH CONFERENCE IN HEALTH SCIENCES
2025**

**Research-driven solutions for global health challenges
Book of Proceedings**

28th March 2025

Faculty of Allied Health Sciences
University of Sri Jayewardenepura



**Supported by
College of Palliative Medicine of Sri Lanka**



Faculty of Allied Health Sciences University of Sri Jayewardenepura

International Research Conference in Health Sciences 2025

“Research-driven solutions for global health challenges”

28th March 2025

University of Sri Jayewardenepura, Sri Lanka

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

Chairperson

Dr. N.D Withanage

Secretary

Dr. R.M.T.B. Abeyratne

Assistant Secretary

Dr. Ayomi Dilhari

Treasurer

Dr. D.I.G. Rajapaksha

Assistant Treasurer

Dr. B.A.G Chathuranga

Committee Members

Prof. N.R. Samaranayake

Dr. M.R.S. Jayathilake

Prof. H.M.D.R. Herath

Dr. G.P.S. Senadheera

Dr. Roshan Thotagamuge

Ms. L.C. Damayanthi

Dr. Ureshani Karunarathna

Dr. Dinithi Kaluthanthiri

Ms. D.M.P.A. Dissanayake

Ms. T.K.R.R. Senarathne

Ms. H.P.S.K. Wijekoon

Ms. T.M.D.Y.D. Wimalajeewa

Organizing Committee

Conference Chairperson

Dr. N.D. Withanage

Conference Secretaries

Dr. R.M.T.B. Abeyratne

Dr. Ayomi Dilhari

Dr. Dinithi Kaluthanthiri

Ms. T.K.R.R. Senarathna

Ms. T.M.D.Y.D. Wimalajeewa

Committee Members

Prof. N.R. Samaranayake

Dr. M.R.S. Jayathilake

Prof. H.M.D.R. Herath

Dr. G.P.S. Senadheera

Dr. Roshan Thotagamuge

Ms. L.C. Damayanthi

Dr. Ureshani Karunarathna

Ms. D.M.P.A. Dissanayake

Ms. H.P.S.K. Wijekoon

Editorial Committee

Dr. N.D. Withanage

Prof. N.R. Samaranayake

Dr. R.M.T.B. Abeyratne

Dr. Ayomi Dilhari

Dr. Dinithi Kaluthanthiri

Ms. T.K.R.R. Senarathne

Ms. T.M.D.Y.D. Wimalajeewa

Message from the Vice-Chancellor



I am delighted to convey this congratulatory message for the “International Research Conference in Health Sciences 2025 (IRCHS 2025)”, the annual research conference of the Faculty of Allied Health Sciences, University of Sri Jayewardenepura.

The theme of this year’s conference, “Research-driven solutions for global health challenges” 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 2025, 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 2025. 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



It is with great pleasure that I present this message for the proceedings of the fifth International Research Conference in Health Sciences (IRCHS) organized by the Faculty of Allied Health Sciences (FAHS). As the Dean of the Faculty of Allied Health Sciences at the University of Sri Jayewardenepura, I am truly honored to host this prestigious event for the fifth consecutive year. The theme for IRCHS 2025, "Research-driven solutions for global health challenges," underscores the critical role of scientific inquiry in addressing pressing health concerns worldwide.

Since its inception in 2021, IRCHS has served as a dynamic platform for researchers, academics, and practitioners to exchange knowledge, collaborate, and drive forward meaningful advancements in health sciences. This year, the conference expands its focus to include Nursing, Management and Health Promotion, Current Trends in Laboratory Diagnostics, Medication Safety and Public Health, and Research in Natural Products—areas of immense global interest. By fostering discussions and sharing groundbreaking research, we aim to contribute to innovative solutions that enhance healthcare practices.

A key highlight of this year's scientific program is the symposium on "Research-driven solutions for global health challenges," featuring distinguished international speakers specializing in clinical pharmacy, nursing, laboratory compliance, and optometry. Their insights will undoubtedly provide valuable perspectives to all participants and inspire further research and innovation.

The Young Innovators Award in Health Sciences encourages the groundbreaking contributions of emerging scholars in the field. I congratulate the awardees and I am quite sure that their innovations will have a potential impact on the health sciences community.

I extend my heartfelt gratitude to the esteemed international professionals, keynote speakers, and panelists for their invaluable contributions. I also commend the organizing committee for their relentless dedication to making IRCHS 2025 a reality despite the challenges faced.

As we gather to share knowledge and explore solutions, I encourage all participants to engage in thought-provoking discussions and build meaningful collaborations that will drive positive change in global healthcare.

I wish IRCHS 2025 every success and look forward to its impact on the future of health sciences.

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 that I write this message for the proceedings of the International Research Conference in Health Sciences 2025 (IRCHS 2025). As one of the most significant annual events in the Faculty of Allied Health Sciences' calendar, IRCHS 2025 marks its fifth consecutive year, organized in a hybrid format. This conference provides a vibrant platform for academics, undergraduates, postgraduates, and professionals to showcase their research and exchange knowledge on a global scale. It also unites researchers from various disciplines, encouraging interdisciplinary collaboration.

One of the standout features of this year's conference is the Faculty of Allied Health Sciences Oration, which will be delivered by Professor M.D.J Wijayabandara, Professor in Pharmacy & Pharmaceutical Sciences, Department of Pharmacy & Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura. Additionally, the keynote address will be presented by Professor M.K.D.L Meegoda, Professor in Nursing and Midwifery, Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura. Their knowledge and perspectives will undoubtedly enhance our discussions and spark innovative research directions.

The scientific program features a symposium on “Research-driven solutions for global health challenges,” facilitated by three distinguished international speakers specializing in palliative care, laboratory sciences and pharmacy. This symposium promises to be highly informative and beneficial for all attendees.

We are also proud to host the Young Innovators Award in Health Sciences for the fifth consecutive year. The Best Innovator in Health Sciences 2025, along with the 1st, 2nd Runners-up and one merit awardee, have been selected by a panel of eight expert reviewers, and the winners will be recognized at today's event.

This year, we received over 150 research abstracts across various health science disciplines. Following a rigorous review process, 100 abstracts were accepted and will be presented under the following themes: Research in natural products, Medication safety and public health, Current trends in laboratory diagnostics, Nursing management and health promotion, Novel formulations and drug discovery, Health and nutrition, Reproductive, maternal, and child health.

I would like to extend my heartfelt appreciation to the Secretary and Conference Secretaries for their tireless efforts, which went far beyond expectations to ensure the success of this event. My sincere gratitude also goes to the reviewers, whose dedication to maintaining the highest academic standards has been instrumental in the success of IRCHS 2025.

Additionally, I would like to acknowledge the contributions of Dean of the Faculty of Allied Health Sciences, Prof. D.I. Uluwaduge, for her unwavering support, cooperation, advice, and guidance, Dr. Roshan Thotagamuge and his team for providing essential technical support, Dr. Ureshani Karunarthna and her team for their meticulous hospitality arrangements.

A special thanks to all sponsors of IRCHS 2025 for their generous financial support. I am truly grateful for the collective efforts of the academic and non-academic staff of FAHS, whose unity and dedication have made this conference possible.

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

Dr. N.D Withanage
Conference Chair 2025
Faculty of Allied Health Sciences
University of Sri Jayewardenepura

Faculty of Allied Health Sciences Oration

Sri Lanka’s Future in Pharmaceutical Manufacturing

Prof. M.D.J. Wijayabandara

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



This talk presents a forward-thinking framework to transform Sri Lanka into a globally competitive and pharmaceutically self-sufficient nation. Global health crisis posed by non-communicable diseases (NCDs), accounting for nearly 74% of global mortality, and the primary reason for a significant gap between health span and life span urges a paradigm shift in healthcare management from an ‘Illness industry’ to a ‘wellness industry’. Integrating prognostics, preventive therapeutics and holistic wellness practices is central to increasing human health-span. Preventive therapeutics, including nutraceuticals—a rapidly expanding market projected to exceed USD 1 trillion by 2033—are emphasized as pivotal to bridging the gap between life span and health span and a promising opportunity space.

Sri Lanka’s pharmaceutical manufacturing industry fulfills only 15% of the nation’s pharmaceutical needs through domestic production, with 300 of the 862 products utilized nationally being manufactured locally. Heavy reliance on imported raw materials, competition from imports, and workforce shortages represent significant hurdles to the expansion of manufacturing capabilities. The discourse highlights the role of academic institutions in addressing these challenges.

A vision to strengthen domestic pharmaceutical production focuses on developing Active Pharmaceutical Ingredient (API) manufacturing, expanding therapeutic domains into biotherapeutics and cytotoxic medicines, and fostering export-driven growth. Collaborative efforts between public and private sectors, as well as leveraging trade agreements, are proposed to position Sri Lanka as a trusted regional supplier of high- quality generic medicines and pharmaceuticals.

Achieving operational excellence necessitates the integration of advanced methodologies such as Quality by Design (QbD), predictive maintenance systems, blockchain-enabled supply chains, and sustainable green chemistry principles. Addressing compliance gaps, embedding global standards like WHO-GMP and USFDA, and fostering sustainable practices are critical to ensuring safety, efficacy and global competitiveness.

Academic institutions must bridge the gap between research and industrial applications by revising curricula to align with emerging sectoral needs, fostering collaborations with industrial partners, and enhancing industry-focused training paradigms. These initiatives aim to cultivate a highly skilled workforce capable of driving innovation and operational excellence in the pharmaceutical sector.

By uniting policymakers, industry stakeholders, and academic institutions, Sri Lanka can embrace preventive healthcare, technological innovation, and strategic partnerships to achieve sustainable economic growth and elevate national healthcare standards for future generations.

Keynote Speech

Research driven approaches for global health

Prof. M.K.D.L Meegoda

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



Global health focuses on improving health and achieving equity worldwide by addressing transnational health issues through interdisciplinary collaboration and a blend of population-based prevention and clinical care. It emphasizes the need for collaboration across various sectors to manage health challenges that transcend national borders. Key priorities in global health include reducing the burden of diseases, improving healthcare access, and addressing social determinants of health, such as climate change, poverty, and inequality. A fundamental goal is to achieve global equity in healthcare by ensuring that all individuals, regardless of their location

or socioeconomic status, have access to the necessary health services.

Non-communicable diseases (NCDs) like Diabetes Mellitus, cancer, and heart disease account for over 70% of global deaths, including 15 million premature deaths (ages 30–69) annually. The rise of NCDs is driven by five key risk factors such as tobacco use, physical inactivity, harmful alcohol consumption, unhealthy diets, air pollution and pandemics, such as HIV, Influenza, SARS, and Ebola. Drought, shortages, conflicts, displacement, and weak health systems deprive vulnerable groups of basic care. Animal health is closely linked to human health, particularly through the food chain, where agricultural practices such as irrigation, pesticide use, and waste management can impact disease transmission. Biggest health challenges the which have to face by the globe are, climate crisis, health care delivery in areas of conflict and crisis, healthcare equality, access to treatments, infectious disease prevention, epidemic preparedness, unsafe products, underinvestment in healthcare workers, adolescent safety, improving public trust in healthcare workers, capitalizing on technological advancements, threat of anti-microbial resistance and other medicine and healthcare sanitation. The Global Health Strategy for 2025-2028 aims to save 40 million lives over the next four years through three key approaches of promote health, provide health and protect health. Simultaneously by 2030, Sustainable Development Goal 3 aims to ensure good health and well-being for all, focusing on reducing maternal and child mortality, ending epidemics, combating non-communicable diseases, improving access to sexual and reproductive health services, achieving universal health coverage, and addressing environmental health hazards. The prevention of non-communicable diseases can be achieved through a variety of public health strategies. Tobacco control policies, such as banning all forms of tobacco advertising and promoting anti-smoking campaigns, are essential to reduce smoking-related diseases.

Limiting the availability of alcohol through regulation and taxation is another effective strategy for reducing alcohol-related harm. Early detection through regular screenings and preventive interventions, such as mammography for breast cancer or eye exams for diabetic retinopathy, can significantly improve health outcomes. Additionally, lifestyle interventions aimed at reducing the risk of Type 2 diabetes through physical activity and diet changes are key in preventing NCDs. Vaccination programs for hepatitis B to prevent liver cancer, and promoting regular cancer screenings, further contribute to reducing the burden of NCDs. Healthcare trends should be focused on sustainable costs, leveraging AI for better clinical trials and drug manufacturing, increasing transparency for improved patient outcomes, and advancing digital health through mobile apps and wearables. These tools allow for personalized patient care, remote monitoring, and better management of chronic conditions, contributing to improved patient outcomes and more sustainable healthcare systems.

Allied health professionals (AHPs) play a significant role in healthcare, and their contributions to research, curriculum development, policy making, and collaborative efforts can make a profound impact on healthcare delivery and public health outcomes. Collaboration among AHPs, healthcare providers, and international teams in conducting research is essential in addressing complex health challenges. By engaging in multidisciplinary research and working together with professionals from various fields, AHPs contribute to more integrated and holistic care models. Further, curriculum development or regular revisions, contributions to policy making and national planning, and dissemination of findings on future trends in global health challenges are similarly important.

In conclusion, global health faces a wide range of challenges, including the rise of non-communicable diseases, infectious disease threats, and healthcare disparities. Addressing these challenges requires a multifaceted approach, including health promotion, strengthening healthcare systems, and leveraging technological innovations. Allied health professionals play an essential role in improving healthcare delivery, conducting research, and shaping health policies. Their contributions will be vital in ensuring that health systems worldwide are equipped to address the complex health challenges of the future, promoting health equity and resilience in a rapidly changing world.

Scientific Programme – IRCHS 2025

28th March 2025

11.00 a.m. – 11.30 a.m.	Keynote Address Prof. M.K.D.L. Meegoda <i>Professor in Nursing and Midwifery Department of Nursing and Midwifery Faculty of Allied Health Sciences University of Sri Jayewardenepura, Sri Lanka</i>		
11.30 a.m. – 1.30 p.m.	Symposium on “Research-driven solutions for global health challenges” <i>Chairperson: Dr. Dilanthi Herath</i>		
11.30 a.m. – 12.00 noon	Impacts on global health from nursing research Dr. Kusum Kumari <i>Associate Professor, PhD (AIIMS, Rishikesh), Fellowship in Palliative Care (IPM-Kerala) MN, RN & RM All India Institute of Medical Sciences, Deoghar, Jharkhand, India</i>		
12.00 noon – 12.30 p.m.	Diet, gum disease, and systemic health: Unravelling the complex web of oral microbiome, bacterial translocation, and chronic diseases Dr. Thilini Jayasinghe M. Vidanelage <i>Faculty of Medicine and Health School of Dentistry and Charles Perkins Centre The University of Sydney, NSW</i>		
12.30 p.m. – 1.00 p.m.	AI in Pharmacy Prof. Pauline Siew Mei LAI <i>Department of Primary Care Medicine Faculty of Medicine University of Malaya Malaysia</i>		
1.30 p.m. – 2.15 p.m.	Lunch		
2.15 p.m. – 3.15 p.m.	Oral Presentations		
Chairperson	Session I - Oral <i>Track - Nursing Management and Health Promotion – I (Venue - Mini Boardroom, Faculty of Management Studies, University of Sri Jayewardenepura)</i> Dr. Sunethra Jayathilake	Session II – Oral <i>Track - Current Trends in Laboratory Diagnostics (Venue - Senate Boardroom, University of Sri Jayewardenepura)</i> Dr. Indu Rajapaksha	Session III – Oral <i>Track - Research in Natural Products and Drug Discovery – I (Venue - Lecture Hall 1, Dept. of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura)</i> Prof. Nithushi Samaranayake

<i>Presentation identifier</i>	OP2, OP3, OP4, OP5	OP9, OP10, OP11, OP12, OP13, OP14	OP25, OP26, OP27, OP30, OP31		
3.15 p.m. – 4.15 p.m.	Oral Presentations				
<i>Chairperson</i>	Session I – Oral continue.. <i>Track - Nursing Management and Health Promotion –II (Venue - Mini Boardroom, Faculty of Management Studies, University of Sri Jayewardenepura)</i> Dr. Sunethra Jayathilake	Session IV– Oral <i>Track - Medication Safety and Public Health (Venue - Senate Boardroom, University of Sri Jayewardenepura)</i> Dr. Dilanthi Herath	Session V– Oral <i>Track - Research in Natural Products and Drug Discovery - II(Venue - Lecture Hall 1, Dept. of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura)</i> Dr. Madhavi Pahalagedara		
<i>Presentation identifier</i>	OP6, OP7, OP8	OP15, OP16, OP17, OP18, OP19, OP20, OP21	OP22, OP23, OP24, OP28, OP29		
2.15 p.m. – 4.15 p.m.	Poster Presentations				
	Venue - (Venue - Lecture Hall 1, Dept. of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura)				
	Screen 1 <i>Track - Health and Nutrition</i>	Screen 2 <i>Track - Current Trends in Laboratory Diagnostics</i>	Screen 3 <i>Track- Medication Safety and Public Health</i>	Screen 4 <i>Track - Nursing Management and Health Promotion</i>	Screen 5 <i>Track - Reproductive, Maternal and Child Health</i>
<i>Presentation identifier</i>	PP63,PP64,PP65, PP66,PP67,PP68	PP49,PP50,PP51, PP52,PP53,PP54 PP55,PP56,PP57. PP58,PP59,PP60, PP61,PP62	PP10,PP11,PP12, PP13,PP14,PP15, PP16,PP17,PP18 PP19,PP20,PP21	PP2,PP23,PP24, PP25,PP26,PP27, PP28,PP29,PP30, PP31,PP32,PP33, PP34,PP35	PP22,PP36, PP40,PP41,PP42, PP43
	Screen 1 <i>Track - Research in Natural Products</i>				Screen 5 <i>Track - Education & Use of Technology in Health and Health Sciences</i>
<i>Presentation identifier</i>	PP1,PP3 PP4,PP5,PP6,PP7 PP8,PP9				PP37,PP38,PP39, PP45,PP46,PP47, PP48
4.15 p.m. – 4.30 p.m.	Tea				
4.30 p.m.– 5.15 p.m.	Awards Ceremony & Closing Remarks				
	Best Oral and Poster Presentations				

Young Innovators Award Reviewers – International Research Conference in Health Sciences 2025



Senior Prof. Surangi Yasawardene
Dean, Faculty of Dental Sciences,
University of Sri Jayewardenepura



Dr. Senaka Pilapitiya
Dean, Faculty of Medicine,
University of Moratuwa



Prof. Lohini Athiththan
Department of Biochemistry,
Faculty of Medical Sciences,
University of Sri Jayewardenepura



Dr. Uthpali Mannapperuma
Department of Pharmacology,
Faculty of Medicine, UOC



Prof. Madhura Jayasinghe
Department of Food Science and
Technology, Faculty of Applied Sciences,
University of Sri Jayewardenepura



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



Dr. Sajjaith Udayanga
Department of Sports Science,
Faculty of Applied Sciences, USJ



Ms. Pubuduni Danthanarayana
Manager - Production, State
Pharmaceuticals Manufacturing
Corporation, Sri Lanka

Story of Young Innovators in Health Sciences Best Innovator



Development and characterization of fermented spread from cow milk and coconut milk creams

Jayasooriya DGSC, Dais PGI*

Department of Food Science and Technology, Faculty of Applied Sciences,

Sabaragamuwa University of Sri Lanka

*(email: [*gavanidias@appsc.sab.ac.lk](mailto:gavanidias@appsc.sab.ac.lk))*

Overview

Sri Lanka, the fifth-largest coconut producer globally, holds untapped potential for expanding value-added coconut-based products such as coconut spreads. Fermentation offers enhanced bioavailability of nutrients and probiotics in dairy butter; it is less popular in Sri Lanka due to its unappealing flavor profile. The growing demand for plant-based milk products, driven by their healthy fat composition and suitability for lactose-intolerant consumers, presents an opportunity to explore plant-based creams as alternatives for developing fermented fat spreads.

However, plant-based creams are prone to melting at room temperature and use chemical hydrogenation to enhance stability, which may lead to the formation of harmful trans fats. This research aims to address this challenge by developing a novel product combining cow and coconut milk creams. Such an approach could leverage the properties of both ingredients to enhance stability, nutritional value, and consumer acceptability, thereby promoting sustainable and healthier food options.

Objectives

Developing fermented spreads from cow and coconut milk creams was the main objective. Assess the cream yield and churning efficiency and develop fat spreads from fermented and non-fermented coconut, cows, and mixed creams and determine their proximate composition, fatty acid

profile, techno-functional properties, texture profile, probiotic viability, and shelf stability were the specific objectives.

Methods

Five butter/spread samples were formulated: non-fermented cow's cream butter (NFCC), non-fermented coconut cream spread (NFCOC), fermented cow's cream butter (FCC), fermented coconut cream spread (FCOC), and a 1:1 blend of fermented cow's and coconut creams (FMC). Fermentation was carried out using a mixed culture of *Lactobacillus spp.*, *Streptococcus spp.*, and *Bifidobacterium lactis*. Cream yield and churning efficiency were determined for all samples. Proximate composition (moisture, ash, and fat percentages) was analyzed using standard methods. The melting point was measured using a cold-water bath setup, while instrumental analysis of color (L^* , a^* , b^* values) and texture (hardness, cohesiveness, and adhesiveness) was performed using a chromometer and a texture analyzer, respectively. The chemical composition of the butter samples was characterized using Fourier Transform Infrared Spectroscopy (FTIR) in the mid-infrared region ($4000\text{-}400\text{ cm}^{-1}$). Sensory evaluation was conducted with 30 untrained panelists using a five-point hedonic scale. Shelf stability was evaluated over three weeks by monitoring peroxide value, pH changes, and microbial count under refrigerated storage conditions. Probiotic stability was assessed by culturing in MRS medium.

Results

FCOC demonstrated the highest churning efficiency (53%), approximately ten times greater than NFCC, due to its unique fat composition and emulsification properties, making its production highly cost-effective. FCOC also exhibited the highest fat percentage (83%) and a high concentration of unsaturated and medium-chain fatty acids, indicating its superior nutritional profile. FCOC had the lowest melting point ($27.33^{\circ}\text{C}\pm 0.58$), making it softer and more spreadable at room temperature. FMC showed an improved melting point ($30.67^{\circ}\text{C}\pm 0.58$), enhancing the texture stability of FCOC.

The incorporation of coconut cream in the blend contributed to improved cohesiveness, spreadability, and probiotic viability, offering a balanced texture and functional benefits. Sensory evaluation revealed that NFCC achieved the highest overall acceptability score (4.38 ± 1.03), likely due to its mild and familiar flavor. However, FMC stood out in appearance (4.80 ± 0.41) and color preference (4.70 ± 0.45), with the yellowness of cow's cream contributing to its visual appeal. In terms of shelf stability, FCOC displayed superior oxidative and probiotic stability, with the lowest peroxide values and minimal yeast and mold counts at refrigerated conditions. This suggests that fermentation, coupled with the unique properties of coconut cream, enhances the shelf life of butter products.

Conclusions

Coconut spreads offer distinct nutritional, health, and techno-functional advantages over dairy butter. Coconut cream, rich in unsaturated and medium-chain fatty acids, enhances spreadability, cohesiveness, and probiotic viability. Its higher fat content and butter yield contribute to lower production costs compared to cow's cream spreads. Fermentation further improves fat extraction, enhances shelf stability, and health benefits.

Blending coconut and cow creams improves consumer preference and texture stability by increasing the melting point, ensuring stable spreads at room temperature. This approach eliminates the need for chemical hydrogenation, thus avoiding harmful trans-fat formation. The method provides a healthier, plant-based fat alternative with extended shelf life and improved functional properties, addressing the growing demand for sustainable and functional foods.

Practical implications

This innovation offers a practical solution to the limited popularity of fermented butter in Sri Lanka by incorporating coconut cream, a key ingredient in local cuisine. The integration of coconut cream creates a product that aligns with Sri Lankan flavor preferences, potentially improving the acceptance of fermented butter among consumers. Additionally, this product can diversify the dairy market by introducing a new category of functional, nutrient-rich fat spreads that cater to health-conscious individuals. By leveraging the natural properties of both cow and coconut cream, this approach can create a healthier, cost-effective, and sustainable alternative to conventional dairy spreads.

Novelty

There is limited literature published on characterizing fermented coconut spread, and this study addresses the research gap. Additionally, fermented butter is seldom available in local markets and international markets. This product serves to fill that market gap. The integration of plant-based fat and probiotics provides a unique nutritional and phytochemical composition.

Unlike conventional butter or plant-based spreads, this blended fermented spread achieves a unique balance of nutritional value and sensory appeal. The blending process also eliminates the need for chemical modifications such as hydrogenation, making it a clean-label product that aligns with modern consumer trends toward natural and minimally processed foods.

Benefits to the society

This innovation promotes health and sustainability by offering a functional food product made from locally sourced coconut milk cream, rich in unsaturated and medium-chain fatty acids that support heart health and energy metabolism. Enhanced with probiotics, it improves digestion and gut health, making it ideal for a wide audience, including those with lactose intolerance. It serves as a healthier, plant-based alternative to butter while supporting local agriculture and reducing import dependency. Process optimization ensures minimal trans fat formation and eliminates artificial additives, providing a natural, health-focused option that aligns with sustainable food production in Sri Lanka.

Story of Young Innovators in Health Sciences 1st runner-up



Planter pressure monitoring and logging system

Dharmarathna HAI*, Alkegama AHDW, Jayaweera JMMG, Kudawithana KDS, Leanage HB, Senanayake SV, Gunawardana KDBH, Seneviratne JA
Department of Physics and Electronics, University of Kelaniya, Sri Lanka.

*haianushan@gmail.com

Overview

Foot problems have become common, and demands for accurate biomechanical measurements have risen significantly. Plantar pressure analysis can assess the need for clinical diagnostic evaluation for the intervention of physical therapy and rehabilitation processes to prevent motion-related injuries. Furthermore, planter pressure monitoring can provide an insight to the foot movements of athletes to improve performance in sports.

The research aims to improve sports performance, injury prevention, and foot health by addressing the limitations of current foot biomechanics assessment methods. This work involves development of a real-time Plantar Pressure Monitoring and Foot Arch Analysis system and utilizes wearable technology and real-time web applications. The system aims to provide immediate feedback, optimize athletic training, reduce injury risks, and improve foot health management. This innovative solution is designed for practical application in athletic scenarios, benefiting athletes and individuals seeking better foot health awareness.

Objectives

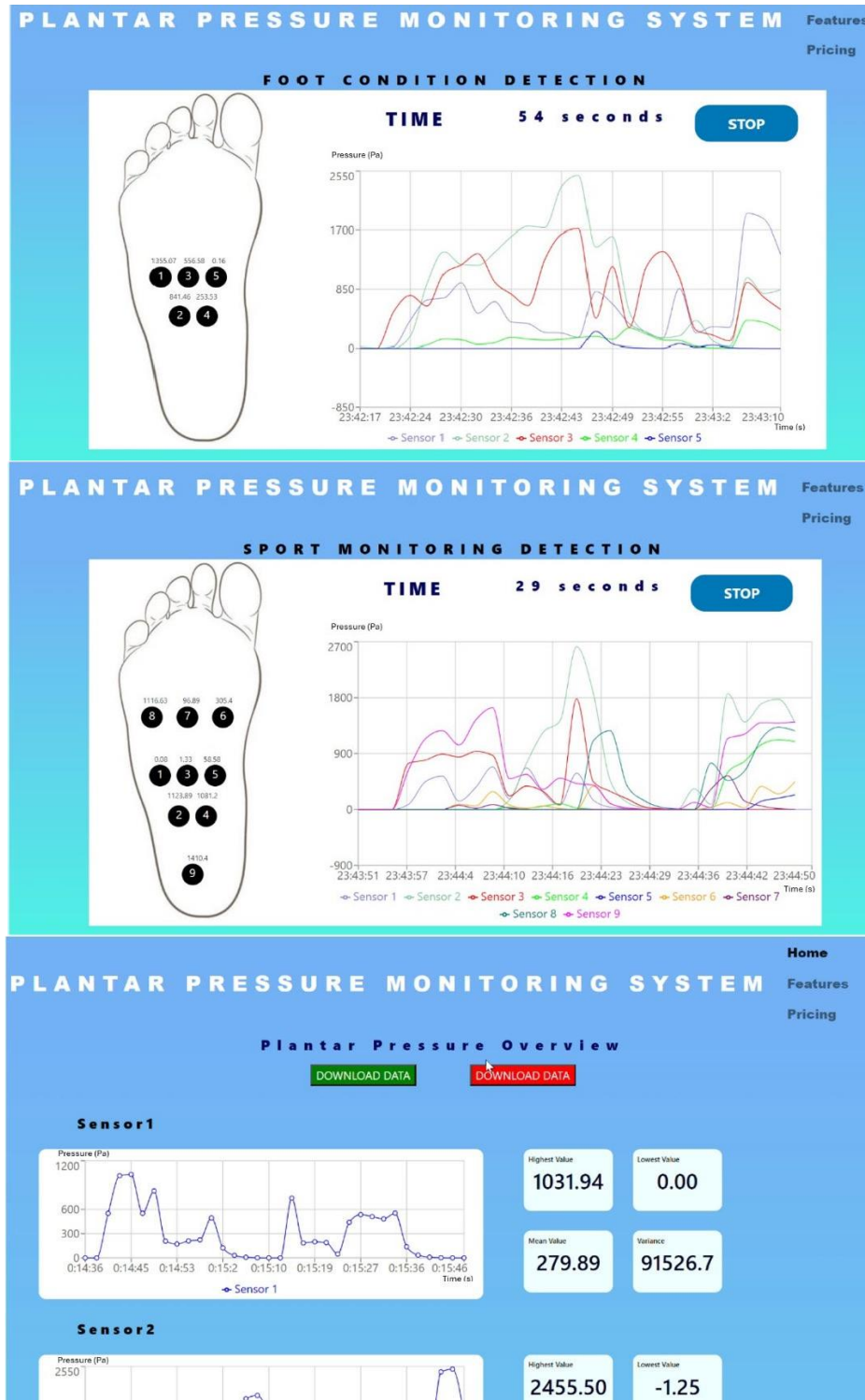
The system aims to monitor plantar pressure, classify foot arch types, track pressure variations during activity, provide real-time and historical data visualization, support long-term tracking, and enable injury prevention through early abnormality detection, all seamlessly integrated into athletic footwear.

Methods

The system employs multiple sensors strategically placed across the insole to monitor plantar pressure, covering the heel, forefoot, and arch areas. These sensors collect data on pressure distribution and foot mechanics during activities. The gathered data is processed and stored in a connected platform, enabling real-time access and analysis. Users can assess their foot arch type or analyze pressure patterns during athletic movements, providing valuable insights for foot health and performance optimization.

Results and Findings

Results obtained are stored in a real time database. Real-time results, along with graphical representations, are displayed using web technology. This setup enables efficient storage, analysis, and visualization of data, facilitating the interpretation of pressure distribution patterns and supporting informed decision-making regarding foot health and biomechanics.



Conclusions

The Plantar Pressure Monitoring System represents a breakthrough in foot biomechanics, delivering real-time pressure analysis for athletes and clinicians. Collected information can be used to reduce injury risks and promote foot health. By combining advanced sensors, precise analytics, and user-friendly interfaces, the system offers comprehensive insights to optimize training and improve foot health management.

Practical Implications

The Plantar Pressure Monitoring and Logging System is a practical, innovative solution designed to address the limitations of traditional foot biomechanics analysis methods by providing real-time, continuous monitoring of pressure distribution across key regions of the foot. Leveraging IoT technologies and wearable design, the system integrates seamlessly into athletic footwear, enabling precise detection of conditions like flat feet and arched feet, which in turn help optimizing training and preventing injuries. It significantly impacts science by advancing understanding of foot biomechanics and generating valuable data for research, while benefiting industries like sports, footwear, and healthcare through enhanced performance, injury prevention, and personalized health solutions. Globally, it promotes awareness of foot health and offers affordable, scalable technology applicable to diverse populations. This project demonstrates the transformative potential of combining biomechanics, wearable technology, and data analytics, providing actionable insights and setting a foundation for future innovations in health monitoring.

Novelty

The System introduces a novel approach to foot biomechanics by enabling real-time, continuous monitoring of pressure distribution across the foot during both static and dynamic activities, offering unmatched accuracy and practicality compared to traditional methods. Designed to be lightweight and seamlessly wearable within athletic footwear, the system ensures flexibility and comfort, allowing athletes to use it during sports and activities without obstacle. This innovative system benefits society by improving athletic performance, reducing injury risks, and promoting foot health awareness. Athletes gain precise, actionable insights to enhance training and prevent overuse injuries, while healthcare professionals can utilize the system for early detection and management of foot conditions like flat foot or arch-related issues. Additionally, individuals with foot health concerns, can benefit from long-term monitoring to improve mobility and quality of life. By combining advanced analysis with wearable flexibility, the system delivers significant value to sports, healthcare, and the general population.

Story of Young Innovators in Health Sciences 2nd runner-up



A non-invasive method for diabetes diagnosis through pulse wave analysis and deep learning

Gunathilaka PADHJ^{1,2*}, Rajapaksha RARS³, Kumarika BMT³, Perera DP⁴, Herath MHMUP⁵, Jayathilaka KMDC², Liyanage JA⁶, Kalingamudali SRD²

¹*Department of Rogavignana, Faculty of Indigenous Medicine, Gampaha Wickramarachchi University of Indigenous Medicine, Yakkala, Sri Lanka*

²*Department of Physics and Electronics, Faculty of Science, University of Kelaniya, Kelaniya, Sri Lanka*

³*Department of Statistics & Computer Science, Faculty of Science, University of Kelaniya, Kelaniya, Sri Lanka*

⁴*Myall Medical Practice, Dalby, Queensland, Australia*

⁵*Colombo North Teaching Hospital, Ragama, Sri Lanka*

⁶*Department of Chemistry, Faculty of Science, University of Kelaniya, Kelaniya, Sri Lanka*

**hirunij@gwu.ac.lk*

Overview

Pulse diagnosis is a widely recognized method for evaluating the condition of the body through palpation of the pulse at various anatomical locations. The pulse contains valuable physiological and pathological information, yet the accurate interpretation of subtle variations requires extensive training and experience. Traditional pulse diagnosis by palpation is inherently subjective and lacks objective validation. Diabetes, a chronic metabolic disorder affecting millions globally, can lead to alterations in the structure and function of arteries, thereby influencing the characteristics of pulse waves. In this context, deep learning, a subset of artificial intelligence (AI), offers a promising solution. It can automate the process, learn relevant features, and manage data to enhance pattern recognition in medical images. This study aims to develop a non-invasive diagnostic method for diabetes using pulse wave analysis (PWA), combined with deep learning techniques such as Convolutional Neural Networks (CNN), Visual Geometry Group 16 (VGG16), and Residual Networks 18 (ResNet18), to classify pulse waveforms of diabetic and healthy individuals.

Objectives

The primary objective was to assess the efficacy of pulse wave analysis (PWA) in distinguishing between diabetic and non-diabetic individuals, focusing on the morphological changes in pulse waves that occur due to the physiological differences between these groups. The study aims to highlight how these variations in pulse wave characteristics can serve as a reliable indicator for diabetes diagnosis.

Methods

The study employed four phases: data collection, preprocessing, CNN model construction, and performance evaluation. Data were collected using a multiparameter patient monitor, including 115 diabetic patients and 61 healthy individuals. A total of 2000 pulse wave cycles were collected, with 1000 cycles from each group. These were divided into training (60%), validation (20%), and testing (20%) sets, resulting in 600 training, 200 validation, and 200 testing samples per group. Pulse wave images were processed and resized for input into deep learning models. The study utilized CNN, VGG16, and ResNet18 models, with the performance evaluated using accuracy, precision, recall, and F1 score.

Findings

The CNN achieved a training accuracy of 82.09% and a testing accuracy of 80.6%. The VGG16, with its deeper architecture, outperformed the baseline, attaining training and testing accuracies of 90.2% and 86.57%, respectively. ResNet18 performed the best, with a training accuracy of 92.50% and a testing accuracy of 92.00%.

Conclusions

The study concluded that deep learning models, particularly ResNet18, hold significant potential for non-invasive diabetes diagnosis through pulse wave analysis. The high accuracies achieved by these models provide evidence that pulse wave characteristics are altered in diabetes patients compared to healthy individuals, supporting the use of pulse wave analysis for early detection and intervention in diabetes.

Practical Implications – what can be learned from this project?

This research suggests that pulse wave analysis combined with deep learning could be utilized as an efficient and non-invasive diagnostic tool for diabetes, which could be integrated into clinical practice to enable timely diagnosis and better management of the condition.

Novelty

The study introduces a novel approach by applying deep learning models to image processing of finger pulse PPG images for classifying pulse wave data, a field that has not been widely explored for non-invasive diabetes diagnosis.

Benefit to the society

This research can significantly benefit society by providing a non-invasive, pain-free method for diabetes diagnosis, eliminating the need for hazardous chemicals, needles, and other potentially harmful materials used in traditional Fasting Blood Sugar (FBS) tests and glucometers. By removing these risks, the method offers a safer and more environmentally friendly alternative, reducing waste and health hazards associated with the current invasive diagnostic procedures. Furthermore, it provides a real-time diagnostic approach that does not require lab visits, allowing the system to alert the patient if their pulse waves exhibit diabetes-related changes, prompting them to seek immediate medical attention and treatment. Additionally, it promotes broader accessibility to diabetes screening, which can lead to earlier detection, timely interventions, and better management of the disease, ultimately improving public health outcomes.

Acknowledgement

This work was supported by the Research and Publication Division at the University of Kelaniya under the research grant RP/03/02/08/03/2022.

Story of Young Innovators in Health Sciences Merit Award



Use of Palmyra palm (*Borassus flabellier Linn*) syrup and Kitul palm (*Caryota urens*) syrup as binding agents in tablet formulation

Tharsika K^{1*}, Madushani JS¹, Herath HMDR²

¹Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya

²Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences,
University of Sri Jayewardenepura

*email: tharsikanthasamy@gmail.com

Overview

Tablets are a widely used solid dosage form, combining active pharmaceutical ingredients (APIs) with excipients. Among these, binders are essential for providing cohesiveness and structural integrity to tablets. These binders can be classified as synthetics and natural binders. While synthetic binders offer good mechanical properties, they can cause toxicity, environmental pollution, and manufacturing issues. Natural binders, like plant-derived gums, mucilage, starches, and syrups, are safer, eco-friendly, cost-effective, and widely available alternatives, with significant potential for innovation in drug delivery systems.

Palmyra palm (*Borassus flabellifer* Linn) syrup and kitul palm (*Caryota urens*) syrup are traditional natural sweeteners in Sri Lanka and other Asian countries. These nutrient-rich syrups, derived through natural processes, possess unique flavors, colors, and binding properties. They can mask unpleasant tastes and odors in pharmaceutical formulations, while also providing natural coloring and binding capabilities. Their affordability and availability make them attractive for tablet production, including chewable tablets.

This study investigates the binding ability of these two syrups in tablet formulations. It explores their potential to enhance binding properties, and add other properties like taste masking and coloring, offering an innovative and sustainable approach to tablet manufacturing.

Objectives

To evaluate palmyra palm syrup and kitul palm syrup as natural tablet binders.

Methods

Palmyra palm syrup and kitul palm syrup were prepared by collecting sap water from the palm trees, filtering, and heating it to a syrup consistency. The syrups were stored in refrigeration until use. Maize starch paste was prepared as a standard binder for comparison.

The syrups were analyzed for properties like absorbance (at 640 nm), pH, Brix value, density, and viscosities (dynamic and kinematic).

Frusemide served as the API in tablet formulations. Placebo granules were initially prepared using maize starch paste, palmyra palm syrup, and kitul palm syrup, with lactose monohydrate replacing frusemide. After finalizing the placebo formulation, frusemide granules were prepared using the same method and binders. The granules were tested for quality, including moisture content, angle of repose, bulk density, tapped density, Carr's index, and Hausner ratio, before compression into tablets.

The placebo and frusemide tablets were evaluated for weight variation, hardness, and friability. Frusemide tablets were further tested for disintegration time, dissolution profile, and drug content assay, following British Pharmacopoeia (BP) 2020 standards. Statistical analysis was performed using SPSS (version 22.0), with $p < 0.05$ considered significant.

Results

The palmyra palm syrup and kitul palm syrup were dark brown to amber in color with a pleasant aroma. Quality control tests showed that kitul palm syrup had higher viscosity, density, and Brix value compared to palmyra palm syrup.

Granules prepared with syrups were sunset yellow, aromatic, and uniform in size, while those with maize starch paste were white. Moisture content ranged from 1.664% to 1.789%. Frusemide granules with kitul palm syrup showed no significant difference in moisture content ($p = 0.464$) compared to maize starch paste, while placebo granules with kitul palm syrup showed a significant difference ($p = 0.034$). The angle of repose indicated fair flow properties for all granules, and Carr's index and Hausner ratio suggested excellent flowability, with only frusemide granules with kitul palm syrup showing a significant difference ($p = 0.001$) in Carr's index. Tablets made with syrups were round, flat, bisected, sunset yellow, and aromatic, while those with maize starch paste were white. All tablets met weight uniformity standards with no significant differences ($p > 0.05$). Frusemide tablets with palmyra palm (99.130±9.326 N) and kitul palm syrup (120.140±17.182 N) were significantly harder ($p < 0.05$) than those with maize starch paste (57.060±7.554 N). Placebo tablets with kitul palm syrup showed no significant hardness difference ($p = 0.325$). All tablets had friability below 1% w/w, with no significant differences for frusemide tablets made with palmyra palm syrup and kitul palm syrup ($p = 0.133$, $p = 0.310$).

Disintegration times for tablets with palmyra palm syrup, kitul palm syrup, and maize starch paste were 7.594±0.129 min, 7.211±0.549 min, and 8.906±0.183 min, respectively, with significant differences for syrups ($p = 0.014$, $p = 0.044$). Frusemide content in tablets with palmyra palm syrup, kitul palm syrup, and maize starch paste was 101.315±1.482%, 101.322±3.053%, and 102.780±2.305%, with no significant differences for tablets made with respective syrups ($p = 0.429$, $p = 0.849$). All frusemide tablets released over 85% of the drug within 40 minutes. Frusemide tablets with kitul palm syrup showed a significant difference in dissolution ($p = 0.044$) compared to maize starch paste, while those with palmyra palm syrup did not ($p = 0.075$).

Dissolution profiles showed progressive drug release, with all formulations achieving over 80% dissolution within 40 minutes. Tablets with syrups demonstrated excellent dissolution rates, with no significant differences ($p>0.05$) compared to those with maize starch paste.

Conclusion

This study shows that palmyra palm syrup and kitul palm syrup are highly efficient binders compared to maize starch paste, a widely used binder. Their nutritional value, pleasant aroma, and natural coloring make them excellent candidates in tablet formulations.

Practical Implications

Palmyra palm syrup and kitul palm syrup are cost-effective, natural alternatives to synthetic binders in tablet production. Their use lowers manufacturing costs and supports environmentally friendly practices.

These syrups enhance the color and aroma of tablets, making them more appealing especially for children and older adults. Additionally, they ensure safer, ecofriendly tablets while addressing environmental concerns such as toxicity and pollution associated with synthetic binders.

Incorporating culturally significant ingredients like palmyra and kitul syrups can increase patient trust and acceptance, especially in local communities where these syrups are widely known and valued.

Novelty

This is the first research that explores the use of palmyra palm syrup and kitul palm syrup as tablet binders. Unlike conventional binders like maize starch paste, these syrups serve dual function as binders and natural flavor enhancers of tablet (smell and appearance). This innovative approach reduces production costs and adds significant value to pharmaceutical application.

Benefits to the Society

Using locally available syrups like palmyra and kitul can make medicines more affordable and accessible, especially in low-income regions. Supporting syrup production for tablet manufacturing can boost rural economies and provide livelihoods for farmers. These biodegradable syrups reduce environmental impact, while improving treatment adherence and health outcomes through safer, more tolerable, and pleasant tablet formulations.

Symposium on “Research-driven solutions for global health challenges”



Dr. Kusum Kumari

Associate Professor

PhD (AIIMS, Rishikesh), Fellowship in Palliative Care (IPM-Kerala), MN, RN & RM
All India Institute of Medical Sciences, Deoghar, Jharkhand, India



Dr. Thilini Jayasinghe M. Vidanelage

Faculty of Medicine and Health, School of Dentistry and Charles Perkins Centre
The University of Sydney, NSW



Prof. Pauline Siew Mei LAI

Department of Primary Care Medicine, Faculty of Medicine, University of Malaya
Malaysia

Impacts on Global Health from Nursing Research



Dr. Kusum Kumari

Associate Professor

PhD (AIIMS, Rishikesh), Fellowship in Palliative Care (IPM-Kerala), MN, RN & RM
All India Institute of Medical Sciences, Deoghar, Jharkhand, India

In many contexts, nurses often referred to as the "backbone of health-care systems" are essential for the identification, management, and avoidance of infectious diseases. Nine out of ten patients worldwide are actually under the care of nurses. Florence Nightingale acknowledged more than a century ago the importance of formal nursing education as well as the nurse's ability to enhance patient outcomes. When she noticed that British soldiers in the Crimean War were more likely to die from illness than from combat injuries, she was hailed as an early and outstanding pioneer in the fields of epidemiology, public health, and infectious disease research. One Nurse's have a critical role in infection prevention in the twenty-first century. For instance, 80% of all newborns are delivered by nurses globally, and several neonatal illnesses are avoided thanks to their careful attention to infection control during delivery.

In a similar way, nurses in both more affluent and lower-income nations guard against iatrogenic and surgical infections in operating rooms, wards, and emergency situations. Additionally, nurses serve as frontline healthcare practitioners in community settings, and their focus on infection control issues in under resourced community settings solidifies their value as professionals. Although it is widely acknowledged that skilled nurses are essential to the actual provision of healthcare, less is known about the special contributions that nurses make to the development of solutions for healthcare delivery. Important nursing research, ranging from examining connections between Alzheimer's disease and the human papillomavirus and cancer, is highlighted in a recent blog article in Scientific American. Furthermore, in order to fulfil its objective of "advancing nursing science to improve the health and well-being of all the world's citizens," the National Institute of Nursing Research stresses the significance of having a worldwide perspective. Importantly, nurse scientists are uniquely suited to create long-lasting global health solutions because they are trained to assess biological, social, economic, and psychological elements of disease causation, management, and prevention.

Diet, gum disease, and systemic health: Unravelling the complex web of oral microbiome, bacterial translocation, and chronic diseases



Dr. Thilini Jayasinghe M. Vidanelage

Faculty of Medicine and Health, School of Dentistry and Charles Perkins Centre
The University of Sydney, NSW

Background: Dietary fibre is known to modulate metabolic health, systemic inflammation, and microbiome composition. However, its role in oral health and periodontitis remains insufficiently defined. This study aimed to investigate the impact of dietary fibre on periodontitis progression and systemic immune responses, alongside microbial and metabolic profiles.

Methods: Thirty-six male C57BL/6 mice were randomised to high-fibre (40%) or low-fibre (5%) diets for eight weeks in a ligature-induced periodontitis model. Body weight, fat and lean mass, fasting glucose, alveolar bone loss (ABL), root length, and serum inflammatory cytokines (TNF- α , IFN- γ) were assessed. Oral and faecal microbiota were profiled using 16S rRNA sequencing, and metabolomic analyses—including short-chain fatty acids (SCFAs)—were performed via LC-MS.

Results: Mice fed the high-fibre diet exhibited significantly lower body weight ($p < 0.0001$), fat mass ($p = 0.0007$), and fasting glucose ($p = 0.0013$), indicating improved metabolic profiles. The low-fibre group showed elevated TNF- α and IFN- γ ($p < 0.0001$), consistent with a heightened inflammatory state. While ABL and root length were not significantly different, microbiome analyses showed distinct compositions (PERMANOVA, $p < 0.05$), with fibre-fermenting taxa enriched in high-fibre-fed mice. Nineteen significantly altered metabolites indicated functional metabolic shifts associated with diet.

A secondary case-control study explored oral and vaginal microbiome profiles in early miscarriage versus healthy pregnancies. Miscarriage was associated with reduced *Lactobacillus* dominance and increased pathogenic genera (e.g., *Neisseria*, *Streptococcus*), with distinct microbial diversity and predicted functional profiles, suggesting a microbial-inflammatory contribution to adverse pregnancy outcomes.

Conclusion: High dietary fibre intake improves metabolic and inflammatory profiles and alters microbiota in experimental periodontitis. Combined with clinical microbiome data in pregnancy, these findings support diet and microbiome-targeted strategies to improve oral and systemic health.

AI in Pharmacy



Prof. Pauline Siew Mei LAI

Department of Primary Care Medicine, Faculty of Medicine, University of Malaya
Malaysia

Artificial Intelligence (AI) has emerged as an intervention for data and number-related problems. It plays a significant role in pharmacy, such as patient medical histories, medicine stocks, and sale records. AI has revolutionized pharmacy in terms of drug discovery, dosage form designing, polypharmacy and hospital pharmacy. Pharmacists have done a great job in utilizing AI, leveraging enabling technology automation to improve work-flow efficiency and lower operating costs. This move has increased patient safety, improved accuracy in preparing and dispensing medications, and increased efficiency in every pharmacy setting. Automated dispensing gives pharmacists more time to engage with a greater volume of patients while also enhancing their health outcomes. This talk provides an overview of innovations in pharmacy globally.

Oral Presentations

- OP 2: Experiences of using external breast prosthesis after mastectomy among middle-aged women at Jayam Wijayarathnam Cancer Care Center, Ragama**
Ranasinghe UCD¹, Hettiarachchi MHDAC¹, Shyamika AAY¹, Perera RKDW¹, Senanayake KIDF², Munidasa KGPK¹
¹Department of Nursing, Faculty of Health Sciences, The Open University of Sri Lanka, ²The Library, Faculty of Nursing, University of Colombo, Sri Lanka
- OP 3: The level and determinants of family caregivers' strain in providing palliative care at a selected hospital in Sri Lanka**
Nandima AGCD¹, Gayani MM¹, Ruchirani RMA¹, Lakshika A¹, Maduwanthi WP¹, Upeksha SHD¹, Meegoda MKDL²
¹Faculty of Nursing, KIU, Sri Lanka, ²Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka
- OP 4: Incidence of central line associated bloodstream infections and their association with central line care practices among adult ICU patients in tertiary care hospitals of Kandy District, Sri Lanka**
Yapa YAHSM¹, Samarasinghe S²
¹Department of Nursing, Faculty of Allied Health Science, University of Peradeniya, Sri Lanka, ²Department of Anesthesiology and Critical Care, Faculty of Medicine, University of Peradeniya, Sri Lanka.
- OP 5: Nurses' awareness on infection control measures in a selected hospital, Sri Lanka**
Karunaratne UU¹, Dissanayake BHCU¹, Dilhara KARR¹, Perera ASC¹, Mali KD¹, Abeyrathna WMDN¹, Amarasekara AATD²
¹Faculty of Nursing, KIU, Sri Lanka, ²Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka
- OP 6: Perception of fathers towards the paternal role and involvement during the postpartum period: An exploratory descriptive qualitative study**
Swarnahansi MSSMM¹, Weerasingha BRGTK¹
¹Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.
- OP 7: Usage of online resources and social media for acquisition of maternity information and emotional support among pregnant mothers in De Soysa maternity hospital, Sri Lanka**
Priyadarshani DGL¹, Wijayasundara WMSK²
¹Faculty of Technology and Applied Sciences, Open University Malaysia, ²College of Nursing, Anuradhapura, Sri Lanka.
- OP 8: Perceived facilitators towards the implementation of simulation-based learning among nursing educators in state universities in Sri Lanka**
Gamage PMW^{1,2}, Perera KSI¹, Sanjeevani WU¹, Jayarathna GHE¹, Madhushani JVPA¹, Vithusha U¹, Atputharajah A¹, Sujana MF¹, Priyadarshani UGN¹, Nisansala MWN¹
¹Faculty of Nursing, University of Colombo, Sri Lanka, Faculty of Graduate Studies, KIU, Sri Lanka, ²Faculty of Nursing, University of Colombo, Sri Lanka.

8. **OP 9: Evaluation of elemental composition in *Proteus mirabilis* crystalline biofilms: An *in-vitro* bladder model study**
Nissanka NMC¹, Dilhari KAA², Priyadarshana G³, Munaweera I⁴, Weerasekera MM¹
¹*Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka,* ²*Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,* ³*Department of Materials and Mechanical Technology, Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka,* ⁴*Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.*
9. **OP 10: Development of an efficient and cost-effective Nile-Red staining technique for assessing microplastic contamination in Sri Lankan liquid milk products**
Perera HSD¹, Wickramasinghe I¹, Mahatantila K², De Zoysa HPE²
¹*Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka,* ²*Industrial Technology Institute, Baudhdhaloka Mawatha, Colombo 07, Sri Lanka.*
10. **OP 11: An accurate AI Dermatoscope for skin cancer identification**
Wijesundara WMDD¹, Wannige CT¹, Achala Liyanage², Madushika MKS³
¹*Department of Computer Science, Faculty of Science, University of Ruhuna, Sri Lanka,* ²*Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka,* ³*National Heavy Vehicle Regulator (NHVR) Company, Australia.*
11. **OP 12: Evaluating the potential toxicity of three selected herbal-based skin whitening creams available in the Sri Lankan market using Zebrafish embryo model**
Ibtesam H¹, Kalpana GLC¹, Musrifa MKF¹, Karunarathna KAAU³, Ratnayake WMKM⁴, Suresh TS^{2,5}
¹*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,* ²*Department of Biochemistry and Animal House, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka,* ³*Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,* ⁴*Department of Cosmetic Sciences, Faculty of Health Sciences, CINEC Campus, Sri Lanka,* ⁵*Centre for Plant Material and Herbal Product Research, University of Sri Jayewardenepura, Sri Lanka.*
12. **OP 13: Comparison of maternal and umbilical cord blood vitamin D levels among a selected population of pregnant mothers with gestational diabetes mellitus attending a main government sector teaching hospital in Colombo, Sri Lanka**
Wimalajeewa TMDYD¹, Hettiaratchi UPK², Amarasekara AATD³, Prathapan S⁴, Jayawardane MAMM¹
¹*Department of Obstetrics and Gynaecology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka,* ²*Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka,* ³*Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,* ⁴*Department of Community Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.*
13. **OP 14: Influence of body mass index on proteinuria progression in diabetic patients: A retrospective analysis**
Madhurahini R¹, Kavindi DMM², Sandeepa KHME², Rodrigo WSY², Arasaratnam V¹
¹*Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka,* ²*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*
14. **OP 15: Assessment of adherence to methotrexate and folic acid in Rheumatoid arthritis patients: A cross-sectional study**
Kamshana K¹, Yadhury S¹, Diluxcy R¹, Kalki P¹, Narani A²
¹*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka,* ²*Rheumatology and Rehabilitation Center, Teaching Hospital Jaffna, Sri Lanka.*
15. **OP 16: Adherence to tacrolimus and its influencing factors in renal disease patients: A cross-sectional study**
Yasothe G¹, Abinaya S¹, Sivatharan S¹, Thuvaragan S¹, Brammah RT²
¹*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka,* ²*University Medical Unit, Faculty of Medicine, University of Jaffna, Sri Lanka.*

16. **OP 17: Identifying medication-related problems in a selected Base hospital in North Central Province, Sri Lanka: A descriptive cross-sectional study**
Sirilal WARR^{1,2}, Jayasiri LLKS¹, Wickramasinghe NDD¹
¹Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, ²Primary Medical Care Unit, Aselapura, Sri Lanka.
17. **OP 18: Patterns and prevalence of off-label use of psychotropic medicines for children and adolescents attending psychiatric clinics at National Hospital Galle**
Srimalie MGA¹, Abeykoon AMAU², Buddhika RBJ²
¹National Hospital Galle, Galle, Sri Lanka, ²Department of Pharmacy, Faculty of Health Science, The Open University of Sri Lanka.
18. **OP 19: Knowledge, attitudes, and practices on Antiretroviral Therapy (ART), among HIV patients attending the sexually transmitted disease (STD) clinics in Kalutara District**
Ekanayaka BS^{1,2}, Fernando WTS², Buddhika RBJ²
¹Sexual Transmitted Disease clinic Kalutara, Nagoda, Sri Lanka, ²Department of Pharmacy, Faculty of Health Science, The Open University of Sri Lanka.
19. **OP 20: A prototype of an intra uterine device (IUD) for trouble making monkeys**
Abeyratne KMGWCPB¹, Devasurendra P², Perera PPTL¹, Bandaranayake HEMK¹, Akalanka M², de Silva³ MP, Nawaz J³, Gamage BGSS¹, Dangolla A¹, Ranawana KB⁴
¹Department of Veterinary Clinical Science, University of Peradeniya, Sri Lanka, ²Department of Wildlife Conservation, Sri Lanka, ³Teaching Hospital, Peradeniya, Sri Lanka, ⁴Department of Zoology, University of Peradeniya, Sri Lanka.
20. **OP 21: AI-powered digital nutrition tool: Developing a calorie counting and diet planning platform for professional use**
Bandara RMNA¹, Mauran M², Thevarajah K¹, Adikari AMNT¹, Chandrasekara A¹
¹Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries and Nutrition, ²Wayamba University of Sri Lanka, Sri Lanka, MSA Shipping PVT LTD, Colombo 14, Sri Lanka.
21. **OP 22: *In silico* drug repurposing of small molecule inhibitors to impede viral replication of Kaposi's sarcoma- associated herpes virus**
Udeshika KVH¹, Peiris LDC¹, Senapathi T²
¹Department of Zoology, Faculty of Applied, University of Sri Jayewardenepura, Sri Lanka, ²Department of Chemistry, Faculty of Applied, University of Sri Jayewardenepura, Sri Lanka.
22. **OP 23: Synthesis, *in vitro* α -glucosidase inhibition potency, enzyme kinetics, and *in silico* studies of 2-phenyl-3H-quinazoline-4-one derivatives as potential anti-diabetic agents**
Pathirana KPSS, Dissanayake DMWS, Gunaratna MJ
Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka.
23. **OP 24: *In-vitro* anti-urolithiatic activity of sequential Soxhlet extracts of *Garcinia quaesita* Pierre (Rath goraka) seeds and isolated compounds**
Gammanpila GIDHS, Gunaratna MJ
Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka.
24. **OP 25: Application of *Lactobacillus plantarum* in fermentation of *Pouteria campechiana* (Canistel, Sinhala: Ratalawulu) and investigation of its effect on nutritional quality**
Isurandi GAPC, Amarakoon R
Department of Microbiology, University of Kelaniya, Sri Lanka.

25. **OP 26: The effect of dietary nitrate supplementation from beetroot juice on blood pressure regulation in hypertensive individuals: A single-blind comparative intervention study**
Dilaxshana N, Balasuriya DK, Chandrasekara A.
Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries, and Nutrition, Wayamba University of Sri Lanka.
26. **OP 27: Exploring the ergogenic potential of dietary nitrate supplementation: The impact of beetroot juice on athletic performance and endurance**
Balasuriya DK, Dilaxshana N, Chandrasekara A
Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka.
27. **OP 28: Biological activities of selected plant-based natural resins in Sri Lanka**
Gangodawila GKNP¹, Nadeshkumar A¹, Herath HMD¹, Jayasuriya WJABN¹, Dissanayake RK²
¹*Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,* ²*Department of Chemistry, University of Prince Edward Island, Canada.*
28. **OP 29: Evaluation of anti-oxidant and anti-inflammatory activity in seed extracts of *Elettaria cardamomum* (L) Maton**
Lekamge LNL¹, Jayasuriya WJABN¹, Hapuarachchi SD², Herath HMDR¹
¹*Department of Pharmacy and Pharmaceutical Sciences, University of Sri Jayewardenepura, Sri Lanka,* ²*Department of Ayurveda Pharmacology and Pharmaceutics, Faculty of Indigenous Medicine, University of Colombo, Sri Lanka.*
29. **OP 30: Development of natural tablet binder from the crude gum of plant *Macaranga peltata***
Balasooriya BARD¹, Tennakoon TMSA¹, Salinda HGH¹, Viruni LR¹, Sabalingam S², Gunawardana SLA¹
¹*Department of Pharmacy and Pharmaceutical sciences, Faculty of Health Sciences, CINEC Campus, Malabe, Sri Lanka.,* ²*Department of Pharmacy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defense University, Sri Lanka.*
30. **OP 31: Chocolate-flavored soy milk powder: Adapting spray drying for enhanced quality**
Piyasinghe RBTM¹, Fernando HRP², Bawatharani R³
^{1,3}*Dept. of Agric. Engineering, Faculty of Agriculture, Eastern University of Sri Lanka,* ²*Food Research Unit, Gannoruwa, Peradeniya, Sri Lanka.*

Poster Presentations

- PP 1: Formulation of a novel bulk-forming laxative using papaya seed powder, psyllium husk and coconut powder**
Wijesinghe AHMS, Hettiarachchi HACO
¹Department of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka
- PP 2: The level of knowledge on epilepsy management and its associated factors of final year student nurses under the Ministry of Health and in Western Province, Sri Lanka**
Balasooriya BPGHD¹, Gunasekare MKCP¹, Jayawikrama LKRN¹, Rajawardhana RWMRV¹, Sankha NDKRS, Sumanarathna KMDTP, Wannakuarachchi SI, Senarathne HS, Asurakkody TA
¹Faculty of Nursing, University of Colombo, Sri Lanka.
- PP 3: Morphological and thermal insights into green-synthesized hydroxyapatite nanoparticles using cow dung**
Razak M^{1,2}; Gamagedara TP^{2,3}
¹Cardiff Metropolitan University, Cardiff, Wales, UK, ²Department of Basic Science, Faculty of Allied Health Sciences, University of Peradeniya, Peradeniya, Sri Lanka, ³Post Graduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka.
- PP 5: Formulation and evaluation of antifungal gel for tinea corporis by using *Achyranthes aspera* leaves extract**
Christina T¹, Lukirtha S¹, Tharshika K¹, Sivasinthujah S¹, Gnanakarunyan TJ²
¹Department of Pharmacy, University of Jaffna, Sri Lanka, ²Department of Medical Laboratory Sciences, University of Jaffna, Sri Lanka.
- PP 6: Anti-obesity and antioxidant potential of selected green seaweeds found in coastal areas of Sri Lanka**
Abeyasinghe AMAN, Amarasinghe NR
Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka
- PP 7: Green synthesis and characterization of nano-hydroxyapatite-based toothpaste**
Gamagedara TP¹, Kavindi HAA²
¹Department of Basic Sciences, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, ²Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.
- PP 8: Enhanced thermal stability of hydroxyapatite nanoparticles via poly (acrylic acid) integration: Structural and characterization study**
Pathirana KPDDK^{1,2}; Gamagedara TP^{2,3}
¹Cardiff Metropolitan University, Cardiff, Wales, UK, ²Department of Basic Science, Faculty of Allied Health Sciences, University of Peradeniya, Peradeniya, Sri Lanka, ³Post Graduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka.
- PP 9: Harnessing the therapeutic and sustainable potential of Sri Lankan clay: A scientific approach to fashion and lifestyle innovations for consumer well-being and environmental resilience**
SmarasinghaWRCI¹, WasalaKVKD¹
Department of Integrated Design, Faculty of Architecture, University of Moratuwa, Sri Lanka.

9. **PP 10: Perceived barriers towards medication administration error reporting and their associated factors among nursing officers at Base Hospital Homagama, Sri Lanka**
Dinuwanthi ANN, Nasmil UHM, Jayathilake MRS
Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
10. **PP 11: A comparative study of three regional pharmacovigilance centers in South Korea**
Fernando MGKM¹, Seo Yeon Jin¹, Samaranyake NR², Ji Hyun Park¹
¹*College of Pharmacy, Duksung Women's University, South Korea,* ²*Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka*
11. **PP 12: Assessing patient education, awareness and monitoring practices for adverse effects of long-term oral corticosteroid (LTOC) therapy in tertiary care settings in the Kandy District: A cross-sectional study**
Anton NS, Perera PN
Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.
12. **PP 13: Evaluation of calcium, magnesium and pH levels of the water consumed by renal stone patients selected from Teaching Hospital, Jaffna, Sri Lanka**
Viveka M¹, Muthuhari KADS², Sandamini MADB², Balagobi B³, Arasaratnam V¹
¹*Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka,* ²*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka,* ³*Department of Surgery, Faculty of Medicine, University of Jaffna, Sri Lanka.*
13. **PP 14: Knowledge, attitudes, and practices on the use of insulin among patients attending the diabetes clinic of Police Hospital, Colombo**
Ujithasiri KPT^{1,2*}, Chathumali VGI², Buddhika RBJ²
¹*Police Hospital, Colombo, Sri Lanka,* ²*Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, Sri Lanka.*
14. **PP 15: Reliability and psychometric validation of a medication adherence tool for English or Sinhala speaking populations – An interim analysis**
Wijesinghe DS, Senadheera GPSG, Samaranyake NR
Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
15. **PP 16: Bacteriological and physical quality of drinking well water in a selected Grama-Niladhari division in the Boralesgamuwa Medical Officer of Health (MOH) area**
Welikala SK, Wickramasinghe WMHR, Wijesinghe LATM, Chathuranga BAG
Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
16. **PP 17: Knowledge, practice, and associated factors related to self-injecting insulin among patients with diabetes attending the diabetic clinic at the National Hospital of Sri Lanka**
WalakadawaththaWLJM, Udayangani HMDT, Wijesinghe TTR, De Silva NDC, Wickramasinghe AUS, Nimesha P, Sandakumari HHHS
Faculty of Nursing, KIU, Sri Lanka.
17. **PP 18: Diabetic-related health literacy and its associated factors among patients with type 2 diabetes mellitus attending the diabetes clinic at a selected hospital in Colombo, Sri Lanka**
Rathnayake WRAN¹, Wijenayake KTP¹, Perera KDRP¹, Seneviratne AK.DMN¹, Saparamadu SHPBN¹, Rathnayake NRRS¹, Kariyawasam KHAY¹, Amarasekara AATD²
¹*Faculty of Nursing, KIU, Sri Lanka,* ²*Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*

18. **PP 19: Quality of life among caregivers of patients with schizophrenia in National Institute of Mental Health (NIMH), Sri Lanka**
Hameed A, Meegoda MKDL
Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
19. **PP 21: Baseline anthropometric and clinical characteristics among participants of a non-communicable disease (NCD) screening program**
Abeyrathna PTM, Gayanjalee DA, Dharmapala WDSK, Keragala KAR, Chandrasekara A
Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka.
20. **PP 22: The association between excessive usage of digital screens and behavioural changes in preschool children in three selected divisional secretariat areas in Sri Lanka**
Sewwandi GVHH¹, Menike WARP²
¹*Department of Medicine, Faculty of Medicine, Rajarata University of Sri Lanka,* ²*Department of Fundamentals Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.*
21. **PP 23: Assessment of job satisfaction and associated factors among nursing officers who are working at a selected hospital in Northern Province, Sri Lanka**
Kodithuwakku NBE, Ariyaratna AGTS, Kavindya HLJ, Jayashanki TRN, Imalka WH, Upeksha SHD, Perera ACH
Faculty of Nursing, KIU, Sri Lanka.
22. **PP 24: Depression, cognitive impairment, and disability among older adults with chronic illnesses in Batticaloa: A cross-sectional study**
Viranga JK, Erandi SMI, Silva KHSD, Preethimali WMA, Samarakoon HMKS, Rathnakumari KN, Sandakumari HS
Faculty of Nursing, KIU, Sri Lanka.
23. **PP 25: Relationship between self-efficacy and self-management of Diabetes among rural Sri Lankan adults with type 2 diabetes mellitus**
Premadasa SS¹, Masingboon K¹, Samartkit N¹, Amarasekara AATD²
¹*Faculty of Nursing, Burapha University, Chon Buri, Thailand,* ²*Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
24. **PP 26: Knowledge and practices towards adult anaphylaxis management and its associated factors among nursing officers in Kegalle District General Hospital, Sri Lanka**
Gamlath OPMWGNA, Nasmil UHM, Damayanthi LC
Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
25. **PP 27: Lifestyle practices among patients with non-communicable diseases attending non-communicable disease clinic at Teaching Hospital Karapitaya, Sri Lanka**
Sajeewani MGG, Silva AII Iroshini KPT, Udayangani HTN, Priyangika AGH, Amalka UA, Edirisuriya MD, Senarath NSASN
Faculty of Nursing, KIU, Sri Lanka.
26. **PP 28: Development, translation and validation (face and content) of medication adherence tool for English or Sinhala speaking populations**
Wijesinghe DS, Senadheera GPSG, Samaranayake NR
Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

27. **PP 29: Awareness of anti-cancer chemotherapy administration and causes of medication administration errors among nurses treating patients with cancer: A cross sectional survey at the National Cancer Institute (NCI), Sri Lanka**
Bathila RKKAW, Premathilaka HPW, Ravihari GDS, Kumari GKS, Gunasena KAMT, Edirisuriya MD, Senerath NSASN
Faculty of Nursing, KIU, Sri Lanka.
28. **PP 30: Quality of life and its associated factors among nursing officers working in Colombo South Teaching Hospital**
Abesundara MBNS, Damayanthi LC
Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
29. **PP 31: Knowledge, attitude, practice and associated factors toward older adults among nurses in a selected hospital in Sri Lanka**
Ekanayake WPNC¹, Damayanthi MDP¹, Madhushika SAR¹, Priyadarshani VA¹, Priyadarshani KGTC¹, Thilakarathna HMCRC¹, Amarasekara AATD²
¹*Faculty of Nursing, KIU, Sri Lanka,* ²*Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
30. **PP 33: Psychometric properties and criterion validation of medication literacy tool (MedLit-Q) for Sri Lanka**
Wijesinghe DS, KN Nimeshi, Shanika LGT, Senadheera GPSG, Samaranayake NR
Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
31. **PP 34: Soleus muscle activation and its role in improving insulin sensitivity: Investigating the impact of soleus push-ups on glycemic control in sedentary individuals**
Shehani HWTS, Chandrasekara A
Department of Nutrition and Dietetics, Faculty of Livestock Fisheries and Nutrition, Wayamba University of Sri Lanka, Sri Lanka.
32. **PP 35: Occupational stress and quality of life among nurses at a selected hospital in Kalutara District, Sri Lanka**
Fernando BHKM, Abeyasinghe RMRP, Sanjeevani AM, Bandumani RA, Sandeepanee DPK, Abeyrathna WMDN, Jayamaha AR
Faculty of Nursing, KIU, Sri Lanka.
33. **PP 36: Knowledge, attitudes and its associated factors regarding pediatric pain management among nursing officers in selected hospitals in Galle District, Sri Lanka**
Wimalasekara KDAK, Priyangika D, Shirani KW, Nawarathna GMJM, Fernando SLS, Karunarathna TPNP, Sandakumari HS
Faculty of Nursing, KIU, Sri Lanka.
34. **PP 37: eHealth literacy and its associated factors among selected peri-urban diabetic population in Colombo District, Sri Lanka**
Karunasinghe SPGDH¹, Nimasha MC¹, Wanigasundara WASD¹, Gobika S¹, Attanayaka AMSN¹, Sajinth P¹, Abeywickrama MS¹, Siribaddhana N¹, Nisansala MWN²
¹*Faculty of Nursing, University of Colombo, Sri Lanka,* ²*Department of Fundamentals of Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.*

35. **PP 38: Perception, practices and barriers regarding delivering health education among nurses in Central Province: Sri Lanka**
Rathnayke ARMAU, Bandara OT, Mudaligae U
Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, Faculty of Nursing, University of Colombo, Sri Lanka.
36. **PP 39: Attitudes on the use of electronic health records (EHRs) and associated factors among nursing officers at the National Cancer Institute, Sri Lanka**
Nirmal BADB, Ganegoda GWUD, Abeyratne RMTB
Department of Nursing & Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
37. **PP 40: Knowledge and practice regarding complementary feeding among mothers of children aged 6-24 months in Bope- Poddala MOH area, Galle District, Sri Lanka**
Maduwanthi WPS, Sarangi EMN, Jayathilake MRS
Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
38. **PP 41: Knowledge, attitudes and practice regarding breast cancer and its screening methods among women attending outpatient clinics in a selected Hospital in the Southern Province of Sri Lanka**
Samankumari KGG, Jayathilake MRS
Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
39. **PP 42: Assessment of knowledge and perceptions on sexually transmitted infections among undergraduates of the Faculty of Allied Health Sciences, University of Peradeniya**
Kumari MAMK¹, Chandrasiri ILU²
¹*Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka,* ²*Department of Radiography / Radiotherapy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.*
40. **PP 43: Maternal satisfaction on labor and delivery services among postnatal women at Teaching Hospital Rathnapura in Sri Lanka**
Amarasekara S¹, Nadeesha ALAS¹, Nishanthi WANA¹, Dissanayake TAMS¹, Gunawardana GJJ¹, Maduwanthi RM¹, Amarasekara AATD²
¹*Faculty of Nursing, KIU, Sri Lanka,* ²*Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*
41. **PP 45: Assessment of knowledge, practices, and associated factors influencing readiness for mentoring among nurses at a selected hospital, Sri Lanka**
Hasanthika WAA¹, Gunawardana JGMK¹, Udayani DBMI¹, Sirikumbura PADT¹, Wimalasena WNS¹, Hansini KHC², Madhuwanthi RM¹
¹*Faculty of Nursing, KIU, Sri Lanka,* ²*Asiri Academy of Health Sciences, Sri Lanka.*
42. **PP 46: Cyberchondria and sleep quality among undergraduates at a selected private university, in Sri Lanka**
De Silva AVD, Karunarathna MNC, Dhanawantha MAJC, Sherami HG, Perera KPH, Upeksha SHD, Perera ACH
Faculty of Nursing, KIU, Sri Lanka.
43. **PP 47: e- Health literacy and associated factors among student nurses in a selected nurses training school in Sri Lanka**
Maduwanthi ULS¹, Walisundara WMKS¹, Wijesooriya KDUM¹, Thennakoon RGAIB¹, Upalirathna MGLD¹, Thilakarathna HMCRC¹, Amarasekara AATD²
¹*Faculty of Nursing, KIU, Sri Lanka,* ²*Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*

44. **PP 48: Evaluating final-year nursing students' attitudes on AI integration in higher education: A study in the Western Province, Sri Lanka**
Ratnayake SMS¹, Asurakkody TA²
¹Department of Health Science, NSBM Green University, ²Department of Fundamentals of Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.
45. **PP 49: An effective plant cell digestion technique for microplastic analysis in plant-based foods**
Pubudu Nirmani EPM¹, Wickramasinghe I¹, Mahatantila K², De Zoysa HPE²
¹Department of Food Science & Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Industrial Technology Institute, Bauddhaloka Mawatha, Colombo 7, Sri Lanka.
46. **PP 50: The association between visceral adiposity index (VAI) and glycemic control: A cross-sectional study among women with Diabetes Mellitus at a tertiary care hospital in Sri Lanka.**
Gunawardana STD¹, Ranasinghe MKG¹, Gamage MGTS¹, Wijsekara GUS¹, Jinasena TMR²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka. ²Department of Biochemistry, Colombo South Teaching Hospital, Sri Lanka.
47. **PP 51: Comparative evaluation of beetroot extract as an alternative to hematoxylin, turmeric and ginger extract as substitutes for eosin in histological staining**
Silva THTD¹, Liyanage HGTD¹, Kaushalya WH¹, Fernando CS²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Pathology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
48. **PP 52: Variations in coagulation profile and platelet parameters among patients on regular maintenance hemodialysis for end stage kidney disease- Single center experience in Sri Lanka**
Welarathne DNR¹, Vimukthika RKB¹, Weragala WD¹, Balasureya BLT², Darshana LGT¹, Perera NJAHD²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka. ²Sri Jayewardenepura General Hospital, Sri Lanka.
49. **PP 53: Association of body mass index (BMI) and total cholesterol levels with breast cancer staging in postmenopausal women undergoing treatment at Apeksha hospital, Maharagama, Sri Lanka**
Fernando MAC¹, Afla MAF¹, Sahib FSK¹ and Rajapaksha DIG²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
50. **PP 54: Haemoglobin levels in chronic kidney disease patients attending medical and nephrology clinic, Teaching Hospital, Jaffna: A demographic and duration perspective study**
Sangavi T¹, Karthiga M³, Kanistan J³, Thangarajah BR², Arasaratnam V¹
¹Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka, ²Department of Medicine, Faculty of Medicine, University of Jaffna, Sri Lanka, ³Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.
51. **PP 55: The influence of serum globulins on albumin analysis by dye binding methods**
Hettiarachchi V¹, Dissanayake M², Bandara WVRTG¹
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka. ²Department of Chemical Pathology, Teaching Hospital, Karapitiya, Sri Lanka.
52. **PP 56: Growth optimization of *Malassezia furfur* on Sabouraud Dextrose Agar (SDA) supplemented with extracted egg yolk oil: determination of minimum volume requirements**
Shalini R¹, Kannathasan S¹, Baskarasingam A¹, Gnanakarunyan TJ¹, Sivasinthujah S²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, ²Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

53. **PP 57: Alarming Tetracycline resistance in *Campylobacter jejuni*: A study of Sri Lankan poultry isolates**
Tennakoon TMPST^{1,2}, Priyantha MAR², Weerasooriya KMSG²
¹Cardiff Metropolitan University, Cardiff, Wales, UK, ²Department of Biomedical Science, Faculty of Health Sciences, International College of Business and Technology, Sri Lanka, ³Veterinary Research Institute, Peradeniya, Sri Lanka.
54. **PP 58: Comparative evaluation of the performance of washed and unwashed human blood agar for isolating *Streptococcus pneumoniae* from respiratory tract specimens**
Galagamage U¹, Weerasinghe MSA¹, Wickramarathne WLS¹, Chathuranga BAG¹, Senarathne TKRR¹, Vidanagama D²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²The Department of Microbiology, Lady Ridgeway Hospital for Children, Sri Lanka.
55. **PP 59: Study of white blood cell parameters among patients with primary erythrocytosis and or thrombocytosis in a tertiary care center in Sri Lanka**
Hettige DHIU¹, Mohotti M², Abeywardana S², Silva EH¹
¹Department of Medical laboratory Sciences, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, ²National Hospital Galle, Sri Lanka.
56. **PP 60: Assessment of Antibiofilm efficacy of Rhamnolipid-coated foley and silicone urinary catheters against *Proteus mirabilis* biofilm formation**
Mohamad MI¹, Pananwala NP¹, Premakanthan B¹, Nissanka NMC², Dilhari KAA³, Weerasekera MM², Priyadarshana G⁴
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ⁴Department of Materials and Mechanical Technology, Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka.
57. **PP 61: Bacteriological profile of blood culture isolates at a children’s hospital in Sri Lanka**
Somapala UPVS¹, Madhuwanthi WD², Senarathne TKR⁴, Rathnayake RGL³, Vidanagama D¹
¹Lady Ridgeway Hospital for Children, Colombo, Sri Lanka, ²Medical Research Institute, Sri Lanka, ³Department of Biochemistry, Faculty of Medicine, Uva Wellassa University of Sri Lanka, ⁴Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.
58. **PP 62: Design and evaluation of novel primer sets for efficient detection of the angiogenic Vascular Endothelial Growth Factor-A gene (VEGF-A)**
Thennakoon TMND¹, Kodikara PB¹, Tharshan S¹, Edirisinghe ST², Weerasekera M³, Yasawardene SG²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
59. **PP 63: Prevalence and factors associated with anemia among children under five years of age in Base Hospital Polpithigama, Sri Lanka**
Rathnayaka RMGI¹, Lakmali WACN¹, Wijerathna NN¹, Bandara PMEM¹, Upeksha SHD¹, Perera ACH¹
Faculty of Nursing, KIU, Sri Lanka.
60. **PP 64: Nutritional analysis of Sri Lankan high-performance para-athletes**
Batawala AV¹, Dahanayake UNJ², Ekanayake L². and Chandrasekara A¹
¹Department of Nutrition Dietetics, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka, ²Institute of Sports Medicine, Colombo, Sri Lanka.
61. **PP 65: Formulation and quality evaluation of oats (*Avena sativa*) and coconut (*Cocos nucifera*) milk-based non-dairy yoghurt**
Navayukan V, Dias PGI
Department of Food Science and Technology, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka.

62. **PP 66: Bacteria isolated from raw cow milk and their antibiotic susceptibility in Gampaha District, Sri Lanka**
Rajapakse RAKI¹, Saravananathan T¹, Bandara URPS¹, Dissanayake DMBT²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.
63. **PP 67: Prevalence of different types of anaemia among patients with type 2 diabetes mellitus attending National Hospital, Galle**
Adikaram DMSE¹, Dharmabandu S², Silva EH¹
¹Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, ²The German- Sri Lanka Friendship Hospital for Women, Galle, Sri Lanka.
64. **PP 68: A study of correlation between body mass index and serum lipid profile in iron deficiency anaemic females – A pilot study**
Vihangika KS¹, Rathwita IMRDK¹, Gunasekara GWHK¹, Withanage ND¹, Moonesinghe C², Dias P³
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Pathology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Statistics, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.

OP 2

Experiences of using external breast prosthesis after mastectomy among middle-aged women at Jayam Wijayarathnam Cancer Care Center, Ragama

Ranasinghe UCD¹, Hettiarachchi MHDAC¹, Shyamika AAY¹, Perera RKDW¹, Senanayake KIDF², Munidasa KGPK¹

¹Department of Nursing, Faculty of Health Sciences, The Open University of Sri Lanka, ²The Library, Faculty of Nursing, University of Colombo, Sri Lanka

Background: Breast cancer is the most common cancer and the leading cause of cancer-related death among women worldwide. The gold standard for breast cancer treatment is minimally invasive surgery (Mastectomy), which improves patients' quality of life. Patients with mastectomy commonly use External Breast Prostheses (EBPs) to restore breast appearance, improve self-perception, mental well-being, and reduce social isolation and anxiety.

Objective: To explore the experiences of using External Breast Prostheses after Mastectomy among middle-aged women at Jayam Wijayarathnam Cancer Care Center (JWCCC), Ragama.

Methods: A descriptive qualitative study was conducted for a three-month period to explore the experiences of middle-aged women (35-60 years) who have undergone mastectomy and used EBPs for at least six months at the JWCCC, Ragama. Purposive sampling was used to select participants, and data were collected through a semi-structured interview guide. Twelve interviews achieved data saturation. The interviews were transcribed and analyzed using thematic analysis. Ethical approval was obtained from the Ethics Review Committee of the National Hospital of Sri Lanka.

Results: The majority of the participants were married (83%, n=10), 17% (n=2) was widowed and none of them were unmarried. More than half (58%, n= 7) were employed and 42% (n=5) were homemakers. All the participants (100%) had children. Three key themes emerged: physical, psychological, and socio-economic experiences. The physical experience consisted of five sub-themes comfort, appearance, discomfort, disfigurement, and displacement. Many participants experienced localized pain and discomfort with EBP displacement, impacting daily routines and confidence. The psychological experience included four sub-themes, mental inconvenience, self-confidence, religious activities, and family support. While self-confidence declined due to body image changes, family support and religious engagement aided emotional adjustment. The socio-economic experience covered the four sub-themes, affordability, EBP care, protection of femininity, and quality of life. In addition, financial constraints led many participants to use homemade and less durable EBPs.

Conclusions: The study highlights the physical, psychological, and socio-economic challenges of using external breast prostheses (EBPs), including discomfort, self-confidence issues, and financial constraints. Family support and religious involvement aided emotional coping. However, limited access to quality prostheses affected femininity and well-being. Hence it is recommended to improve affordability, conduct support programs, and financial assistance to enhance comfort, confidence, and overall quality of life.

OP 3

The level and determinants of family caregivers' strain in providing palliative care at a selected hospital in Sri Lanka

Nandima AGCD¹, Gayani MM¹, Ruchirani RMA¹, Lakshika A¹, Maduwanthi WP¹, Upeksha SHD¹, Meegoda MKDL²

¹Faculty of Nursing, KIU, Sri Lanka, ²Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka

Background: Palliative care for cancer patients places a significant burden on family caregivers, who provide unpaid assistance with daily tasks, medical care, and emotional support. Balancing these responsibilities with personal and professional commitments can lead to considerable physical, emotional, and financial strain.

Objective: To evaluate the extent and determinants of family caregivers' strain in providing palliative care at Apeksha Hospital, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted with 226 family caregivers selected via simple random sampling. Data were collected using a structured, interviewer-administered questionnaire, including the Modified Caregiver Strain Index (MCSI), which classifies strain into low (0–13), moderate (14–26), and high (27–39) levels. Statistical analyses, including correlation and regression, were performed using SPSS 27. Ethical approval was obtained from the KIU Ethical Review Committee (KIU/ERC/24/382).

Results: The caregivers had an average age of 37.9 (± 12.1) years, with 64.6% being female and 54.9% employed. The mean caregiver strain score was 22.04 (SD=5.94), indicating moderate strain. Most caregivers (71.2%) experienced moderate strain, while 18.6% reported low strain and 10.2% high strain. Emotional burden (45.6%), financial challenges (45.6%), and difficulty balancing responsibilities (47.3%) were the main contributing factors. Limited support services increased strain, while living with the patient reduced it. Correlation analysis showed a significant association between caregiver strain and financial challenges ($r=0.58$, $p=0.002$) and emotional burden ($r=0.62$, $p=0.001$). Regression analysis identified financial difficulties ($\beta=0.51$, $p=0.003$) and emotional burden ($\beta=0.47$, $p=0.004$) as significant predictors of strain.

Conclusions: Family caregivers of cancer patients experience substantial strain, primarily due to emotional and financial challenges. These findings highlight the need for targeted interventions, including financial support, mental health services, and caregiver training programs to alleviate the burden.

OP 4

Incidence of central line associated bloodstream infections and their association with central line care practices among adult ICU patients in tertiary care hospitals of Kandy District, Sri Lanka

Yapa YAHSM¹, Samarasinghe S²

¹Department of Nursing, Faculty of Allied Health Science, University of Peradeniya, Sri Lanka, ²Department of Anesthesiology and Critical Care, Faculty of Medicine, University of Peradeniya, Sri Lanka.

Background: Central Venous Catheters (CVCs) are widely used in Intensive Care Units (ICUs) but can lead to Central-Line Associated Blood Stream Infection (CLABSI). Effective CVC management is vital to reducing its incidence.

Objective: Assessing the incidence of CLABSI among critically ill adult patients in ICUs with CVCs and its association with CVC care practices.

Methods: A descriptive cross-sectional study was conducted among 143 adult patients admitted to the nine ICUs of four tertiary care hospitals in Kandy District (12th October - 12th November 2024). Simple random and convenient sampling was used. Already existing CVCs, ICU stay less than 48 hours and having blood culture positive systemic infections were excluded. Data was collected using a pre-tested, structured data collection sheet and analyzed with statistical software SPSS version 26 ($p < 0.05$).

Results: Of the 143 critically ill adult patients, 68 (47.55%) underwent blood cultures, revealing a CLABSI incidence of 60.3% (95% CI: 48.42–71.07). Mean age of the participants was 55.9 (± 13.5) years. *Candida* spp. (29.27%) was the most prevalent microorganism. The femoral vein posed a higher risk (48.8%), while the subclavian vein was the safest (14.6%) with a statistical significance ($p = 0.037$). Elasto plasters were frequently used among CLABSI patients (56.1%) and accounted for CLABSI ($p = 0.032$). Patients with diabetes and hypertension had higher CLABSI rates. Routine normal saline flushing was a common practice but did not have any statistically significant association to CLABSI. Significant associations were found between CLABSI and plaster type ($p = 0.032$), dressing frequency ($p = 0.034$), unit protocols ($p = 0.045$), insertion site ($p = 0.037$), length of ICU stay and CV line in place and sepsis.

Conclusions: The findings revealed a high incidence of CLABSI (60.3%). Implementing standardized care protocols can effectively reduce CLABSI rates in ICU settings.

OP 5

Nurses’ awareness on infection control measures in a selected hospital, Sri Lanka

Karunaratne UU¹, Dissanayake BHCU¹, Dilhara KARR¹, Perera ASC¹, Mali KD¹, Abeyrathna WMDN¹, Amarasekara AATD²

¹*Faculty of Nursing, KIU, Sri Lanka,* ²*Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.*

Background: Hospital-acquired infections (HAIs) are a critical concern in healthcare settings, impacting patient safety and outcomes. Effective infection control measures are crucial in preventing HAIs. Nurses as primary caregivers play a vital role in implementing these measures.

Objective: This study aimed to evaluate nurses' awareness of infection control measures, including hand hygiene, standard precautions, and HAI risk factors.

Methods: A descriptive cross-sectional study was conducted at Colombo North Teaching Hospital (CNTH), involving 281 nurses selected using simple random sampling. Data was collected using a pre-tested, self-administered questionnaire, physically distributed among participants. Descriptive statistics mean standard deviation and percentages were used for data analysis in SPSS version 25. Ethical approval was obtained from relevant authorities.

Results: The mean age of the participants was 39.3 (\pm 8.2) years. Mean years of professional experience was 14.2 (\pm 7.9). The majority were females (84.7%) and diploma holders (83.3%). Among the participants 25.3% were working in the special units. Awareness of HAI risk factors was high, with most nurses identifying environmental sources (air, water and inert surfaces), specific age groups (advanced age and very young age) and invasive procedures as contributing factors. Awareness of hand hygiene practices was mixed. All nurses recognized key hand hygiene moments such as “before and after patient care”. Only 0.7% identified the requirement for hand hygiene “before or after direct patient contact”. Regarding standard precautions, 100% identified the necessity of gloves in specific situations, while 98.6% accurately recognized the use of masks, goggles, and gowns during exposure to blood or body fluid splashes.

Conclusions: Although, nurses are aware of infection control measures, certain gaps remain in awareness regarding specific applications. Targeted education and training sessions are essential to enhance compliance and improve patient safety in healthcare.

OP 6

Perception of fathers towards the paternal role and involvement during the postpartum period: An exploratory descriptive qualitative study

Swarnahansi MSSMM, Weerasingha BRGTK

Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.

Background: The postpartum period, lasting 6-8 weeks, is critical for mothers and newborns. Paternal involvement supports maternal recovery, reduces postpartum depression, and enhances infant development. In Sri Lanka, traditional gender roles can sometimes hinder fathers’ involvement in postpartum caregiving. Therefore, understanding fathers’ perceptions is vital to promoting active fatherhood and improving the overall well-being of a family during the postpartum period.

Objective: This study aimed to explore fathers’ perceptions of their role and involvement during the postpartum period.

Methods: A descriptive qualitative phenomenological study was conducted among ten purposively selected fathers in Doluwa, Kadugannawa, and Gangawatakorale MOH areas in the Kandy District. Individual, in-depth interviews were conducted until the point of data saturation using an interview guide focused on fathers’ experiences, factors influencing postpartum caregiving, impact on maternal and infant well-being, barriers to involvement, and awareness of support systems. The interviews were tape-recorded, and the data were collected between June to October 2024 and was analyzed using Braun and Clarke’s thematic analysis method.

Results: Data analysis identified four major themes and eleven sub-themes; 1) Paternal feelings, roles, and beliefs toward postpartum care (fathers’ feelings towards postpartum care, identity and role, beliefs towards postpartum care); 2) Navigating through fatherhood (involvement in routine care, work-life balance, awareness and readiness for postpartum care); 3) Support systems available for postpartum care (support from family, support from friends and neighbors, support from care providers) and 4) Overcoming barriers and fostering active engagement (challenges for effective provision of care, suggestions for enhancing paternal involvement).

Conclusions: The study findings emphasize fathers’ evolving roles in postpartum care, highlighting increased involvement in caregiving despite challenges like societal expectations, work commitments, and limited paternity leave. It highlights the need for policy changes, inclusive education, and support to enhance paternal engagement, strengthen family bonds, and improve maternal and child well-being.

OP 7

Usage of online resources and social media for acquisition of maternity information and emotional support among pregnant mothers in De Soysa maternity hospital, Sri Lanka

Priyadarshani DGL¹, Wijayasundara WMSK²

¹*Faculty of Technology and Applied Sciences, Open University Malaysia,* ²*College of Nursing, Anuradhapura, Sri Lanka.*

Background: Usage of internet, social media and maternity applications for health information is a growing trend. Access to reliable health information is vital for pregnant women.

Objective: To investigate the perception on usage of online resources and social media on maternity information and emotional support among pregnant mothers in De Soysa Hospital for Women, Sri Lanka(DSHW).

Methods: A mixed-method approach combined quantitative and qualitative techniques. A survey was administered to 300 purposively selected expectant mothers at DSHW during February–March 2024 using a pre-tested, self-administered questionnaire. Additionally, 17 mothers participated in focused group discussions. Quantitative data were analyzed with descriptive and inferential statistics, and qualitative data were evaluated using Braun and Clarke’s thematic analysis.

Results: Response rate was 97.1%. The majority belonged to the age category of 26-30 years, were Sinhalese (62.3%) and lived in Colombo area (47%). The majority had education up to Advanced Level or above (56%) and, were unemployed (59.3%). While the majority were primiparous (59.3%). YouTube was the mostly used social media (95.3%). Participants used online resources 16-30 minutes per day (45%). The online resources had an impact on expanding their access to wide range of knowledge (3.83 ± 0.78) and gaining positive support for emotional wellbeing (3.53 ± 0.74). The study identified four key themes: comprehensiveness, meaningfulness, manageability and reliability. Participants highlighted importance of thorough information on fetal development, emotional support, and manageability. They noted the convenience of online expert advice but struggled to distinguish reliable sources from misleading ones.

Conclusions: The usage of online resources was high for various purposes impacting them positively. The study suggests improved guidance for pregnant women. Empowering them to identify correct information is essential. Launching an official website for pregnancy-related topics is recommended.

OP 8

Perceived facilitators towards the implementation of simulation-based learning among nursing educators in state universities in Sri Lanka

Gamage PMW^{1,2}, Perera KSI¹, Sanjeewani WU¹, Jayarathna GHE¹, Madhushani JVPA¹, Vithusha U¹, Atputharajah A¹, Sujana MF¹, Priyadarshani UGN¹, Nisansala MWN¹

¹Faculty of Nursing, University of Colombo, Sri Lanka, Faculty of Graduate Studies, KIU, Sri Lanka, ²Faculty of Nursing, University of Colombo, Sri Lanka

Background: Simulation-based learning (SBL) has become an effective approach in nursing education, integrating to overcome various academic, clinical, and emotional challenges faced by nursing undergraduates. Evaluating the feasibility of its adoption in Sri Lankan state universities is crucial before implementation.

Objective: This study aimed to assess the perceived facilitators implementing SBL among nursing educators in state universities in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 86 nursing educators from seven state universities in Sri Lanka, using the total population sampling method. A pre-tested, content-validated, researcher-developed, self-administered, online questionnaire was used to collect data, which consisted of two sections, namely socio-demographic information and perceived facilitators towards SBL. Descriptive and inferential (Chi-Square) statistics were performed using the Statistical Package for Social Sciences (Version 27). Ethics approval (EC-23-127) was obtained from the Ethics Review Committee, Faculty of Medicine, University of Colombo.

Results: The majority of the participants were females (83.7%, n=72), senior lecturers (36.0%, n=31), aged 31-40 years (39.5%, n=40). Key facilitators identified were positive attitudes (89.5%, n=77), shared motivation (65.1%, n=56), support from colleagues and administrators (66.3%, n=57), and 62.8%, n=54 perceived performing task scaffolding as an advantage. Other facilitators included individual initiative (59.3%, n=51) and perceived leaders working in tandem (33.7%, n=29). Statistically significant associations were found between marital status with shared motivation (p=0.025) and marital status with individual initiative (p=0.042).

Conclusions: The study highlights that the facilitation of SBL integration by positive attitudes, shared motivation, and support from colleagues and administration are crucial to robust support for nursing educators and are essential for the successful and sustained implementation of SBL.

OP 9

Evaluation of elemental composition in *Proteus mirabilis* crystalline biofilms: An *in-vitro* bladder model study

Nissanka NMC¹, Dilhari KAA.², Priyadarshana G³, Munaweera I⁴, Weerasekera MM¹

¹Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka,

²Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,

³Department of Materials and Mechanical Technology, Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka,

⁴Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Catheter-associated urinary tract infections (CAUTIs) are frequently complicated by the crystalline biofilms formed by *Proteus mirabilis*. Understanding the elemental composition of these biofilms is critical for developing strategies to prevent catheter blockage.

Objective: The study aimed to investigate the elemental composition of crystalline biofilms formed by *P. mirabilis* using an *in vitro* bladder model.

Methods: An *in vitro* bladder model was established using double-walled glass vessels, aspirator bottle, water bath, peristaltic pump, catheters, and drainage bags. A steady urine flow, simulating urinary drainage was maintained via the peristaltic pump, with body temperature regulated by circulating water at 37 °C. The model was inoculated with *P. mirabilis* strains (n=6) and operated for 2, 7, 14 days, and until catheter blockage. After each run, 1 cm catheter segment was collected, longitudinally sectioned, and analyzed using Scanning Electron Microscopy (SEM) for biofilm architecture and Energy Dispersive X-ray (EDX) analysis for elemental composition of the biofilms.

Results: EDX analysis revealed obvious peaks for calcium, oxygen, silicon, carbon, chlorine, and sulphur, with varying intensities over time. A significant increase in calcium and oxygen levels was observed from 0.55±0.18% and 12.87±3.49% on day 2 to 33.87±4.18% and 39.92±3.30% at catheter blockage, respectively, indicating progressive oxidation and mineralization (p=0.000). Conversely, carbon levels significantly decreased from 76.77±4.85% to 7.58±8.57%, reflecting a reduction in organic content as the biofilm matured (p=0.000). Magnesium, a key component of crystalline biofilms, was absent in early stages but became evident after 7 days. Elements like magnesium, phosphorus, sodium, aluminium, potassium, nitrogen, and iron were observed only on biofilm-positive catheters and appeared in later stages, highlighting their role in biofilm complexity. SEM confirmed crystalline biofilm development, showcasing microcolonies, and deposits of calcium and magnesium.

Conclusions: The progressive mineralization and elemental shifts observed in the biofilms highlight their role in catheter blockage. These findings provide a critical understanding of biofilm formation dynamics, informing strategies to mitigate CAUTI associated complications.

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

OP 10

Development of an efficient and cost-effective Nile-Red staining technique for assessing microplastic contamination in Sri Lankan liquid milk products

Perera HSD¹, Wickramasinghe I¹, Mahatantila K², De Zoysa HPE²

¹Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Industrial Technology Institute, Baudhdhaloka Mawatha, Colombo 07, Sri Lanka.

Background: Milk is a vital component of human nutrition across all age groups, yet concerns about microplastic (MP) contamination in dairy products have recently emerged. Research addressing food safety and MP contamination in Sri Lanka is limited, particularly for liquid milk.

Objective: This study introduces a newly optimized digestion and staining protocol specifically for liquid milk, addressing the challenges posed by its complex fat and protein matrix, while existing methods for MP detection often require expensive instrumentation, limiting accessibility in developing regions.

Methods: The developed conclusion included a 48-hour digestion step to separate MPs from milk by treating 50 mL of liquid milk with 50 mL of a 30% KOH: NaClO solution, followed by 30 mL of 50% H₂O₂ solution. The digested samples were filtered through GF/D filters under vacuum and stained with Nile Red dye. MPs were quantified using the stereo trinocular fluorescence microscope, distinguishing MPs from other fluorescent particles based on their intensity and morphology. Potential interference from other fluorescent particles was minimized through digestion and comparison of images under blue & white light. The method was optimized for dye concentration (10 µg/mL), incubation time (30 min), and fluorescence microscopy parameters.

Results: The limit of detection was four (04) particles per 100 mL with a relative standard deviation of 8%. Recovery tests using polyethylene (300 µm) spiked milk samples demonstrated a recovery rate of 81.5±2.4 %. Results were compared with spiked control samples and blank tests for method validation. Its efficiency was assessed against established digestion techniques that require costly instruments. Analysis of ultra-high temperature (UHT) milk products randomly sampled from the Sri Lankan market (n=12) revealed MP contamination levels ranging from 12 to 40 particles per 100 mL.

Conclusions: This technique ensures a precise and cost-effective approach for assessing MP contamination in dairy products, offering a practical solution without advanced analytical equipment.

Acknowledgement: This work was supported by the Sri Lanka Treasury for Industrial Technology Institute (TG 24/252), which is gratefully acknowledged.

OP 11

An accurate AI Dermatoscope for skin cancer identification

Wijesundara WMDDDB¹, Wannige CT¹, Achala Liyanage², Madushika MKS³

¹Department of Computer Science, Faculty of Science, University of Ruhuna, Sri Lanka, ²Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka, ³National Heavy Vehicle Regulator (NHVR) Company, Australia.

Background: The global prevalence of skin cancer is rising, presenting significant health and economic challenges. AI-based digital strategies, including transfer learning (TL), enhance early detection and improve curing chances by adapting pre-trained deep learning models for specific tasks. In current medical practices, computer-aided diagnosis systems have become valuable aids, particularly in dermatology. Among all research reported, maximum accuracy is 99.20%.

Objective: This study aims to develop an AI-based dermatoscope and mobile application to assist dermatologists and patients by accurately identifying skin diseases and classifying melanoma skin cancer into benign and malignant stages.

Methods: Conventional convolutional neural networks (CNNs) in dermatology applications often struggle with capturing intricate patterns and relationships in skin lesions, limiting interpretability and generalizability. Additionally, CNN-based models have high computational demands, posing a challenge for deployment in portable diagnostic devices. To address this, we propose VisionFlowNet, a novel approach that combines the power of Vision Transformer (ViT) with the "Pooling layers" concepts in CNN. Ethical approval was obtained from the Ethical Review Committee, Faculty of Science, University of Ruhuna, and the study was conducted among 85 patients at the Community Dermatology Centre, Faculty of Medicine, University of Ruhuna.

Results: The proposed AI dermatoscope successfully identified seven types of skin diseases and classified melanoma into benign and malignant stages. Experimental evaluation demonstrated an accuracy of 86.67%, with a p-value of 5.04×10^{-6} from a chi-squared test, indicating statistically significant performance.

Conclusions: The AI dermatoscope outperforms traditional CNN-based approaches while maintaining computational efficiency, making it suitable for real-time applications in dermatology.

Acknowledgement: We would like to thank the grant “RU/SF/RP/2022/03” and “RU/SF/RP/2023/03” provided by “University of Ruhuna, Matara, Sri Lanka”.

OP 12

Evaluating the potential toxicity of three selected herbal-based skin whitening creams available in the Sri Lankan market using Zebrafish embryo model

Ibtesam H¹, Kalpana GLC¹, Musrifa MKF¹, Karunarathna KAAU³, Ratnayake WMKM⁴, Suresh TS^{2,5}
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Biochemistry and Animal House, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ⁴Department of Cosmetic Sciences, Faculty of Health Sciences, CINEC Campus, Sri Lanka, ⁵Centre for Plant Material and Herbal Product Research, University of Sri Jayewardenepura, Sri Lanka.

Background: In Sri Lanka, the demand for skin whitening creams is steadily increasing, with a particular preference for herbal-based formulations, which are perceived to provide safer, and more natural alternatives to chemical-based products. Toxicity assessments of herbal-based cosmetics remain limited, with no studies reported in Sri Lanka, necessitating the need for scientific evaluation to ensure consumer safety.

Objective: This study aimed to assess the potential toxicity of three locally manufactured herbal-based skin whitening creams on Zebrafish embryos.

Methods: This laboratory-based experimental study was conducted following the Organization for Economic Cooperation and Development (OECD) test guideline 236. Fertilized Zebrafish embryos were exposed to seven different concentrations (1 µg/mL – 100 µg/mL) of three selected herbal whitening creams, i.e., Creams A, B and C., available in the local market as local products. Distilled water and 50% ethanol were used as negative and positive controls, respectively. The apical endpoints: coagulation of the embryo, lack of heartbeat, lack of somite formation and non-detachment of tail, were observed every 24 hours until 96 hours to determine the lethality of embryos. Statistical analysis was performed using SPSS version 27.0.

Results: Based on the average mortality percentage, the lethal concentration 50% (LC₅₀) of creams A, B and C were 523 µg/mL (r=0.589), 70 µg/mL (r=0.915) and 66 µg/mL (r=0.987) respectively. However, the association between mortality rate and LC₅₀ was not statistically significant (p=0.30). Morphological abnormalities, including pericardial and yolk sac oedema as well as scoliosis, were observed at all concentrations studied (1.00 µg/mL, 3.13 µg/mL, 6.25 µg/mL, 12.50 µg/mL, 25.00 µg/mL, 50.00 µg/mL, 100.00 µg/mL).

Conclusions: The results of this preliminary study revealed that selected herbal-based skin whitening creams exert acute toxicity on Zebrafish embryos. Further, *in-vivo* or human cell culture studies are recommended to support these findings.

OP 13

Comparison of maternal and umbilical cord blood vitamin D levels among a selected population of pregnant mothers with gestational diabetes mellitus attending a main government sector teaching hospital in Colombo, Sri Lanka

Wimalajeewa TMDYD¹, Hettiaratchi UPK², Amarasekara AATD³, Prathapan S⁴, Jayawardane MAMM¹

¹Department of Obstetrics and Gynaecology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ⁴Department of Community Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Vitamin D plays an important role in glucose metabolism in GDM while, umbilical cord blood (UCB) vitamin D levels may provide important information on the effectiveness.

Objective: To examine the correlation between maternal and UCB vitamin D levels and the impact of antenatal vitamin D supplementation on these levels among a selected population of pregnant mothers attending a main government sector teaching hospital in Colombo, Sri Lanka.

Methods: This longitudinal study was conducted among 73 GDM mothers attending antenatal clinics at Colombo South Teaching Hospital, Sri Lanka. Participants were recruited at 24–28 weeks and followed up till their delivery. Approximately 2 mL of maternal and 2 mL of umbilical cord blood were collected at delivery to analyze serum 25(OH)D levels. Maternal and UCB vitamin D status was classified as follows: deficient (<10 ng/mL), insufficient (10–20 ng/mL) and sufficient (≥ 20 ng/mL). Student’s t-test and bivariate correlations were used in statistical analysis. Ethical approval was obtained from the relevant authorities.

Results: Final analysis included 71 mother-newborn pairs as two UCB samples could not be collected at delivery. 49.3% (n=35) had received 200 IU of vitamin D containing calcium supplements. Mean maternal serum 25(OH)D levels at 24–28 weeks and delivery were 15.8 ± 4.7 ng/mL and 16.4 ± 5.4 ng/mL respectively. Mean UCB serum 25(OH)D level was 22.5 ± 7.8 ng/mL. 71.8% and 66.2% of mothers were vitamin D insufficient at 24–28 weeks and delivery. 38.0% of babies had insufficient UCB vitamin D levels. However, UCB vitamin D level strongly correlated with maternal vitamin D levels ($p=0.001$). There was no significant difference in mean maternal or UCB vitamin D levels between pregnant mothers with and without vitamin D supplementations during pregnancy ($p=0.615$, $p=0.069$).

Conclusions: In the current study, UCB vitamin D level was significantly higher than the respective maternal concentrations which highlights the efficiency of active placental transfusion of vitamin D. Further, supplementation may not significantly impact vitamin D status in this population.

Acknowledgement:

The authors acknowledge the University of Sri Jayewardenepura for funding this research (Grant No: ASP/RE/MED/2021/063).

OP 14

Influence of body mass index on proteinuria progression in diabetic patients: A retrospective analysis

Madhurahini R¹, Kavindi DMM², Sandeepa KHME², Rodrigo WSY², Arasaratnam V¹

¹Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka, ²Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

Background: Proteinuria, a key marker of kidney dysfunction in diabetic patients, is influenced by different factors, including Body Mass Index (BMI).

Objective: To determine the influence of BMI in the development, resolution, and persistence of proteinuria in diabetic patients over three years (from 2021 to 2023).

Methods: A retrospective cohort study was conducted on 674 diabetic patients attending Diabetic Centre, Teaching Hospital, Jaffna, who were free of proteinuria in 2021 and monitored for proteinuria progression till 2023. Patients were categorized into four groups based on their proteinuria status in 2023; ‘No proteinuria’, ‘Persistent proteinuria’, ‘Resolved proteinuria’, and ‘Newly developed proteinuria’. BMI values were measured in years 2021, 2022, and 2023, while the mean values of years 2021 and 2023 were compared (paired samples t-test).

Results: The ‘No proteinuria’ group (n=564) exhibited a significant ($p < 0.001$) reduction in mean BMI, from 25.89 (± 3.87) kg/m² in 2021 to 24.64 (± 3.54) kg/m² in 2023. Those with ‘Resolved proteinuria’ (n=8) had a significant ($p = 0.400$) reduction in BMI, [from 23.35 (± 2.93) kg/m² in 2021 to 22.71 (± 3.08) kg/m² in 2023] highlighting the potential role of weight management in the initial stages to prevent and reverse proteinuria. The ‘Persistent proteinuria’ group (n=33) maintained stable BMI levels, with no significant ($p = 0.967$) change in BMI [24.54 (± 3.85) kg/m² (2021) and 24.53 (± 4.27) kg/m² (2023)]. Conversely, the ‘Newly developed proteinuria’ group (n=69) had non-significant ($p = 0.117$) increase in BMI [from 25.21 (± 3.39) kg/m² in 2021 to 25.55 (± 3.59) kg/m² in 2023].

Conclusions: Diabetic patients who remained proteinuria-free or resolved proteinuria showed significant BMI reduction, suggesting that the weight management may aid prevention and reversal. Further interventional studies on weight reduction and require longer follow-up to confirm the role of BMI in proteinuria progression.

OP 15

Assessment of adherence to methotrexate and folic acid in Rheumatoid arthritis patients: A cross-sectional study

Kamshana K¹, Yadhury S¹, Diluxcy R¹, Kalki P¹, Narani A²

¹Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, ²Rheumatology and Rehabilitation Center, Teaching Hospital Jaffna, Sri Lanka.

Background: Rheumatoid arthritis is a chronic disease characterized by inflammation and joint damage. Methotrexate is the first-line medication to treat rheumatoid arthritis along with folic acid to mitigate the methotrexate-induced side effects. Adherence to both medications is critical for effective disease management, as nonadherence can result in increased disease activity, disability and higher healthcare costs.

Objective: This study aims to assess the adherence to methotrexate and folic acid in rheumatoid arthritis patients and identify the associations between adherence and patient-related factors.

Methods: A descriptive, cross-sectional study was conducted in a population of 245 rheumatoid arthritis patients on methotrexate therapy at the Rheumatology Clinic, Teaching Hospital Jaffna, in 2024. Data were collected using an interviewer-administered questionnaire developed from existing literature. A checklist was used to record prescription pattern. Adherence was measured using eight statements with responses recorded as “Yes” (score=1) or “No” (score=0). A total score above 75% was classified as adherence. Statistical analysis included Fisher’s exact test, chi-square test and the Mann-Whitney U test.

Results: The response rate was 90%. The median age was 57 years and 86% were females. The median methotrexate usage duration and dose were 5 years and 10 mg respectively. Among the participants, 58% were adherent to methotrexate and folic acid. The patients who studied above O/L have significantly higher adherence than the patients who studied below O/L ($p=0.044$, $\phi=0.125$). Adherence was higher in patients who had belief in therapy than those who didn’t ($p=0.001$, Cramér’s $V=0.264$). Variables such as age, gender, employment, methotrexate dose and duration of methotrexate usage were not associated with adherence.

Conclusions: Nearly half of the participants were non-adherent to methotrexate therapy. Implementing targeted patient education and counseling programs could enhance adherence to methotrexate and folic acid, ultimately improving disease management and patient outcomes.

OP 16

Adherence to tacrolimus and its influencing factors in renal disease patients: A cross-sectional study

Yasotha G¹, Abinaya S¹, Sivatharan S¹, Thuvaragan S¹, Brammah RT²

¹Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, ²University Medical Unit, Faculty of Medicine, University of Jaffna, Sri Lanka.

Background: Tacrolimus is an immunosuppressive medication with a narrow therapeutic window. It is widely prescribed to renal disease patients, especially kidney transplant recipients (KTRs) and those who have glomerulonephritis. Non-adherence to tacrolimus is the risk factor for the suboptimal treatment outcomes, including graft rejection or graft loss in KTRs and relapse and progression to end stage kidney disease in patients with glomerulonephritis.

Objective: To assess the adherence to tacrolimus and the association of influencing factors among renal disease patients.

Methods: A single-centered, cross-sectional study was conducted among renal disease patients who followed the Nephrology and Transplant unit, Teaching Hospital Jaffna, from August to September 2024, using an interviewer administered questionnaire to gather data. The adherence was assessed via Basel Assessment of Adherence to Immunosuppressive Medication Scale (BAASIS). The association of influencing factors with adherence based on WHO guidelines was analyzed using Chi-square test.

Results: Out of 180 patients, 48.9% were kidney transplant recipients and 51.1 % had glomerulonephritis, with a mean age of 41.01 ± 13.51 years. The non-adherence rate was 51.7% in the previous 4 weeks. Among the non-adherents, 35% skipped doses, 28.9% delayed doses, 11.7% altered their doses and 8.9% missed consecutive doses. The primary cause of non-adherence was workload (30%), followed by forgetfulness (24.4%). Prevalence of non-adherence was higher in patients with glomerulonephritis compared to kidney transplant recipients. Among different influencing factors, availability of tacrolimus in hospital ($p=0.005$) and disease condition ($p < 0.001$) showed significant association with adherence.

Conclusions: More than half of patients were non-adherence to tacrolimus. It can be improved by ensuring availability of tacrolimus in the hospital and taking more attention especially among patients with glomerulonephritis.

OP 17

Identifying medication-related problems in a selected Base hospital in North Central Province, Sri Lanka: A descriptive cross-sectional study

Sirilal WARR^{1,2}, Jayasiri LLKS¹, Wickramasinghe NDD¹

¹Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, ²Primary Medical Care Unit, Aselapura, Sri Lanka.

Background: Pharmaceutical Care Network Europe (PCNE) defines type 1 medication review (prescription review), as the “simplest medication review conducted based on available medication history in the pharmacy”. It does not require direct interaction with the patient or access to their full clinical records. It evaluates a patient's prescription to detect possible Medication-Related Problems (MRP)”. According to PCNE, MRP is “an event or circumstance involving medication therapy that actually or potentially interferes with desired health outcomes”. Studies on medication review are limited in Sri Lankan healthcare settings. The findings will be helpful in improving patient safety and optimizing medication management in a selected secondary healthcare institution in Sri Lanka.

Objective: To conduct a type 1 medication review to identify MRPs and to classify identified MRPs according to PCNE V9.0.

Methods: A prospective descriptive cross-sectional study was conducted by a Bachelor of Pharmacy undergraduate at the medical clinic in a selected base hospital in North Central Province (NCP), Sri Lanka during August and September 2024. A total of 278 patients were included in the study. Demographics, diagnoses, and prescribed medication lists were extracted using patients' clinic notes. Individual patients' medication was reviewed using the British National Formulary. The identified MRPs were confirmed by the study supervisor. The Ethics Review Committee at the Open University of Sri Lanka approved the study.

Results: The patient's mean age was 58.8 (± 10.8) years and 74.8 % were females. The median number of diagnoses per patient was 2 (3-1) and the median number of medications per patient was 5 (6-4). The commonest MRP category was treatment safety (62.28%), followed by treatment effectiveness (28.7%) and others (9.65%).

Conclusions: The patients' medication regimens are complex due to having a higher number of medicines per prescription. Pharmacist-led medication reviews are important in detecting MRPs occurring in selected clinic settings.

OP 18

Patterns and prevalence of off-label use of psychotropic medicines for children and adolescents attending psychiatric clinics at National Hospital Galle

Srimalie MGA¹, Abeykoon AMAU², Buddhika RBJ²

¹National Hospital Galle, Galle, Sri Lanka, ²Department of Pharmacy, Faculty of Health Science, The Open University of Sri Lanka.

Background: "Off-label" use refers to the use of a medicine for a purpose that is not officially approved by the regulatory authorities, as outlined in the Summary of Product Characteristics. Off-label prescribing is a common practice, especially in treating young children and adolescents with mental health disorders.

Objective: This study aimed to explore the patterns of off-label medicine use at psychiatric clinics, National Hospital Galle, with a focus on age, diagnosis, and prescribed medicines to address existing gaps in knowledge.

Methods: A retrospective, descriptive study was conducted. The clinic records of 259 patients (93 children and 166 adolescents) aged 19 or below 19 years who attended psychiatric clinics at National Hospital Galle from the 1st of January 2024 to the 30th of June 2024 were used as the study sample. Prescriptions were categorized as on-label or off-label using the British National Formulary (BNF) and the Electronic Medicines Compendium (EMC). The chi-square tests were used to analyze relationships between off-label use and patient demographics or diagnoses. The level of significance was set at $p < 0.05$.

Results: The majority (66.4%) of psychotropic prescriptions were on-label, while 33.6% were off-label. Off-label prescribing was significantly associated with age ($p: 0.000$, χ^2 value: 18.212), with 93 children under 10 years reporting the highest off-label rate (43.01%), followed by 113 adolescents aged 10-15 years (37.1%), and 53 of those over 15 years (9.43%). A significant relationship was observed between off-label prescribing and psychiatric diagnoses ($p: 0.000$, χ^2 value: 147.428). Anxiety disorders were the most common diagnosis associated with off-label prescriptions, while sertraline (38.9%), risperidone (29.5%), and methylphenidate (20.0%) were the most frequently prescribed off-label psychotropic medicines.

Conclusions: Off-label prescribing was significantly associated with the patient's age and psychiatric diagnosis. There is a need for pediatric-specific guidelines for psychotropic medicines and expanded clinical trials to ensure safe and effective psychotropic use in children and adolescents.

OP 19

Knowledge, attitudes, and practices on antiretroviral therapy (ART), among HIV patients attending the sexually transmitted disease (STD) clinics in Kalutara District

Ekanayaka BS^{1,2}, Fernando WTS², Buddhika RBJ²

¹Sexual Transmitted Disease clinic Kalutara, Nagoda, Sri Lanka, ²Department of Pharmacy, Faculty of Health Science, The Open University of Sri Lanka.

Background: Human immunodeficiency virus (HIV) attacks the body’s immune function cluster of differentiation (CD4) cells in the immune system. Once the human body is infected with HIV, it becomes a life-long infection with no permanent cure and develops up to the acquired immune deficiency syndrome (AIDS) stage. Antiretroviral therapy (ART) is one of the most powerful HIV prevalence methods used globally.

Objective: To assess the knowledge, attitudes, and practices on ART among HIV patients attending Sexually Transmitted Diseases (STD) clinics of Kalutara District.

Methods: A cross-sectional, observational, descriptive study was conducted on ART among 125 HIV patients attending STD clinics in Kalutara District (Kalutara and Panadura). Data were collected using a validated, self-administered questionnaire in Sinhala, Tamil, and English, and frequencies were analyzed using IBM SPSS (version 25).

Results: The response rate was 76% (n=95), with the majority being male (82.1%, n=78). Of the participants, 50.5% (n=40) identified as heterosexual, and 27.4% (n=26) as homosexual. All participants demonstrated accurate knowledge of ART, including its purpose, dosage, timing, and efficacy. However, only 26.3% (n=25) knew the names of ART medications as tenofovir disoproxil fumarate + emtricitabine/ dolutegravir, lamivudine + zidovudine/ dolutegravir, and tenofovir disoproxil fumarate+ emtricitabine + dolutegravir, and 27.4% (n=26) understood the relationship between ART and CD4 cell counts. Pre-exposure prophylaxis (PrEP) awareness was also limited (40%, n=38). Most participants (80%, n=76) preferred long-term injections over oral tablets, and 87.4% (N=83) believed ART to be highly effective. Most (90.5%, n=86) stored ART medications discreetly, while only 8.4% (n=8) missed doses in the past week. Over half (53.7%, n=51) used reminder devices to ensure timely ART administration.

Conclusions: While ART users displayed accurate knowledge of its efficacy and interaction with food, there was limited awareness of ART names and PrEP. Educational initiatives should focus on improving knowledge and fostering positive attitudes toward PrEP to enhance overall HIV management practices.

OP 20

A prototype of an intra uterine device (IUD) for trouble making monkeys

Abeyratne KMGWCPB¹, Devasurendra P², Perera PPTL¹, Bandaranayake HEMK¹, Akalanka M², de Silva³ MP, Nawaz J³, Gamage BGSS¹, Dangolla A¹, Ranawana KB⁴

¹Department of Veterinary Clinical Science, University of Peradeniya, Sri Lanka, ²Department of Wildlife Conservation, Sri Lanka, ³Teaching Hospital, Peradeniya, Sri Lanka, ⁴Department of Zoology, University of Peradeniya, Sri Lanka.

Background: Urbanization and increasing human population lead to habitat loss, fragmentation and increased human-monkey conflict (HMC) for which responsible waste disposal appears critically important. Methods of monkey population control as long-term solutions, have not being tried at length while repellents are of limited value, as short-term solutions.

Objective: To test the feasibility of inserting copper Intra-Uterine Device (IUDs) in adult female Toque macaques for their population control.

Methods: Female genital tracts from 3 Toque macaques (*Macaca sinica*) and 4 Purple-faced leaf monkeys (*Trachypithecus vetulus*) were taken postmortem and measured uterine width and length, cervix length, and internal cervical diameter, to determine the size of the potential IUD. Firstly, commercially available women's IUDs (32mm width, 36mm length) were inserted to eight (08) adult female macaques under general anesthesia.

Results: Monthly radiographs showed no retention beyond one month (Stage 1). Secondly, the size of the IUD size was reduced (25mm width and 20mm length), and re-applied (Stage 2) but only two retained for more than a month. Further modifications (10mm width, 13mm length) were made (Stage 3) and was inserted to remaining monkeys. All macaques successfully retained IUD s for over three months without complications.

Conclusions: Results indicate feasibility of inserting modified women's IUD to macaques under controlled conditions. A field trial is needed to confirm its use in the wild. In this method, no postoperative monitoring or care is required, as wild monkeys can be released immediately afterwards, will not disturb their social behavior, very cheap and easily taught compared to previously described methods. However, identifying IUD-inserted females from a distance is challenging.

OP 21

AI-powered digital nutrition tool: Developing a calorie counting and diet planning platform for professional use

Bandara RMNA¹, Mauran M², Thevarajah K¹, Adikari AMNT¹, Chandrasekara A¹

¹Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries and Nutrition, ²Wayamba University of Sri Lanka, Sri Lanka, MSA Shipping PVT LTD, Colombo 14, Sri Lanka.

Background: Non-communicable diseases like obesity, diabetes, and cardiovascular conditions are on the rise globally, necessitating personalized dietary interventions. Traditional assessment methods, particularly 24-hour recalls, manual calorie counting and physical activity records, are time-consuming, prone to recall bias, and may not accurately reflect dietary behaviors. This hinders the efficiency and effectiveness of nutritional consultations. Advances in artificial intelligence (AI), particularly through conversational models like ChatGPT-4o, offer new possibilities for improving nutritional guidance.

Objective: This study aims to develop a digital tool leveraging artificial intelligence to assist nutrition professionals in estimating caloric intake, calculating total daily energy expenditure, and creating personalized diet plans.

Methods: This research adopts a digital product development approach. Calorie estimation is conducted using AI-driven image recognition, which analyzes meal photographs and estimates caloric content based on a validated nutritional database. Energy expenditure is calculated using a concise version of the International Physical Activity Questionnaire. Personalized diet plans are generated by ChatGPT-4o and Gemini, accommodating users' specific needs and preferences. The tool was developed iteratively, undergoing extensive testing with diverse meal types and user activity profiles to ensure accuracy and reliability.

Results: The research successfully developed a user-friendly digital tool, accessible at <https://edietetics.com/>, designed for clinical nutritionists to provide personalized nutritional guidance. The tool integrates AI-driven features, including meal calorie estimation, energy expenditure calculation, and personalized diet plan generation, ensuring practical and accurate support for dietary management in clinical practice.

Conclusions: The AI-powered platform significantly reduces the time burden of dietary assessments while enhancing data accuracy, enabling dietitians to deliver more efficient and personalized nutritional care, ultimately improving patient outcomes.

OP 22

***In silico* drug repurposing of small molecule inhibitors to impede viral replication of Kaposi’s sarcoma- associated herpes virus**

Udeshika KVH¹, Peiris LDC¹, Senapathi T²

¹Department of Zoology, Faculty of Applied, University of Sri Jayewardenepura, Sri Lanka, ²Department of Chemistry, Faculty of Applied, University of Sri Jayewardenepura, Sri Lanka.

Background: Kaposi’s sarcoma (KS) is an angioproliferative tumor that primarily occurs in the skin and is caused by Kaposi’s sarcoma-associated herpes virus (KSHV). KSHV-encoded vCyclin, mimics cellular cyclinD2 and activates Cyclin-dependent kinase 6 (CDK6) to enhance the G1-S phase transition of the cell cycle. Hence, it promotes DNA damage and apoptosis, thus viral survival. Protein arginine methyltransferase 5 (PRMT5) could be considered as a potential therapeutic target for cancer treatment as it facilitates viral replication and proliferation by symmetrically methylating vCyclin at arginine 128 residue, promoting its activity.

Objective: To identify a molecule with a higher binding affinity using an *in-silico* method to inhibit PRMT5 protein.

Methods: Virtual- screening of a small molecule database was performed, keeping EPZ015666, a PRMT5 (PDB ID:7ZVU) inhibitor as a reference, using Galaxy open-source platform and Droperidol was identified as a high binding affinity ligand with similar structural and functional characteristics. The molecular docking process was performed utilizing the AutoDock scoring algorithm. A molecular dynamic simulation was conducted for the Droperidol- PRMT5 complex for 50ns on the GPU cluster using NAMD as the MD software, with the CHARMM36m forcefield in the TIP3P water model to simulate the solvent environment, and the simulation was then analyzed on the BRIDGE platform.

Results: Droperidol exhibited a higher binding affinity of -9.7kcal/mol among the identified molecules, surpassing the reference inhibitor with the binding affinity value of -8.1kcal/mol. In the RMSD analysis, the system acquired stability around 20ns and remained stable throughout the simulation, where the plot plateaued after 20ns. Considering the interactions, dispersion forces predominated, and the hydrogen bonds formed in the simulation were stable, which led to the overall stability of the Droperidol- PRMT5 complex.

Conclusions: These results suggest Droperidol as a potential PRMT5 inhibitor. Further structural optimization and *in vitro* studies are required to enhance its efficacy.

OP 23

Synthesis, *in vitro* α -glucosidase inhibition potency, enzyme kinetics, and *in silico* studies of 2-phenyl-3*H*-quinazoline-4-one derivatives as potential anti-diabetic agents

Pathirana KPSS, Dissanayake DMWS, Gunaratna MJ

Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka.

Background: Chronic hyperglycemia, a prevalent metabolic disorder, is commonly managed by inhibiting carbohydrate-hydrolyzing enzymes such as α -glucosidase. By inhibiting α -glucosidase the postprandial rise in blood glucose levels can be attenuated better glycemic control.

Objective: This study focuses on the synthesis, and evaluation of four para-substituted 2-phenyl-3*H*-quinazoline-4-one derivatives (R= H, OH, OCH₃ and Cl) as potential α -glucosidase enzyme inhibitors. In this study, binding interactions between the derivatives and α -glucosidase were determined through *in silico* docking studies, *in vitro* inhibitory effects of the derivatives on α -glucosidase and their impact on glucose uptake by yeast cells were evaluated.

Method: Four derivatives of 2-phenyl-3*H*-quinazolin-4-one were synthesized by the oxidative cyclocondensation of 2-aminobenzamide with benzaldehydes (namely 4-hydroxybenzaldehyde, 4-methoxybenzaldehyde, 4-chlorobenzaldehyde, and benzaldehyde) in a refluxing aqueous solution of FeCl₃. The structures of synthesized analogues were confirmed using spectroscopic techniques including Fourier-transform infrared, ¹H-NMR, ¹³C-NMR and high-resolution mass spectrometry. These derivatives were evaluated for α -glucosidase inhibition, glucose uptake modulation and binding interactions through *in vitro* and *in silico* studies.

Results: *In vitro* assays demonstrated that 2-(4-methoxyphenyl)-3*H*-quinazoline-4-one derivative has notable inhibitory activity against α -glucosidase, with IC₅₀ values of 0.07 ± 0.00 μ M. Glucose uptake study revealed that 2-(4-hydroxyphenyl)-3*H*-quinazoline-4-one possesses the highest potential to modulate glucose metabolism in yeast cells with an IC₅₀ value of 450 ± 1.0 μ M. Kinetic assays confirmed that all four derivatives act as non-competitive inhibitors, with unchanged K_m values relative to the standard K_m and a significant reduction in V_{max} values. *In silico* study demonstrated significant enzyme selectivity for all compounds. Results were analyzed using AutoDockTools version 1.5.6 to examine the binding energies and Inhibition constants. Docking results showed 2-(4-methoxyphenyl)-3*H*-quinazoline-4-one as the most potent inhibitor of a α -glucosidase (PDB ID: 5NN8), (-7.34 kcal/mol, K_I = 4.20 μ M) with a superior safety profile including high oral LD₅₀ and minimal toxicity. These findings underscore the structural influence of functional groups and highlight 2-(4-hydroxyphenyl)-3*H*-quinazoline-4-one and 2-(4-methoxyphenyl)-3*H*-quinazoline-4-one as promising candidates for further development as anti-diabetic agents.

Conclusions: The study identifies 2-(4-methoxyphenyl)-3*H*-quinazoline-4-one as promising anti-diabetic agents due to their potent α -glucosidase inhibition, glucose uptake modulation, and safety profiles.

OP 24

***In-vitro* anti-urolithiatic activity of sequential Soxhlet extracts of *Garcinia quaesita* Pierre (Rath goraka) seeds and isolated compounds**

Gammanpila GIDHS, Gunaratna MJ

Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka.

Background: *Garcinia quaesita* Pierre is an endemic spice tree rich in phytochemicals. The therapeutic potential of its seed phytochemicals against urolithiasis remains unexplored.

Objective: This study aimed to extract compounds from *G. quaesita* seeds using hexane, ethyl acetate, and ethanol solvents via sequential Soxhlet extraction and evaluate their anti-urolithiatic activity, along with isolated compounds from hexane and ethyl acetate extracts.

Methods: Phytochemicals from dried seeds were extracted sequentially extracted into hexane, ethyl acetate, and ethanol using Soxhlet extraction. Three triglycerides (TG 1, TG 2, TG 3) were isolated via normal-phase column chromatography using silica gel as the stationary phase and characterized using FTIR, ¹H-NMR, ¹³C-NMR, and HRMS. Hydrolysis of TGs yielded fatty acids (FA 1, FA 2, FA 3). In-vitro anti-urolithiatic activity of hexane, ethyl acetate, ethanol extracts, triglycerides, and fatty acids was assessed through nucleation, growth, and aggregation assays, and analyzed using one-way ANOVA.

Results: Spectroscopic data confirmed the presence of ester bonds, long-chain hydrocarbons, glycerol backbone, and carbonyl carbon, verifying the triglyceride nature of TG 1–3. TG 1 was the most nonpolar, followed by TG 2, while TG 3 was the most polar. Ethyl acetate extract exhibited the strongest nucleation inhibition (IC₅₀=200.09 ± 0.98 µg/mL, p=0.056), compared to potassium citrate (IC₅₀= 243.48 ± 8.36 µg/mL). Hexane extract exhibited the highest growth inhibition (IC₅₀=379.32±15.46 µg/mL, p=0.061), compared to potassium citrate (IC₅₀ = 404.80 ±28.36 µg/mL). TG 3 demonstrated the strongest anti-aggregation activity (IC₅₀=207.12± 8.47 µg/mL, p=0.074), compared to potassium citrate standard (IC₅₀=243.48±8.36 µg/mL).

Conclusions: Hexane, ethyl acetate and ethanol extracts of *G. quaesita* Pierre seeds and the isolated triglycerides and their respective fatty acids show promising inhibition in nucleation, growth, and aggregation.

Acknowledgment: This work was supported by the University of Kelaniya under the research grant RP/03/02/06/04/2021.

OP 25

Application of *Lactobacillus plantarum* in fermentation of *Pouteria campechiana* (Canistel, Sinhala: Ratalawulu) and investigation of its effect on nutritional quality

Isurandi GAPC, Amarakoon R

Department of Microbiology, University of Kelaniya, Sri Lanka.

Despite nutritional value, *Pouteria campechiana* (Canistel; Ratalawulu) remains an underutilized fruit due to its rapid deterioration after ripening, distinct flavor, and relatively short shelf life. Therefore, developing effective processing methods to maintain its quality until consumption is essential. This study aimed to create a fermented food product from *P. campechiana* and evaluate the impact of fermentation on its nutritional quality. The mesocarp of matured firm unfermented and fermented fruit was analyzed for proximate composition following the standard methods of Analysis of the Association of Analytical Chemists. *Lactobacillus plantarum* DMBUK 113080 starter culture was inoculated into heat sterilized canistel in brine (2.5%) and fermentation was carried out for 24 hours, 48 hours, and 72 hours at 37 °C. Both unfermented and fermented samples were dried at 55 °C for 6 hours and ground. Results were analyzed using Minitab 21.1.0 statistical package. Significant differences of mean values of nutrient constituents of unfermented and fermented canistel were determined by one-way ANOVA followed by Tukey’s multiple comparison tests. The moisture, ash, crude protein, crude fiber, free fat, total fat, and total carbohydrate contents of unfermented canistel were 11.79^C ±0.20%, 2.93^A ±0.06%, 4.98^D ±0.26%, 3.68^A ±0.22%, 2.03^A ±0.13%, 4.80^A ±0.19%, and 69.79^C ±0.36% respectively. After 72 hours of fermentation, the crude protein content in unfermented canistel significantly increased from 4.98^D ±0.26% to 8.36^A ±0.24% while crude fiber content significantly decreased from 3.68^A ±0.22% to 1.72^D ±0.07%. Total fat content also showed a significant reduction (2.40^D ±0.13%) upon 72 hours incubation with respect to unfermented samples (4.80^A ±0.19%). Fermentation of canistel elevated its nutritional quality and best conditions were obtained at 72 hours incubation. This study presents an innovative approach to enhance the nutritional value and reduce the post-harvest losses of canistel while preserving its physical quality without the use of chemicals.

OP 26

The effect of dietary nitrate supplementation from beetroot juice on blood pressure regulation in hypertensive individuals: A single-blind comparative intervention study

Dilaxshana N, Balasuriya DK, Chandrasekara A

Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries, and Nutrition, Wayamba University of Sri Lanka.

Background: Hypertension is a significant global health concern, particularly in low- and middle-income countries like Sri Lanka, where pharmacological treatment faces challenges. Dietary nitrates from vegetables such as beetroot, spinach, and radishes aid hypertension management by converting to nitric oxide, which promotes vasodilation and lowers blood pressure.

Objective: This study aims to assess the efficacy of beetroot juice supplementation in reducing blood pressure among hypertensive individuals.

Methods: A single-blind, comparative intervention study with comparable group participants was conducted with 22 pre-hypertensive and stage 1 hypertensive individuals (8 females, 14 males; mean age 35.45 ± 15.56 years). The study excluded individuals with comorbidities and those on anti-hypertensive medications. The higher-dose intervention group received 0.25L of beetroot juice prepared from 190 g of ground beetroot daily for 14 consecutive days, while the lower-dose intervention group received 0.25L of beetroot juice prepared from 3.8 g of ground beetroot. Blood pressure measurements were taken at baseline and post-intervention, with three repeated readings taken each time to ensure accuracy.

Results: The higher-dose intervention group demonstrated a statistically significant reduction in systolic blood pressure (from 138.0 ± 12 mmHg at baseline to 124.1 ± 6.3 mmHg post-intervention; $p=0.0006$) and diastolic blood pressure (from 85 ± 7 mmHg at baseline to 76.5 ± 4.2 mmHg post-intervention; $p=0.001$). In contrast, the lower-dose intervention group showed no significant changes in systolic blood pressure (baseline: 136.6 ± 6.4 mmHg; post-intervention: 136.3 ± 7.8 mmHg; $p=0.7031$) and diastolic blood pressure (baseline: 89.0 ± 7 mmHg; post-intervention: 83.1 ± 6.4 mmHg; $p=0.534$). Heart rate and body composition remained stable across both groups.

Conclusions: The dietary intervention of beetroot juice at a higher concentration effectively reduces blood pressure after 14 days of treatment within the selected study sample.

OP 27

Exploring the ergogenic potential of dietary nitrate supplementation: The impact of beetroot juice on athletic performance and endurance

Balasuriya DK, Dilaxshana N, Chandrasekara A

Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka.

Background: Beetroot is a rich dietary source of inorganic nitrate. Nitric oxide enhances athletic performance by improving mitochondrial efficiency and promoting vasodilation, thereby reducing oxygen cost during submaximal exercise.

Objective: To evaluate the impact of beetroot juice supplementation on VO₂ max among young athletes.

Methods: A single-blind comparative intervention study was conducted with 22 university athletes (aged 23.95±1.16 years), including 10 males and 12 females and divided them into two groups. Both groups had comparable baseline VO₂ max, anthropometric measurements, blood pressure measurements, and body composition measurements ensuring homogeneity between the intervention groups (no statistical difference between groups). The higher concentration group consumed 250 mL of beetroot juice made from 0.076 kg of raw beetroot per 100 mL of water daily for 14 days, while the lower concentration group received 250 mL of beetroot juice prepared from 0.002 kg of raw beetroot per 100 mL of water daily for the same period. VO₂ max was evaluated using the Cooper test before and after the intervention. Additional parameters, including anthropometric measurements, blood pressure measurements and body composition, were recorded at the baseline and post-intervention.

Results: Supplementation with higher concentrate d beetroot juice demonstrated a significant improvement in VO₂ max (22.52±9.90 mL/kg/min to 28.77±12.67 mL/kg/min, p=0.0006). Similarly, the group consuming diluted beetroot juice also showed a significant improvement in VO₂ max (18.50±7.92 mL/kg/min to 26.42±9.51 mL/kg/min, p=0.002). However, other parameters, including systolic and diastolic blood pressure, pulse rate, fat percentage, and visceral fat, showed no significant changes in either group.

Conclusions: The supplementation with beetroot juice, both in concentrated and diluted forms, significantly improves VO₂ max, indicating enhanced aerobic capacity.

OP 28

Biological activities of selected plant-based natural resins in Sri Lanka

Gangodawila GKNP¹, Nadeshkumar A¹, Herath HMD¹, Jayasuriya WJABN¹, Dissanayake RK²

¹Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Chemistry, University of Prince Edward Island, Canada.

Background: Sri Lanka, rich in biodiversity and endemic plants offer vast therapeutic potential. Despite this, plant resins remain an underexplored resource in local research.

Objective: To evaluate the anti-microbial, antioxidant, and anti-cancer activities of selected plant-based natural resins in Sri Lanka.

Methods: Crude organic extracts (hexane, ethyl acetate, and methanol) of resins from *Vateria copallifera* (Hal), *Shorea affinis* (Beraliya), and *Shorea dyeri* (Yakahalu) were prepared via sequential extraction and their antimicrobial, antioxidant, and anticancer activities were tested. Antimicrobial assays were done by agar disk diffusion method against Gram-positive (*Staphylococcus aureus*, *Bacillus subtilis*), Gram-negative (*Pseudomonas aeruginosa*, *Escherichia coli*) bacterial species, and fungal species (*Candida albicans*, *Candida tropicalis*). Antioxidant activity was evaluated via 2,2-diphenyl-1-picrylhydrazyl radical scavenging with ascorbic acid as a reference over a concentration range of 10 - 0.08 mg/mL. The anticancer potency was assessed in vitro on BT-474 breast cancer cells, with cell viability assessed by dimethylthiazol-carboxymethoxyphenyl-sulfophenyl-tetrazolium assay over a concentration range of 50 – 0.4 mg/mL.

Results: All nine extracts showed antimicrobial activity against at least one microbe tested. Methanol extract of *S. affinis* displayed the strongest inhibition against Gram-positives while ethyl acetate extract of *S. dyeri* was most effective against Gram-negative. *V. copallifera* ethyl acetate extract demonstrated the highest antifungal activity. The hexane extract of *S. affinis* showed the strongest 2,2-diphenyl-1-picrylhydrazyl radical scavenging (IC₅₀:3.187 mg/mL), followed by *S. dyeri* (IC₅₀:4.58 mg/mL). All extracts demonstrated anticancer activity, even at 0.4 mg/mL.

Conclusions: Crude resin extracts showed antimicrobial, antioxidant, and anti-cancer activities. These findings suggest the need for further studies to isolate and identify novel bioactive compounds.

OP 29

Evaluation of anti-oxidant and anti-inflammatory activity in seed extracts of *Elettaria cardamomum* (L) Maton

Lekamge LNL¹, Jayasuriya WJABN¹, Hapuarachchi SD², Herath HMDR¹

¹Department of Pharmacy and Pharmaceutical Sciences, University of Sri Jayewardenepura, Sri Lanka,

²Department of Ayurveda Pharmacology and Pharmaceutics, Faculty of Indigenous Medicine, University of Colombo, Sri Lanka.

Background: *Elettaria cardamomum* (L) Maton is a well-known spice. Cardamom seeds from different sources (from cultivation fields and commercial seed collections) may have varying anti-oxidant and anti-inflammatory activity.

Objective: To evaluate the *in-vitro* anti-oxidant and anti-inflammatory activity of seed extracts of *E. cardamomum* from different sources.

Methods: Aqueous seed extracts of *E. cardamomum* from cultivation fields (F1, F2, F3) and commercially available collections (S1, S2, S3, S4, S5) were evaluated by 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay, 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) assay, ferric reducing antioxidant power assay (FRAP) for antioxidant activity. Anti-inflammatory activity was evaluated by inhibition of egg albumin denaturation (EA) and heat-induced human red blood cell membrane stabilization (HRBC) assays. Tests were done in triplicates. One-way ANOVA test was performed for statistical comparison.

Results: IC₅₀ of samples from the field in DPPH, ABTS assays, and antioxidant capacity in FRAP assay were in range of 0.56(±0.02)- 0.80(±0.07) mg/mL, 1.77(±0.23)-2.97(±0.28) mg/mL, 5.31±(1.99) - 0.21±(0.05) mg ascorbic acid (AA) equivalent/g respectively while commercial samples were 0.70±(0.02) - 1.68±(0.07) mg/mL, 3.17±(0.37) - 5.10±(0.26) mg/mL, 0.44±(0.03) - 8.86±(0.3) mg AA equivalent/g. IC₅₀ of samples from the field in EA and HRBC were in range of 4.03±(0.44) - 8.85±(0.56) mg/mL, 5.27±(0.09) - 11.36±(0.51) mg/mL respectively while commercial samples were 4.83±(0.63) - 7.37±(0.21) mg/mL, 6.45±(0.26) - 12.98±(1.47) mg/mL. All three samples from the field have shown higher activity (p<0.05) than commercial samples in DPPH assay (except S3) and ABTS assay (than S1 and S5). In FRAP assay, all field samples and S1 have shown comparable antioxidant capacities (p>0.05). In EA assay, commercial samples; S1, S2, S4 have comparable activity with all field samples (p>0.05) while in HRBC assay, field samples (except F1) have higher activity (p<0.05) than commercial samples (except S3).

Conclusions: Cardamom seeds own variable degrees of anti-oxidant and anti-inflammatory activity based on the sources, thus it needs to consider to maintain the quality in cardamom-based medicinal products.

OP 30

Development of natural tablet binder from the crude gum of plant *Macaranga peltata*

Balasooriya BARD¹, Tennakoon TMSA¹, Salinda HGH¹, Viruni LR¹, Sabalingam S², Gunawardana SLA¹

¹Department of Pharmacy and Pharmaceutical sciences, Faculty of Health Sciences, CINEC Campus, Malabe, Sri Lanka., ²Department of Pharmacy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defense University, Sri Lanka.

Background: Binders are excipients that are used in tablet and granule formulation which ensuring uniformity and stability. The demand for safer, more sustainable pharmaceutical excipients has led to a greater interest in developing natural alternatives over synthetic binders.

Objective: To evaluate the binding properties of *Macaranga peltata* (Kenda) gum in development of tablet formulations and assess their quality parameters.

Methods: Plant material was collected from the immature stem of the plant *M. peltata*. Crude gum was purified via dialysis tubing, followed by freeze-drying to obtain purified gum with higher molecular fraction. The crude and purified gum were comparatively analyzed for solubility, Loss on Drying (LOD), pH, presence of tannins and film-forming ability. Five tablet formulations were developed using varying concentrations of the purified gum, with the standard formulation utilizing maize starch as the control. Prepared Granules were characterized for flowability and compressibility. Implemented tablets were evaluated for hardness, thickness, diameter, friability, and disintegration time.

Results: Purified gum was soluble in boiled distilled water and ethanol, formed a pale-yellow color film and tested negative for tannins and showed LOD of 13.50%. Among five different tablet formulations, formulation 1, utilizing 1.84 g of purified gum, emphasized best performance, closely resembling the control while the other four formulations did not deliver favorable results. Formulation 1 demonstrated a hardness of 47.42 N, disintegration within 30 seconds, and a friability of 0.72%, indicating excellent mechanical strength and rapid disintegration. Additionally, the formulation demonstrated excellent uniformity in its physical properties, with a thickness of 3.73 mm (\pm SD 0.013 mm) and a diameter of 6.83 mm (\pm SD 0.023 mm).

Conclusions: The purified *M. peltata* gum exhibited suitable binding properties, with formulation 1 meeting BP specifications, confirming its potential as a pharmaceutical binder.

OP 31

Chocolate-flavored soy milk powder: Adapting spray drying for enhanced quality

Piyasinghe RBTM¹, Fernando HRP², Bawatharani R³

^{1,3}Dept. of Agric. Engineering, Faculty of Agriculture, Eastern University of Sri Lanka, ²Food Research Unit, Gannoruwa, Peradeniya, Sri Lanka.

Background: This research introduces a novel approach to optimizing spray drying conditions for soy milk powder by integrating chocolate-flavoring, to improve physical qualities, minimize beany flavor, improve sensory attributes, and ensure commercial feasibility through cost-effective production.

Objective: This study aimed to produce good quality, affordable chocolate-flavored soy milk powder.

Methods: Soy milk was prepared through leaching, dehulling, soaking soybeans at 70 °C, and grinding them with hot water in a 1:6 ratio to create homogenized soymilk. The boiled soymilk was flavored with chocolate (10 g/L), CaCl₂ (0.1 g/L), and maltodextrin (100 g/L) for spray drying. The mixture was spray-dried at varying inlet temperatures (120 °C, 140 °C, and 160 °C) and atomization speeds (4500 rpm and 5000 rpm). This study evaluated six treatment combinations, selecting the three with the most favorable physical properties (5000 rpm at 120 °C, 140 °C, and 160 °C) for sensory analysis by a semi-trained panel of 35 judges from the Food Research Unit in Gannoruwa.

Results: The combination of 160 °C and 5000 rpm yielded the best results, reducing processing time to 25.33 minutes, achieving 63.69 % thermal efficiency, and lowering moisture content (1.26 %) and water activity (0.25). It demonstrated quick rehydration (1.29 minutes), excellent wettability (1 minute), high solubility (67 %), and good dispersibility (72 %), along with minimal hygroscopicity for better storage. Sensory evaluation showed high consumer acceptability, scoring 4 for taste, 3.83 for aroma, 3.86 for color, 3.86 for texture, and 3.97 overall on a 5-point hedonic scale. The cost of producing 1 kg of chocolate-flavored soy milk powder was calculated at Rs. 5280 which is 34 % lower than the cost of commercially available soy milk powder.

Conclusions: The optimized spray drying conditions (160 °C, 5000 rpm) produced a good-quality powder with low moisture content, rapid rehydration, strong consumer acceptability, and cost-effective production ensuring commercial feasibility.

PP 1

Formulation of a novel bulk-forming laxative using papaya seed powder, psyllium husk and coconut powder

Wijesinghe AHMS, Hettiarachchi HACO

Department of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka.

Background: Constipation is a global health issue, often addressed through synthetic laxatives. Synthetic laxatives offer adverse conditions such as nausea, vomiting, abdominal cramps, allergies etc. Therefore, natural laxatives are currently being used and laxatives from food by-products remain underexplored. Papaya seed powder shows potential to be used in laxative formulation.

Objective: The study aimed to investigate the effectiveness of papaya (*Carica papaya* L.) seed powder as a novel bulk-forming laxative and to formulate a coated tablet.

Methods: Papaya seeds and coconut powder were dried and ground. Coated tablets were formulated incorporating papaya seed powder (PSP), psyllium husk (PH), coconut powder (CP) and pectin (P) in six different ratios, followed by coating with gelatin. Among all formulated ratios, T1 – 75% PSP, 25% P, 0% PH, T3 – 0% PSP, 25% P, 75% PH and T5 – 0% PSP, 25% P, 75% CP (T1, T3, and T5 indicate tablet codes) were assessed for proximate composition, bulk density, tapped density, dietary fiber (DF), swelling index, water holding capacity (WHC), and total phenolic content (TPC). The three ratios were selected considering similar pectin contribution and to separately evaluate contributions of each material.

Results: T3 had the highest DF (62.20%), WHC (14.20 g water/g) and swelling index (7.48 mL/g – pH 1.2, 10.19 mL/g – pH 6.8). T5 had the lowest DF (38.20%), WHC (12.01 g water/g) and swelling index (6.28 mL/g – pH 1.2, 8.43 mL/g – pH 6.8). Bulk density was highest in T1 (0.59 g/mL) and lowest in T3 (0.41 g/mL). TPC peaked in T1 (18.30 mg GAE/g). T5 had lowest TPC (6.60 mg GAE/g). T5 had highest fat content (12.40%) and T1 had lowest (1.01%).

Conclusions: In conclusion, papaya seed powder incorporated formulations were pronounced with its laxative potential. The real effectiveness should be further validated with the human clinical trials.

PP 2

The level of knowledge on epilepsy management and its associated factors of final year student nurses under the Ministry of Health and in Western Province, Sri Lanka

Balasooriya BPGHD, Gunasekare MKCP, Jayawikrama LKRN, Rajawardhana RWMRV, Sankha NDKRS, Sumanarathna KMDTP, Wannakuarachchi SI, Senarathne HS, Asurakkody TA
Faculty of Nursing, University of Colombo, Sri Lanka.

Background: Epilepsy is a common, long-term and non-communicable neurological disorder. Assessing the knowledge level on epilepsy management and its associated factors is crucial for final year student nurses because they will be a pivotal part in Sri Lankan future health sector.

Objective: To assess the level of knowledge on epilepsy management and its associated factors of final year student nurses under the Ministry of Health and in Western Province, Sri Lanka.

Methods: A descriptive, cross-sectional study was conducted among 385 final year students, according to Daniel’s formula. A systematic random sampling method along with a validated and pre-tested self-administered questionnaire including Likert scale was used. According to Hakami et al., 2021, <60% - inadequate knowledge, 60-80% - moderate knowledge, >80% - adequate knowledge was used to measure the level of knowledge, out of 40 total marks from 22 multiple-choice questions where 1 and 0 scores given for correct and incorrect answers and ultimately total scores converting to a percentage was used as the scoring system. Descriptive statistics, inferential statistics including chi-square test, independent sample T-test for gender comparison, and one-way ANOVA test for comparison of age, school of nursing, and province clearance were used with SPSS 27.0 version. Ethical clearance was gained from the Faculty of Medicine, University of Colombo.

Results: The majority, 50.3%, had a moderate knowledge level while only 9.1% indicated an adequate knowledge level. For instance, only 14% knew that Phenytoin was a major anti-epileptic. Knowledge level was significantly associated with school of nursing ($p<0.001$) and hometown belonging province ($p=0.034$).

Conclusions: The level of knowledge on epilepsy management is moderate for the majority whereas adequate only for the minority. It is influenced by school of nursing and hometown belonging province. Results emphasize the importance of knowledge improvement strategies like workshops and patient care conferences.

PP 3

Morphological and thermal insights into green-synthesized hydroxyapatite nanoparticles using cow dung

Razak M^{1,2}, Gamagedara TP^{2,3}

¹Cardiff Metropolitan University, Cardiff, Wales, UK, ²Department of Basic Science, Faculty of Allied Health Sciences, University of Peradeniya, Peradeniya, Sri Lanka, ³Post Graduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka.

Background: Hydroxyapatite nanoparticles (nHAp) exhibit excellent biocompatibility and osteoconductivity, making them ideal for biomedical applications. Conventional synthesis methods often involve toxic precursors, necessitating eco-friendly alternatives.

Objective: This study employed cow dung extract, a renewable and bioactive material for the green synthesis of nHAp, reducing environmental impact while enhancing material properties.

Methods: nHAp was synthesized at a stoichiometric Ca/P ratio of 1.67, with six samples: a control and five experimental samples incorporating cow dung extract (2-10 mL). X-ray diffraction (XRD) determined crystallite size and structural parameters, Fourier-transform infrared spectroscopy (FTIR) identified functional groups, thermogravimetric analysis (TGA) assessed thermal stability, and scanning electron microscopy (SEM) analyzed morphology and particle size.

Results: XRD confirmed a hexagonal HAp phase with high crystallinity and a crystallite size of ~73 nm. The calculated lattice parameters ($a=8.3420 \text{ \AA}$, $c=6.9510 \text{ \AA}$) differed from standard values ($a=9.4180 \text{ \AA}$, $c=6.8840 \text{ \AA}$), indicating slight structural modifications. FTIR analysis confirmed key phosphate ($1025\text{--}561 \text{ cm}^{-1}$) and hydroxyl (3335 cm^{-1}) peaks, validating nHAp formation. TGA revealed enhanced thermal stability, with weight loss reduced from 35.24% (control) to 14.28% (10 mL extract), attributed to organic-mineral interactions. SEM analysis demonstrated significant morphological changes based on cow dung extract concentration. The control nHAp had a length of 80 nm and width of 53 nm, showing a dense crystalline structure. The 10mL sample exhibited rod-like particles (103 nm length, 41 nm width), whereas the 6 mL sample formed needle-like structures (156 nm length, 36 nm width), suggesting controlled crystal growth. The 2mL sample displayed porous, loosely packed particles (89 nm length, 47 nm width), indicating reduced interaction with organic compounds. These findings confirm that cow dung extract influences both the morphology and structural integrity of nHAp, offering tunable properties for biomedical applications.

Conclusions: Green synthesis using cow dung extract offers a sustainable and effective route for producing nHAp with improved stability, tailored morphology, and controlled particle sizes. Future studies should explore antibacterial properties, elemental composition, and surface modifications for optimized biomedical applications.

PP 5

Formulation and evaluation of antifungal gel for tinea corporis by using *Achyranthes aspera* leaves extract

Christina T¹, Lukirtha S¹, Tharshika K¹, Sivasinthujah S¹, Gnanakarunyan TJ²

¹Department of Pharmacy, University of Jaffna, Sri Lanka, ²Department of Medical Laboratory Sciences, University of Jaffna, Sri Lanka.

Background: Tinea corporis is a common fungal skin infection in Sri Lanka, impacting individuals' and communities' quality of life. Herbal gel formulations are gaining attention as alternative medicine due to their natural origin and fewer side effects compared to conventional drugs.

Objective: To develop an herbal gel incorporating *Achyranthes aspera* extract, assess its physicochemical properties, and evaluate its effectiveness against *Trichophyton rubrum*.

Methods: The leaves of *A. aspera* were collected from Agriculture farm in Kilinochchi district, and shade dried and powdered. The leaves were extracted with ethyl acetate using Soxhlet extraction process and filtered, followed by removing the solvent with rotary evaporator. A gel base was prepared using Carbopol-940, propylene glycol 400, methylparaben, propylparaben, and the required amount of distilled water. The gel was formulated with 1 % (formulation A) and 3 % (formulation B) and 5% (formulation C) of plant extract. The skin pH (6.8–7) was maintained by the dropwise addition of triethanolamine. Each formulation was tested for physicochemical property such as organoleptic characteristics, homogeneity, pH, viscosity, spreadability and screen their antifungal activity against *T. rubrum* using the agar well diffusion method, with ketoconazole gel solution as a positive control and 5% DMSO solution and blank gel as a negative control. The statistical analysis of the results was done using one-way ANOVA at 5% significance level.

Results: Green homogenous, opaque and smooth, semi-solid consistency formulations were obtained. Formulation A demonstrated superior viscosity, while Formulation C exhibited better spreadability and antifungal activity against *T. rubrum* compared to the other formulations. Mean values of zones of inhibition of formulated gels against the *T. rubrum* was 12.33±0.57 mm, 21.00±1.00 mm and 23.33±0.57 mm for formulation A, formulation B and formulation C respectively while standard was 25.66±0.57 mm.

Conclusions: Formulation C exhibited optimum physicochemical characteristics and superior antifungal activity compared to other formulations. Further preclinical, clinical, and long-term stability studies are necessary.

PP 6

Antiobesity and antioxidant potential of selected green seaweeds found in coastal areas of Sri Lanka

Abeyasinghe AMAN, Amarasinghe NR

Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.

Background: Obesity is one of the major factors for adverse health outcomes and serious health complications. The diverse array of seaweeds present along the Sri Lankan coast represents an untapped area of bioactive compounds. Previous studies conducted by Sri Lankan researchers have highlighted the therapeutic potential of seaweed, but a comprehensive evaluation of their anti-obesity properties is still lacking.

Objective: Green seaweed species, *Caulerpa imbricata* and *Valoniopsis pachynema* were investigated to evaluate the antioxidant and antiobesity properties with an aim of developing a nutraceutical for obesity control.

Methods: Seaweed samples were collected and dried. The powdered plant materials were subjected to sequential extraction using petroleum ether, ethyl acetate and methanol using a sonicator. The dry crude extracts were subjected to lipase enzyme inhibitory assay and DPPH free radical scavenging assay. L- ascorbic acid was used as a positive control for the DPPH assay, while orlistat was used as a positive control for the lipase inhibitory assay.

Results: The methanol extract of *V. pachynema* demonstrated the highest antioxidant activity with an IC₅₀ value of 392 ppm, while the ethyl acetate extract of *C. imbricata* exhibited a lipase inhibitory activity with an IC₅₀ value of 1852 ppm. The positive controls, orlistat exhibited an IC₅₀ value of 1113 ppm and L- ascorbic acid exhibited an IC₅₀ value of 3.5 ppm. Ethyl acetate extract of *V. pachynema* exhibited DPPH radical scavenging activity with IC₅₀ value of 679 ppm. The methanol extract of *C. imbricata* exhibited DPPH radical scavenging activity similar to *V. pachynema* with a high IC₅₀ value of 679 ppm. The activity of petroleum ether extracts was not evaluated due to low yield obtained.

Conclusions: This study confirms that ethyl acetate extract of *C. imbricata* can be used to develop a nutraceutical for obesity control.

PP 7

Green synthesis and characterization of nano-hydroxyapatite-based toothpaste

Gamagedara TP¹, Kavindi HAA²

¹Department of Basic Sciences, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, ²Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.

Background: Hydroxyapatite (HA), $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ is an inorganic compound that has tremendous biomedical applications, due to its superior physicochemical properties. Hence, Nano-hydroxyapatite (NHA) exhibits a great impact in various biomedical applications than its macro range. Several methods can be used to synthesize NHA as well as varying particle size and shape. Plant extracts with phenolic compounds can be used as green templates for the synthesis of nanoparticles.

Objective: This study aimed to synthesize and characterize NHA-mediated toothpaste using a green synthesis approach with pomegranate peel extract as a reducing and stabilizing agent.

Methods: The synthesis used wet chemical method combining calcium hydroxide ($\text{Ca}(\text{OH})_2$), potassium dihydrogen phosphate (KH_2PO_4), and varying concentrations of pomegranate peel extract. Bioactive compounds in extract acted as a natural stabilizer and morphology modifier, influencing particle size and shape. Characterizations were done using X-ray diffraction (XRD) analysis, Fourier Transform Infrared Spectroscopy (FTIR) spectroscopy, and Scanning Electron Microscopy (SEM).

Results: Characterization techniques confirmed the synthesis of NHA and its integration with the toothpaste: XRD analysis identified a hexagonal crystalline structure, aligning with standard hydroxyapatite; FTIR spectroscopy revealed Corresponding peak patterns for standard peak pattern of NHA and toothpaste; phosphate groups ($1095\text{--}562\text{ cm}^{-1}$) and hydroxyl group (3650 cm^{-1}). SEM imaging demonstrated nanometer-scale according to the measurements and reduced sizes of particles at higher extract concentrations. Decreased particle size and improved bioactivity due to the presence of NHA were observed, thus incorporating NHA into toothpaste further enhanced its structural and functional properties. SEM provided sufficient evidence of nanoparticle size distribution.

Conclusions: This study concluded that NHA can be synthesized using a wet chemical one-pot method by used green template. This study showcases a cost-effective, environmentally friendly method for producing NHA and NHA incorporated tooth paste. The findings underscore the versatility of natural extracts in tailoring biomaterials and advancing sustainable healthcare solutions.

PP 8

Enhanced thermal stability of hydroxyapatite nanoparticles via poly (acrylic acid) integration: Structural and characterization study

Pathirana KPDDK^{1,2}; Gamagedara TP^{2,3}

¹Cardiff Metropolitan University, Cardiff, Wales, UK, ²Department of Basic Science, Faculty of Allied Health Sciences, University of Peradeniya, Peradeniya, Sri Lanka, ³Post Graduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka.

Background: Hydroxyapatite (HAP) is widely used in hard tissue regeneration due to its similarity to human bone and teeth. However, its brittleness limits its use in load-bearing orthopedic implants. By synthesizing HAP/Poly (acrylic acid) (PAA) nanocomposites, PAA's carboxyl (-COOH) groups interact with HAP's calcium ions, facilitating self-assembly and enhancing mechanical strength and biocompatibility for biomedical applications.

Objective: This study aims to synthesize and characterize HAP/PAA nanocomposites using a simple one-pot method to enhance their thermal and chemical properties for potential advanced in biomedical applications.

Methods: The synthesis was carried out under alkaline pH conditions at 60 °C, using basic precursors simultaneously, with the only variable being the molar ratio of PAA. Characterization techniques, including Fourier Transform Infrared Spectroscopy (FTIR) for functional group analysis, Scanning Electron Microscopy (SEM) for morphological observation, Thermo-Gravimetric Analysis (TGA) for thermal stability, and X-ray Diffraction (XRD) for structural evaluation.

Results: FTIR analysis confirmed the successful formation of HAP/PAA nanocomposites, demonstrating stronger functional group interactions with increasing PAA concentration. The control sample lacked C=O and C=C peaks, which emerged upon nanocomposite formation, with the C=O peak shifting to 1705.4 cm⁻¹ and C=C peaks appearing at 1645.5 cm⁻¹ and 1548.75 cm⁻¹ (0.038 mol). TGA indicated that while pure HAP was stable up to 500°C, the HAP/PAA nanocomposites demonstrated thermal stability exceeding 600°C. The enhanced thermal stability suggests a promising approach to mitigate the brittleness of pure HAP, potentially improving its structural integrity. The SEM images of pure HAP show uniformly distributed spherical particles with noticeable agglomeration. Analysis of XRD and SEM data suggests that spherical HAP nanoparticles may self-assemble within the PAA matrix, forming plate-like structures. In the control sample, the a-axis and c-axis dimensions are 10.475 nm and 22.062 nm, respectively, while in the 0.038 mol sample, the a-axis expands to 24.33 nm, and the c-axis reduces to 3.197 nm. This indicates that with PAA incorporation, the c-axis growth is significantly restricted, while the a-axis nearly doubles, contributing to plate-like particle formation during in situ synthesis.

Conclusions: HAP/PAA nanocomposites synthesized via a one-pot method exhibited enhanced thermal stability, mechanical strength, and structural properties. FTIR, TGA, XRD, and SEM analyses confirmed their formation, highlighting their potential for advanced biomedical applications.

PP 9

Harnessing the therapeutic and sustainable potential of Sri Lankan Clay: A Scientific approach to fashion and lifestyle innovations for consumer well-being and environmental resilience

SmarasinghaWRCI, WasalaKVKD

Department of Integrated Design, Faculty of Architecture, University of Moratuwa, Sri Lanka.

Background: Sri Lankan clay offers enormous potential for novel therapeutic and lifestyle applications due to its special qualities of high heat conductivity, porosity, cooling, and purification. Traditional uses, particularly in Ayurveda, emphasize its relevance in enhancing human well-being. However, scientific validation of these properties within modern fashion and lifestyle contexts remains limited.

Objective: The study's goals are to develop ergonomic wearables that target high-temperature body parts, validate the tactile, therapeutic, and heat-conductive qualities of Sri Lankan clay, and integrate knowledge from Western and Ayurveda medicine to improve consumer health. In response to global environmental challenges, it also strongly emphasizes eco-friendly and sustainable designs.

Methods: The study utilized mixed methods including surveys, laboratory analyses, and usability testing on 50 participants to evaluate clay-infused wearables, integrating Ayurveda and Western medical principles for comprehensive scientific validation.

Results: Laboratory analyses confirmed the cooling and purifying properties of Sri Lankan clay. Usability tests showed: 25% reduction in stress levels (validated via psychological assessment scales), 22–25% reduction in skin oil (measured through skin oil analysis), 2–3°C surface temperature drop (confirmed using thermal imaging). Clay's validated thermoregulatory properties facilitate stress reduction and physiological relaxation, while its biodegradability enables sustainable applications in fashion and lifestyle.

Conclusions: The study scientifically confirms that Sri Lankan clay is a viable and innovative material for fashion and lifestyle applications. The proven cooling, purifying, and stress-reducing properties of Sri Lankan clay support its potential as a sustainable material for promoting human well-being and environmental resilience.

PP 10

Perceived barriers towards medication administration error reporting and their associated factors among nursing officers at Base Hospital Homagama, Sri Lanka

Dinuwanthi ANN, Nasmil UHM, Jayathilake MRS

Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Medication errors are one of the most common sources of medication-related patient harm. Nurses should be able to cope successfully with barriers to reporting medication administration errors (MAE).

Objective: To describe perceived barriers towards MAE reporting and their associated factors among nursing officers at Base Hospital Homagama (BHH), Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 237 nursing officers at BHH. The whole population was recruited as the sample (except the nurses in the administrative sector) and a self-developed, pre-tested, and validated, self-administered questionnaire was used to collect data. It consisted of information on socio-demographic, work-related, and personal clinical experiences. A six-point Likert scale used to rate the perceived barriers (18) to reporting MAE. Data were described using mean, and standard deviation. The association between the variables and mean score comparison was assessed using independent sample t-test and one-way variance analysis using SPSS version 26 ($p \leq 0.05$).

Results: The mean age of the participants was 43 ($SD \pm 7$) years. Of all the participants, 97.5% were female, 73% had more than 25 years of service experience, and 90.7% had a nursing diploma. The Majority had no experience in either committing (76.8%) or reporting an error (91.6%). Among all four barrier subscales, the “reporting process” was perceived as the barrier with the highest mean score (19.22 ± 8.73) compared to “fear” (16.49 ± 8.03), “administrative process” (13.66 ± 5.06), and “excusing behavior” (4.89 ± 2.86). Having a personal clinical experience of committing MAE was significantly associated ($p \leq 0.05$) with both barrier subscales, “reporting process” ($p = 0.05$) and “administrative process” ($p = 0.018$). Having a personal clinical experience of reporting MAE was significantly associated with the barrier of “fear” ($p = 0.005$).

Conclusions: The results imply the necessity of implementing systematic, cultural, and environmental revisions of the clinical setting.

PP 11

A comparative study of three regional pharmacovigilance centers in South Korea

Fernando MGKM¹, Seo Yeon Jin¹, Samaranayake NR², Ji Hyun Park¹

¹College of Pharmacy, Duksung Women’s University, South Korea, ²Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Pharmacovigilance ensures drug safety by monitoring and analyzing adverse drug reactions (ADRs). While Sri Lanka operates a centralized pharmacovigilance system, South Korea’s 28 Regional Pharmacovigilance Centers (RPVCs) have significantly strengthened ADR reporting by decentralizing pharmacovigilance activities. Evaluating the functioning of these RPVCs can provide insights to enhance Sri Lanka’s system.

Objective: To compare the operational structure, processes, and performance of three selected RPVCs in South Korea and identify best practices to improve Sri Lanka’s pharmacovigilance framework.

Methods: A comparative analysis was conducted on three RPVCs—Korea Pharmaceutical Association (KPA), Seoul National University Hospital (SNUH), and Jeonbuk University Hospital (JBUH) using a framework of 16 selected questions adopted from WHO pharmacovigilance core indicators. Key aspects assessed included ADR reporting mechanisms, causality assessment, data management, healthcare professional (HCP) engagement, and training initiatives.

Results: All RPVCs reported designated annual budgets, electronic ADR reporting via the Korea Adverse Event Reporting System, and dedicated HCPs pharmacovigilance activities. Standardized ADR reporting formats were used, with KPA and SNUH adhering to the most recent ICH E2B(R3) standards, while JBUH was transitioning to this format. In 2023, KPA reported 22,480 ADRs, SNUH 10,902, and JBUH approximately 3,900, with 100% causality assessment in all centers. ADRs were predominantly reported by nurses at SNUH and JBUH and by community pharmacists at KPA. Training programs varied significantly, reaching over 9,650 pharmacists and students at KPA, 8,136 HCPs and patients at SNUH, and 700 HCPs at JBUH within 2023. Best practices identified included decentralized reporting structures, 100% causality assessment, standardized electronic reporting, targeted training, and patient education through medication safety cards.

Conclusions: The presence of RPVCs in South Korea has strengthened ADR surveillance by decentralizing pharmacovigilance activities, enhancing HCP engagement, and expanding training efforts. Incorporating RPVCs into Sri Lanka’s system could improve ADR reporting efficiency, resource allocation, and drug safety monitoring.

PP 12

Assessing patient education, awareness and monitoring practices for adverse effects of long-term oral corticosteroid (LTOC) therapy in tertiary care settings in the Kandy District: A cross sectional study

Anton NS, Perera PN

Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.

Background: Long-term oral corticosteroid (LTOC) therapy leads to serious adverse effects (AEs) but is a vital treatment option in some debilitating conditions. Clinical guidelines exist for continuous monitoring for steroid-induced diabetes mellitus (S-DM) and glucocorticoid-induced osteoporosis (GIOP) and patient education on AEs is critical to improve outcomes.

Objective: To evaluate monitoring practices to detect development of S-DM and GIOP during LTOC therapy and assess patient education and awareness of these AEs.

Methods: A descriptive cross-sectional study included 200 adult patients currently on any oral corticosteroid for ≥ 3 months or daily dose of ≥ 5 mg prednisolone for ≥ 1 month from multiple clinics at two tertiary care institutions in Kandy district. An interviewer-administered questionnaire was developed utilizing international and national guidelines on monitoring practices for S-DM and GIOP and content validated by experts. Monitoring practices for S-DM and GIOP were assessed among patients without a prior diagnosis of diabetes and osteoporosis, respectively. Education and awareness on AEs were assessed among all. Data were analyzed descriptively using SPSS.

Results: Patients were on average 51.1 (± 14.2) years and 53.5% were females. Among 121 patients without a prior diabetes diagnosis, any test for blood glucose monitoring at current therapy initiation and at least once during therapy was 26.4% and 84.3%, respectively. Fasting blood sugar was the predominant test. Among 194 patients without a prior osteoporosis diagnosis, any test for monitoring indicators relevant to osteoporosis at therapy initiation and at least once during therapy was 35.5% and 50.0%, respectively. Serum calcium was the predominant test. Less than half of all patients (n=95, 47.5%) reported receiving education on LTOC therapy and were aware of AEs.

Conclusions: The study identified gaps in monitoring practices for S-DM and GIOP and in patient education and awareness on AEs. Implementing guideline-based practices can facilitate early detection of AEs and improve patient outcomes.

PP 13

Evaluation of calcium, magnesium and pH levels of the water consumed by renal stone patients selected from Teaching Hospital, Jaffna, Sri Lanka

Viveka M¹, Muthuhari KADS², Sandamini MADB², Balagobi B³, Arasaratnam V¹

¹Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka, ²Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, ³ Department of Surgery, Faculty of Medicine, University of Jaffna, Sri Lanka.

Background: Renal stone disease is a significant health concern in Jaffna Peninsula, where groundwater is the primary drinking water source. The region's limestone geology contributes to high calcium and magnesium levels in water.

Objective: To evaluate the Calcium, Magnesium and pH levels of the water consumed by renal stone patients selected from Teaching Hospital, Jaffna and analyse the association with residential areas, water source, and water consuming methods.

Methods: A hospital-based observational study was conducted among renal stone patients attending the Urinary Clinic, Teaching Hospital Jaffna. Drinking water samples (n=58) were collected from residential sources (open-wells, tube-wells, and tap water) of the patients from Valikamam, Vadamarachchi, and Thenmarachchi areas. Calcium and Magnesium concentrations were measured using O-Cresolphthalein Complexone and Xylidyl Blue Complex methods and pH with digital pH meter. Data was analysed with descriptive statistics and one way ANOVA.

Results: The mean Calcium and Magnesium concentrations of the water samples were 88.3(±57.2) and 10.1(±8.70) mg/L with the mean pH of 7.26(±0.31). Residential areas and water sources showed no significant differences in Calcium (p=0.904, p=0.093), Magnesium (p=0.603, p=0.119) concentrations and pH (p=0.385, p=0.986) value. However, considering the consumption methods (boiling & cooling, filtered by Reverse Osmosis and freshly fetched) significant differences were observed in Calcium (p<0.001), Magnesium (p=0.007) and pH (p=0.030) values. Consuming methods showed highly significant variation in Calcium in all residential areas (p<0.001), while the Magnesium level showed significant variation in Vadamarachchi (p=0.045) and the pH value in Valikamam areas (p=0.009).

Conclusions: Ca and Mg concentrations, and the pH levels of water samples consumed by the patients showed no direct correlation with the prevalence of renal stone. Future study could determine the impact of these parameters on renal stone formation based on the type of stones formed as well as by considering more number of samples.

PP 14

Knowledge, attitudes, and practices on the use of insulin among patients attending the diabetes clinic of Police Hospital Colombo

Ujithasiri KPT^{1,2}, Chathumali VGI², Buddhika RBJ²

¹Police Hospital, Colombo, Sri Lanka, ²Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, Sri Lanka.

Background: Diabetes mellitus (DM) is a chronic metabolic disorder characterized by hyperglycaemia. Management of DM is mainly carried out with specific medication, using oral anti-hyperglycaemic medicine and/or insulin. Poor knowledge, attitudes, and practices regarding the use of insulin can worsen the disease, leading to complications.

Objective: To investigate the knowledge, attitudes, and practices on the use of insulin among the patients attending the diabetes clinic of Police Hospital Colombo.

Methods: A quantitative, descriptive, cross-sectional study was conducted among 201 patients who attended the diabetes clinic of Police Hospital Colombo from July to August 2024. The patients who were prescribed and using insulin for more than one month were included in the study. A validated, self-administered questionnaire was used to collect data. Percentages were calculated using IBM SPSS (Version 25) software. The ethical approval was obtained from the Ethics Review Committee at the Open University of Sri Lanka.

Results: The majority of participants (63.7%) were male, with 50.7% aged 61-70 years. Among the respondents, 41.8% had been using insulin for over 10 years. While 79% knew the type of insulin they were taking, most patients (67.2%) did not perceive insulin use as a hindrance to their social lives or hobbies. The majority (92%) agreed that uncontrolled diabetes can lead to complications. A large majority (76.1%) showed the awareness that insulin is used to control diabetes. Only 22.4% washed their hands consistently before handling insulin, and 69.7% did not clean the injection site. Additionally, 82.1% did not rotate injection sites, and 68.2% self-adjusted doses. Unsafe needle disposal practices were prevalent, with 56.2% disposing of needles with degradable garbage and only 23.4% using proper containers.

Conclusions: Gaps in knowledge, attitudes, and practices related to insulin use highlighted the need for targeted educational programmes.

PP 15

Reliability and psychometric validation of a medication adherence tool for English or Sinhala speaking populations – An interim analysis

Wijesinghe DS, Senadheera GPSG, Samaranayake NR

Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayawardenepura, Sri Lanka.

Background: A general but comprehensive medication adherence tool was developed, translated, content and face validated in a previous study. Reliability and psychometric validity were required for reliable and valid use.

Objective: To assess reliability and psychometric validity of the newly developed medication adherence tool.

Methods: A systematic random sampling was used to select participants for administering a new medication adherence tool from three selected state hospitals. Patients who were Sri Lankan adults, taking five/more medicines for at least six months, and preferred mode of speaking being English/Sinhala were included. Further, HbA1c test and blood pressure readings of participants, were used to compare against scores of the new medication adherence tool. Cronbach’s alpha (>0.80 = excellent) was used to assess the internal consistency and Pearson’s correlation coefficient ($r > 0.6$; strong, $r=0.4-0.6$; moderate) to evaluate correlations, considering $p < 0.05$ as significant. 25th and 75th percentile values of total score in histogram were used to categorize adherence levels. Maximum score was 100.

Results: A total of 109 patients were included in the interim assessment (English (N=51), Sinhala (N=58)) without overlap. Response rate was 74.0% (English) and 83.0% (Sinhala). Cronbach’s alpha, was 0.88 for English, and 0.82 for Sinhala version respectively. Mean score of English version was 66.22 (SD±21.1), and it was 63.47 (SD±17.81) for Sinhala version. Correlations with HbA1c test and systolic BP reading, were ($r=-0.636$, $p < 0.001$) and ($r=-0.409$, $p=0.003$) respectively for English version, and ($r=-0.713$, $p < 0.001$) and ($r=-0.533$, $p < 0.001$) respectively for Sinhala version, showing strong correlation. Cut-off scores for ‘Low’, and ‘High’ medication adherence were obtained as $<47\%$ and $>85\%$ for English version, and $<47\%$, $>80\%$ for Sinhala version.

Conclusions: A medication adherence tool with excellent reliability and moderate-strong psychometric validity was developed for routine clinical use in Sri Lanka. This tool will help those who had accessibility and non-compatibility issues of western medication adherence tools currently available.

PP 16

Bacteriological and physical quality of drinking well water in a selected Grama-Niladhari division in the Boralesgamuwa Medical Officer of Health (MOH) area

Welikala SK, Wickramasinghe WMHR, Wijesinghe LATM, Chathuranga BAG

Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Groundwater accessed through wells serves as the primary drinking water source for 22.40% of urban populations. This vital resource faces increasing contamination risks from urbanization, industrialization, and population growth.

Objective: This study evaluated the bacteriological and physical quality parameters of drinking well water in the 533/D Boralesgamuwa East B Grama Niladhari division within the Boralesgamuwa MOH area.

Methods: Following guidelines of World Health Organization (WHO), water samples were collected for a period of two months (July – August, 2024) from household wells used for drinking purposes. Analysis included physical parameters (temperature, pH, salinity) and bacteriological assessment using the most probable number (MPN) method for total coliform counts. Samples tested positive for coliforms underwent further analysis to identify specific species. An observation checklist was used to collect data on the surroundings of the wells and households.

Results: A total of 20 wells were identified as drinking water sources. Water temperatures ranged from 28 °C to 32 °C. The mean pH value of the samples was determined to be 5.52 ± 0.61 . Only three samples had pH levels within potable range recommended by WHO (6.50-8.50). Salinity was consistent across all samples at 0.1 g/100 g. Of the 20 samples, only two were negative for coliforms, while the remainder exceeded the Sri Lanka Standards 614:2013 guideline for total coliforms ($>10/100$ mL). *Enterobacter* spp. (44%) predominated among identified coliforms, followed by *Klebsiella* spp. (31%). Notably, 65% of wells were situated closer than the recommended 16 meters distance from latrines.

Conclusions: The widespread presence of coliforms and predominantly acidic pH in these well water sources highlights the urgent need for targeted interventions to improve water safety and inform the public about pretreatment measures such as boiling, chlorination and filtration.

PP 17

Knowledge, practice, and associated factors related to self-injecting insulin among patients with diabetes attending the diabetic clinic at the National Hospital of Sri Lanka

Walakadawaththa WLJM, Udayangani HMDT, Wijesinghe TTR, De Silva NDC, Wickramasinghe AUS, Nimesha P, Sandakumari HHHS,
Faculty of Nursing, KIU, Sri Lanka.

Background: Diabetes mellitus (DM) is a chronic disease characterized by elevated blood glucose levels resulting from insulin defects, impacting people worldwide. Effective management, particularly through proper insulin self-administration, is crucial in preventing complications and improving health outcomes. In Sri Lanka, where diabetes prevalence aligns with global trends, knowledge and practice gaps in insulin administration remain a concern.

Objective: To assess knowledge, practice, and associated factors regarding self-injecting insulin among patients with diabetes attending the diabetic clinic at the National Hospital of Sri Lanka.

Methods: This descriptive cross-sectional study was conducted among a convenience sample of 395 patients with diabetes attending the Diabetic Clinic at the National Hospital (NHSL), Sri Lanka. Data were collected using a pre-tested, adapted interviewer-administered questionnaire. Ethical approval was obtained from the relevant Ethics Review Committees before commencing the study, and permission was granted by the National Hospital of Sri Lanka. Data analysis, including descriptive statistics and chi-square tests, was performed using SPSS 25 software.

Results: Approximately one-third of the participants were males (67.3%), with the majority aged 51–60 years (34.9%). Half of the participants (50.4%) had an Ordinary Level (O/L) education, while 41.3% were unemployed. Type 2 Diabetes Mellitus (T2DM) was the most common diagnosis (50.4%). Self-administration of insulin was performed by more than half of the participants (56.5%), and one-fourth (25%) had used it for 11–15 years. Knowledge of insulin self-administration was moderate in half of the participants (52.9%). Most of the participants (62.8%) complied with the insulin administration guidelines. Significant associations were found between knowledge levels and socio-demographic factors such as education level, occupation, and area of residence ($p < 0.05$). Factors associated with practice adherence included participant residence, duration of insulin use, and self-administration capability ($p < 0.05$).

Conclusions: The study highlights moderate knowledge yet high adherence to insulin self-administration practices. Addressing knowledge gaps, particularly regarding site rotation and pain management, through tailored educational programs is essential for optimizing self-management and improving outcomes.

PP 18

Diabetic-related health literacy and its associated factors among patients with type 2 diabetes mellitus attending the diabetes clinic at a selected hospital in Colombo, Sri Lanka

Rathnayake WRAN¹, Wijenayake KTP¹, Perera KDRP¹, Seneviratne AKDMN¹, Saparamadu SHPBN¹, Rathnayake NRRS¹, Kariyawasam KHAY¹, Amarasekara AATD²

¹ Faculty of Nursing, KIU, Sri Lanka, ² Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Effective management of T2DM requires patients to possess a certain level of health literacy, which encompasses the ability to obtain, process, and understand basic health information and services needed to make appropriate health decisions. Health literacy is particularly critical for diabetic patients, as it directly influences their ability to manage the disease through proper medication adherence, diet, physical activity, and monitoring of blood glucose levels.

Objective: To assess the diabetic-related health literacy level and its associated factors among patients with T2DM attending the diabetes clinic at Base Hospital Homagama in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 170 patients diagnosed with T2DM attending the diabetes clinic at Base Hospital Homagama. Convenient sampling was used. Data were collected through an interviewer-administered questionnaire. Health literacy was measured using the multidimensional Health Literacy (HLQ-EU-Q16) survey questionnaire with the author’s permission. It is validated to Sinhala and Tamil languages. The questionnaire measures health literacy across health care, disease prevention, and health promotion domains. For final score interpretation, all scale items are summed (range: 0–16), categorizing health literacy as inadequate (0–8), problematic (9–12), or sufficient (13–16). Data was analyzed using descriptive and inferential statistics with the use of SPSS version 26. Ethical approval was obtained from the Ethics Review Committee (ERC) at KIU (KIU/ERC/24/082) and from the director of BH Homagama.

Results: The sample comprised 60% females (n=102) with the mean age of 56.5±14.6 years. Most participants were over 40 years old (85.3%, n=145), with 26.5% (n=45) having secondary education and 49.4% (n=84) employed. The mean diabetic-related health literacy level was 10.94±4.28, with a range of 0 to 16. The majority (52.4%, n=89) had inadequate or problematic health literacy, while 47.6% (n=81) had sufficient health literacy. Chi-square tests showed that there was a significant relationship between health literacy levels and demographic factors such as age, marital status, education, housing, and family income, with $p < 0.001$, but not with gender, occupation, or family history. These results underscore the role of socio-economic and demographic factors in shaping diabetic-related health literacy.

Conclusions: Poor diabetic-related health literacy is common among the majority of the population because of socio-economic and demographic determinants. Special education interventions are required to increase awareness, especially among the elderly. Diabetes health literacy programs need to be integrated into primary healthcare services in Sri Lanka to ensure improved disease control.

PP 19

Quality of life among caregivers of patients with schizophrenia in National Institute of Mental Health (NIMH), Sri Lanka

Hameed A, Meegoda MKDL

Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Mental health plays a vital role in the maintenance of physical, social, and spiritual well-being. Caregivers of patients with schizophrenia experience a drastic decline in the quality of life due to the emotional, physical, and financial burden of caregiving.

Objective: This study assessed the quality of life among caregivers of patients with schizophrenia at the NIMH, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 210 family caregivers of the patients diagnosed with schizophrenia attending NIMH. Convenient sampling was used. Data was collected through an interviewer-administered questionnaire and quality of life was assessed using the validated WHOQOL-BREF questionnaire. Data was analyzed using SPSS version 26 and descriptive and inferential statistics used. The ethical approval was obtained from the Research Ethics Committee at University of Sri Jayewardenepura (USJ) and NIMH.

Results: Among the participants, 96 (45.7%) were male and 114 (54.3%) were female. The majority of the caregivers (31.9%, n=67) were in the 40–49-year age group. The majority had low education levels (less than O/L (41.4%, n=87). The WHOQOL-BREF instrument illustrates moderate to good quality of life in four domains. Physical health was 22.5 ± 2.46 , indicating a stable condition of well-being, and psychological well-being was 20.8 ± 2.51 , indicating moderate mental health. Social relationships were the lowest (9.33 ± 2.14), indicating poorer social support and interpersonal relationships. The environmental domain was rated the highest (25.82 ± 4.71), indicating overall good living conditions but with considerable individual differences. Overall, however, physical and psychological well-being are relatively stable, social relations are the weakest area, and environmental circumstances are mostly changing.

Conclusions: The WHOQOL-BREF results showed moderate overall quality of life, with physical health and psychological well-being stable, while social relationships are the weakest. To improve quality of life, enhancing social support, promoting mental health, addressing environmental disparities, and encouraging healthy lifestyles are essential.

PP 21

Baseline anthropometric and clinical characteristics among participants of a non-communicable disease (NCD) screening program

Abeyrathna PTM, Gayanjalee DA, Dharmapala WDSK, Keragala KAR, and Chandrasekara A

Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka.

Background: Non-communicable diseases (NCDs), including cardiovascular diseases, diabetes, and metabolic disorders, are leading causes of mortality. Regular screening facilitates early detection and effective management to reduce risks. This study investigated the anthropometric, clinical, and biochemical profiles of individuals in the Paduwasnuwara-West MOH area, Kurunegala District, to identify prevalent risk factors associated with NCDs.

Objective: To evaluate baseline characteristics of participants in an NCD screening program and highlight associations between clinical parameters and NCD risk profiles.

Methods: This cross-sectional study included 100 adults (aged 20–65 years) from an NCD screening program. Demographic information and anthropometric measurements (weight, height, BMI, waist, hip circumference) were recorded following WHO guidelines. Body composition (fat percentage, visceral fat) was assessed using a bioelectrical impedance analyzer. Dietary intake (24-hour recall) and biochemical markers (fasting blood glucose, lipid profile, liver enzymes, and C-reactive protein (CRP)) were analyzed using an automated biochemical analyzer.

Results: Participants comprised 30% males and 70% females, with a mean age of 39.1 ± 7.9 years. The mean BMI was 27.8 ± 3.6 kg/m² (males: 27.1 ± 2.8 ; females: 28.8 ± 4.2), with 76% obese. Hypertension ($\geq 140/90$ mmHg) was detected in 30 participants. Females had a higher abdominal obesity (waist circumference: 90.7 ± 9.43 cm). Mean fasting blood glucose was 109.09 ± 12.56 mg/dL (males) and 108.6 ± 30.36 mg/dL (females). Mean total cholesterol was 192.7 ± 36.71 mg/dL (males) and 208.06 ± 37.23 mg/dL (females), while triglycerides were 149.7 ± 72.75 mg/dL (males) and 143.6 ± 74.11 mg/dL (females). The mean CRP was 3.0 ± 4.6 mg/L, indicating a pro-inflammatory state in 34 participants. BMI correlated strongly with waist circumference ($r=0.728$, $p<0.001$), and fasting glucose showed no significant correlation with triglycerides ($r=-0.114$, $p=0.254$).

Conclusions: A high prevalence of metabolic risk factors highlights the importance of early screening interventions to prevent NCD progression in at-risk populations.

PP 22

The association between excessive usage of digital screens and behavioural changes in preschool children in three selected divisional secretariat areas in Sri Lanka

Sewwandi GVHH¹, Menike WARP²

¹*Department of Medicine, Faculty of Medicine, Rajarata University of Sri Lanka,* ²*Department of Fundamentals Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.*

Background: Excessive digital screen usage in pre-school children is associated with numerous health issues, as ages 3-5 years are vital for cognitive development. The World Health Organization recommends one hour of screen time for this age category per day.

Objective: To assess the association between exposure to digital screens of the child and behavioural changes in preschool children in selected divisional secretariat areas in Sri Lanka.

Methods: A descriptive, cross-sectional study was conducted among parents (n=422) of preschool children in preschools from Athuraliya, Madampe and Maharagama divisional secretariat areas by using stratified random sampling technique. The ethical clearance for the study was obtained from the Ethics Review Committee, Faculty of Medicine, University of Colombo. Data were gathered using a pre-tested, interviewer-administered questionnaire. A Chi Square test was performed on the data and analysis was performed using SPSS version 20.

Results: Equal gender distribution was observed among the participants. Associations were found between exposure to digital screen usage of the child per day and factors including frequent tantrums (p=0.022) and sleep disturbances (p=0.000). But factors such as anger and aggression (p=0.925), lack of attention and focus (p=0.436), avoiding social interactions (p=0.849) and loss of eye contact or no response (p=0.466) did not show a significant association with daily digital screen usage of child (p<0.05).

Conclusions: Behavioural problems such as frequent tantrums and sleeping problems were high relatively to increase the screen time of the child per day. The study underscores the need for increased parental awareness and interventions to manage screen time among preschool children.

PP 23

Assessment of job satisfaction and associated factors among nursing officers who are working at a selected hospital in Northern Province, Sri Lanka

Kodithuwakku NBE, Ariyaratna AGTS, Kavindya HLJ, Jayashanki TRN, Imalka WH, Upeksha SHD, Perera ACH

Faculty of Nursing, KIU, Sri Lanka.

Background: Job satisfaction is crucial for nurses’ well-being and productivity, directly impacting patient care quality. Dissatisfaction can lead to burnout, reduced care quality, and higher turnover, affecting healthcare services.

Objective: This study aimed to assess the level of job satisfaction and the factors influencing it among nursing officers employed at District General Hospital Vavuniya, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 206 registered nurses with over six months of experience in medical, surgical, OPD, operating theater, ICU, ETU, and dialysis units. Data were collected using a pre-tested, self-administered questionnaire based on prior research, distributed via Google Forms with consent included. SPSS version 25 was used for analysis, employing descriptive statistics, chi-square tests, and Pearson correlation. Job satisfaction was categorized as low (<50), moderate (50–75) and high (>75). Ethical approval was obtained from the KAATSU International University.

Results: Among participants, 77.7% were aged ≤ 40 years, 93.2% were females, and 83.1% were married. Most (89.8%) held a nursing diploma, and 22% worked in medical wards. Regarding job satisfaction, 70.4% of nurses reported being moderately satisfied, while only 28.2% expressed being highly satisfied, with a mean job satisfaction score of 60.6. Additionally, 99.5% of respondents rated their perceived contributing factors at a moderate level, revealing that nurses may feel underappreciated. There is a significant association between job satisfaction and demographic factors, such as the working unit ($p=0.017$) and length of time on the job ($p=0.009$). But not with gender or age ($p>0.05$). A weak positive correlation was observed between job satisfaction and perceived contribution factors; however, it was not statistically significant ($r=0.106$; $p=0.129$).

Conclusions: Job satisfaction was influenced by the department and length of service but not by gender or age. Most nurses reported moderate satisfaction and felt underappreciated. Enhancing working conditions, staffing, training, and recognition may improve job satisfaction.

PP 24

Depression, cognitive impairment, and disability among older adults with chronic illnesses in Batticaloa: A cross-sectional study

Viranga JK, Erandi SMI, Silva KHSD, Preethimali WMA, Samarakoon HMKS, Rathnakumari KN, Sandakumari HS

Faculty of Nursing, KIU, Sri Lanka.

Background: The growing older adult population has led to an increased prevalence of age-related chronic illnesses.

Objective: This study examines the prevalence of depression, cognitive impairment, and disability among older adults attending follow-up clinics at a tertiary care hospital in Batticaloa.

Methods: A descriptive cross-sectional study was conducted at a tertiary care hospital in the Batticaloa district. A convenience sampling method was used to recruit 371 patients aged 60 and above who had been diagnosed with chronic illness for more than a year. Data was collected using the validated Geriatric Depression Scale (GDS), the Montreal Cognitive Assessment Scale (MoCA), and the WHO Disability Assessment Schedule (WHODAS). The GDS scores ranged from 0–4 (normal), 5–8 (mild depression), 9–11 (moderate depression), and 12–15 (severe depression). MoCA scores ≥ 24 indicated normal cognitive function, while scores ≤ 23 suggested potential cognitive impairment. WHODAS 2.0 categorized disability into five levels: 1 (no difficulty), 2 (mild difficulty), 3 (moderate difficulty), 4 (severe difficulty), and 5 (extreme difficulty). Statistical analysis was performed using SPSS version 25.

Results: Most participants were aged 60–69 (63.3%, n=235), with a predominance of females (67.4%, n=205) and married individuals (67.9%, n=252). Mild, moderate, and severe depression were observed in 29.4% (n=109), 19.4% (n=72), and 24.5% (n=91) of participants, respectively, while 25.6% (n=95) had no depression. Cognitive assessments indicated that 61.2% (n=227) had normal cognition. Disability levels showed that 43.1% (n=160) had mild disability and 39.6% (n=147) moderate disability. Age showed significant positive correlations with depression ($r=0.451$, $p<0.000$), disability ($r=0.277$, $p<0.000$), and a weak negative correlation with cognitive impairment ($r=-0.177$, $p<0.000$).

Conclusions: This study highlights a high prevalence of depression, cognitive impairment, and disability among older adults with chronic illnesses in Batticaloa. Women and those aged 60–69 exhibited higher levels of depression and cognitive impairment.

PP 25

Relationship between self-efficacy and self-management of diabetes among rural Sri Lankan adults with type 2 diabetes mellitus

Premadasa SS¹, Masingboon K¹, Samartkit N¹, Amarasekara AATD²

Faculty of Nursing, Burapha University, Chon Buri, Thailand, ²Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Type 2 diabetes mellitus (T2DM) is associated with morbidity, and mortality, and imposes an economic burden. Diabetes self-management (DSM) leads to control of blood glucose levels, minimizes the risk of complications, improves patient quality of life and lowers healthcare costs which are the ultimate goals of diabetes care. Higher levels of self-efficacy have the motivation to perform DSM. However, scanty data regarding the relationship between self-efficacy and DSM among adults with T2DM in rural Sri Lankan settings.

Objective: To examine the relationship between self-efficacy and DSM among adults with T2DM in rural hospital settings in Sri Lanka.

Methods: A cross-sectional correlational design was used to recruit 160 adults with T2DM by simple random sampling in an outpatient clinic at a selected Base Hospital in a rural area of Sri Lanka. Data were gathered from March to April 2024 through a Diabetes Self-Management Questionnaire (DSMQ) and the Diabetes Management Self-Efficacy Scale – UK version (DMSES-UK) after obtaining the author's permission. Data were analyzed using descriptive statistics and the Pearson correlation coefficient. Ethical approval was obtained (G-HS102/2566 and ERC 43/23).

Results: Most participants were females (68.1%), late adults (68.1%), on oral medications (88.7%), and unemployed (36.9%). Approximately half of the participants (48.8%) had uncontrolled fasting plasma glucose and approximately 80% had comorbidities, mainly hypertension. The mean score of the total DSM was 5.84 (SD = 1.25) and the Self-efficacy score was 84.5 (SD=27.15) indicating moderate DSM and self-efficacy. Self-efficacy showed a significantly strong positive correlation with DSM ($r=0.598$, $p=0.001$).

Conclusions: Participants reported moderate level DSM and self-efficacy, and those with higher self-efficacy scores would perform better in DSM. The results corroborate the importance of increasing diabetes management self-efficacy among rural Sri Lankan adults with T2DM to improve their DSM.

PP 26

Knowledge and practices towards adult anaphylaxis management and its associated factors among nursing officers in Kegalle District General Hospital, Sri Lanka

Gamlath OPMWGMNA, Nasmil UHM, Damayanthi LC

Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Anaphylaxis is a life-threatening allergic reaction requiring prompt management. It occurs in 50- 2000 individuals per 100,000 people, with a lifetime prevalence rate of 0.05-2.0%. A large percentage of patients admitted to healthcare settings are misdiagnosed. Although accurate diagnoses are met, management is inadequate. Despite its significance, knowledge and practices among healthcare professionals, including nursing officers remain inconsistent.

Objective: To assess the knowledge, to describe practices and associated factors related to adult anaphylaxis management among nursing officers in Kegalle District General Hospital.

Methods: A descriptive cross-sectional study was conducted among 251 nursing officers using stratified sampling. A pre-tested, self-administered questionnaire was used to collect data. Knowledge and practices were categorized as "Good" or "Poor" based on median scores. Descriptive and inferential statistics in SPSS version 26 were used in data analysis. Associations between variables were tested using the Chi-square test. Ethical approval was obtained from the Ethics Review Committee, Faculty of Medical Sciences, University of Sri Jayewardenepura.

Results: The response rate was 81.4%. Among the participants, 43.4% (n=95) were belonged to the age category of 31-40 years. The majority were female (90.4%) and married (88.1%). While 87.7% held a diploma in general nursing as basic nursing education and 48.9% had 11–20 years of work experience. Overall, 62.1% demonstrated good knowledge and 57.5% exhibited good practices towards adult anaphylaxis management. Additional qualifications and type of working unit were significantly associated with the level of knowledge ($p= 0.001$; $p<0.001$). Additional qualifications ($p=0.009$) and participants' age ($p=0.015$) were significantly associated with practice.

Conclusions: Overall knowledge and practice towards adult anaphylaxis management were “good” among the majority of the participants. Additional qualifications and specific working environments significantly influenced both knowledge and practice levels. Regular training and targeted education programs at hospital unit levels are essential to enhance anaphylaxis management and ensure optimal patient outcomes.

PP 27

Lifestyle practices among patients with non-communicable diseases attending non-communicable disease clinic at Teaching Hospital Karapitaya, Sri Lanka

Sajeewani MGG, Silva AII, Iroshini KPT, Udayangani HTN, Priyangika AGH, Amalka UA, Edirisuriya MD, Senarath NSASN

Faculty of Nursing, KIU, Sri Lanka.

Background: Non-communicable Diseases (NCDs) tend to be of long duration and are the result of a combination of genetic, physiological, environmental and behavioural factors. The main types of NCDs are cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. The factors affecting the management of NCD includes lifestyle, knowledge, technique, language, beliefs and culture.

Objective: To assess the lifestyle practices among patients with NCD attending the NCD clinic at Teaching Hospital, Karapitiya (THK), Sri Lanka.

Methods: A descriptive cross-sectional study was carried out among 273 randomly selected patients with NCDs from NCD clinic at THK. Data were collected by using a pre-tested, interviewer administered questionnaire. Ethical clearance for the study was obtained from the Ethics Review Committee, KIU. Descriptive statistics were analyzed using SPSS statistical software (version 25).

Results: Among the participants, majority were male (54.2%), Sinhalese (82.8%), Buddhists (80.2%), married (86.1%) and unemployed (46.5%). Diabetes mellitus (57.5%), hypertension (44.7%) heart diseases (30%), renal diseases (24.5%) and malignancies (21.6%) were common NCDs. Of the participants, 37.7% reported as the frequency of taking a diabetic diet sometimes and 31.5% reported that they are taking a low fat diet sometimes (31.5%). While 30.4% were never taking a low sodium diet, 59% were taking a normal diet all the time. The majority of the participants reported that they never engage in physical activities such as exercise (37%), sports (50.9%), aerobic activities (73.6%), yoga (91.2%), dancing (83.5%), jogging (55.7%). 63.7% were non-smokers and 46.5% were not using alcohol. However, 20.1% were taking alcohol and 15.4% were smoking occasionally.

Conclusions: In conclusion, the healthy dietary intake, physical activity levels were poor in this sample. It is crucial to improve knowledge and practices regarding all the lifestyle practices including dietary patterns and physical activities for successfully managing NCDs.

PP 28

Development, translation and validation (face and content) of medication adherence tool for English or Sinhala speaking populations

Wijesinghe DS, Senadheera GPSG, Samaranayake NR

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

Background: Already available medication adherence tools are not comprehensive and the majority of them are developed for Western populations. Tools in local languages are limited. Tools to use on a routine clinic to identify medication adherence levels of Sri Lankan patients are required.

Objective: To develop, validate, and translate a medication adherence tool for measurement of medication adherence.

Methods: Medication adherence tool was first developed in English. The items were initially selected through a literature survey and in-depth interviewing of prescribers, pharmacists, and patients for identifying their perspectives. Items and responses were revised through iterative rounds of discussions among the research group. English version was content validated by disseminating the tool among 12 experts in health-related fields (Clinical Pharmacologists, Consultant Physicians, Academics in Pharmacy and Nursing, Senior Pharmacists and Patients). Scale level content validity index (S-CVI/Ave) was used to analyze the intended construct. Values above 0.9 was considered as excellent. Face validation of the tool was done by 10 clinic patients attending a state hospital. Items were adjusted/added/deleted accordingly. The tool was then translated to Sinhala using WHO 2013 recommended protocol and “Principles of Good Practice for Translation and Cultural Adaptation Process for Patient-Reported Outcomes”. The Sinhala version of the tool was again validated (content and face) in the same way as the English version.

Results: A medication adherence tool consisting of 25 multiple choice questions was developed, translated and validated. S-CVI/Ave was 0.98 and 0.99 for English and Sinhala versions respectively, proving excellent content validity. The tool covered medication adherence on five main areas were (published previously); Patient, disease and therapy related, Socio-economic, Healthcare system, Ayurvedic/herbal aids, Role of education system and new technology.

Conclusions: Medication adherence tool was developed, translated and validated to assess medication adherence. Assessment of psychometric properties and concurrent validity of the tool is ongoing.

PP 29

Awareness of anti-cancer chemotherapy administration and causes of medication administration errors among nurses treating patients with cancer: A cross sectional survey at the National Cancer Institute (NCI), Sri Lanka

Bathila RKKAW, Premathilaka HPW, Ravihari GDS, Kumari GKS , Gunasena KAMT, Edirisuriya MD , Senerath NSASN

Faculty of Nursing, KIU, Sri Lanka.

Background: The administration of chemotherapy is a complex and a critical aspect of cancer treatment that requires precision and adherence to established protocols.

Nurses play a vital role in the delivery of these medicines, ensuring patient safety and treatment efficacy.

Objective: To assess nurses' awareness of the administration of anti-cancer chemotherapy and the causes of medication administration errors at the National Cancer Institute (NCI), Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among nurses who administered anti-cancer drugs. Participants enrolled through the simple random sampling method, and 200 nurses volunteered during the study period. A self-administered, pre-tested researcher-developed questionnaire, consisting of awareness on medication administration rights, and possible causes of medication administration errors. The sums of items considered to assess overall awareness (>75- excellent, 74-65 good, <64 poor awareness on 0-100 scale). Data was analyzed using descriptive analysis using SPSS version 25 was used as data analysis tool. The study was ethically approved by ERC KIU.

Results: The majority were females (78.4%) and Sinhalese (92.5%). Most nurses were consistently aware and followed the five rights of administration of anti-cancer drugs (Always checked right drug -75.4%, right patient - 75.4%, right dose -68.8%, right route -73.4%, right time - 76.9%). Most nurses (77.4%) demonstrated good knowledge of the administration of chemotherapy (Excellent -11.1%, Poor - 11.6%). Most frequently reported issues that can lead to medication administration errors were lack of experience in handling chemotherapy (98%), and staff shortage, (98%), inadequate communication during patient handovers (91%, poor communication between nurses and physicians (94%) and the use of verbal directions rather than written orders (88.9%).

Conclusions: Most nurses reported good awareness of chemotherapy administration, medication administration rights, and possible causes for medication administration errors. Strategies need to be taken to continue good practice and enhance the poor aspects of awareness of chemotherapy administration and medication rights. Awareness sessions and training programs may be effective for that.

PP 30

Quality of life and its associated factors among nursing officers working in Colombo South Teaching Hospital

Abesundara MBNS, Damayanthi LC

Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Quality of life (QOL) is crucial for human health. Nurses, as key players in patient care, should maintain optimal physical, psychological, and social well-being to achieve high QOL.

Objective: To assess the QOL and associated factors of nursing officers working in Colombo South Teaching Hospital (CSTH).

Methods: A descriptive cross-sectional study was conducted by using a convenience sampling technique (n=240). A pre-tested self-administered questionnaire was used to collect socio-demographic data and associated factors. WHO QOL-BREF questionnaire was used to assess the QOL of nursing officers. Statistical analysis was performed by using SPSS version 26. Data were analyzed using descriptive statistics. Chi-square test was performed to determine the association between QOL and demographic data. Ethical approvals were obtained from the Ethics Review Committee of the Faculty of Medical Sciences, University of Sri Jayewardenepura and CSTH, Kalubowila.

Results: Most participants were females, aged 21-30 years, unmarried, and with work experience of less than 5 years. Of them 56.3% experienced poor QOL and 43.8% experienced good QOL in the physical domain. In the psychological domain, 55.4% represented poor QOL, and 44.6% represented good QOL. Moreover, 51.2% of the participants experienced good QOL in the social domain and 48.8% experienced poor QOL. In the environmental domain, 55.4% experienced poor QOL and 44.6% experienced good QOL. The majority of the participants mentioned stress/burnout (79.6%), supportive nursing staff (69.6%) and increased workload (64.6%) as the factors affecting QOL. There was no significant association between QOL and participants' demographic data ($p>0.05$).

Conclusions: The majority of participants experienced better QOL in the social domain but had poor QOL in the physical, psychological, and environmental domains. Stress/burnout, supportive nursing staff and increased workload were identified as factors affecting QOL. There was no significant association between QOL and participant's demographic data.

PP 31

Knowledge, attitude, practice and associated factors toward older adults among nurses in a selected hospital in Sri Lanka

Ekanayake WPNC¹, Damayanthi MDP¹, Madhushika SAR¹, Priyadarshani VA¹, Priyadarshani KGTC¹, Thilakarathna HMCRK¹, Amarasekara AATD²

¹Faculty of Nursing, KIU, Sri Lanka, ²Faculty of Allied Health Sciences, ²University of Sri Jayewardenepura, Sri Lanka.

Background: The global aging population presents unique challenges for healthcare systems, particularly in Sri Lanka, where the elderly population is expected to reach a quarter by 2041. Nurses play a critical role in imparting adequate knowledge, positive attitudes and effective practices in caring for geriatric patients.

Objective: To assess knowledge, attitudes, practices and associated factors toward older adults among nurses in a selected hospital in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among a total of 125 nurses working at surgical and medical wards at Teaching Hospital Polonnaruwa using whole sampling method. Data were collected using self-administered questionnaires including Knowledge of Older Patients Quiz (KOP-Q), Kogan's Attitude Scale, and practice questionnaire developed by researchers using previous literature. Data was analyzed using descriptive and inferential statistics (significance at 0.05) in SPSS V25.

Results: The majority of participants were females (91.2%), aged 20–30 years (53.6%), held a diploma in Nursing (68.8%), and had less than 10 years of experience (73.6%). Only 9.6% had specialized training in elderly care. Most (90.4%) had moderate knowledge (mean 18.02±2.57, range 0-30), positive attitudes (94.4%, mean 92.91±7.94), and good elderly care practices (76.8%). Significant factors for knowledge included age (p=0.003), gender (p=0.009), education (p=0.019), and experience (p=0.006). Attitudes were influenced by age (p=0.001), experience (p=0.000), training (p=0.045), and having elderly at home (p=0.020). Practices were associated with marital status (p=0.007), education level (p=0.001), training (p=0.045) and having an elderly at home (p=0.020). Knowledge and practice showed a weak positive correlation (r=0.271, p=0.002).

Conclusions: This study highlights that while nurses demonstrated moderate knowledge, positive attitudes, and good practices in elderly care, specialized training remains limited. Key factors influencing knowledge, attitudes, and practices include age, education, experience, and having elderly at home. Strengthening geriatric training programs can enhance nursing competence and improve elderly patient care.

PP 33

Psychometric properties and criterion validation of medication literacy tool (MedLit-Q) for Sri Lanka

Wijesinghe DS, KN Nimeshi, Shanika LGT, Senadheera GPSG, Samaranyake NR,
Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: A comprehensive medication literacy tool was developed, translated to Sinhala, face and content validated in a previously published study. Reliability and psychometric evaluation were needed for reliable and valid use.

Objective: To assess reliability, further psychometric properties and criterion validity (English version) of newly developed tool.

Methods: A medication literacy tool consisting of 39 multiple choice questions was developed, face and content validated, and translated to Sinhala language previously. Psychometric validation of English and Sinhala versions using Sri Lankan patients attending three levels of state hospitals were done. Random sampling was used to select participants according to inclusion and exclusion criteria. Test-retest reliability was done among forty patients per version after one-month period from initial interview. Percentage agreement and number of total questions correct within each subpart of the tool were used to evaluate convergent and divergent validity. 14-MedLitRxSE tool (already validated tool) was also administered to participants for comparison. Correlations above 0.6 were considered as strong. Results were analyzed considering $p < 0.05$ as significant.

Results: A total of 601 patients participated (English (n=301); Sinhala (n=300)) without overlap. Response rate was 100% (English) and 99.3% (Sinhala). The reliability coefficient as assessed by the Kuder–Richardson Formula 20 (KR-20), was 0.7 for English, and 0.8 for Sinhala versions showing acceptable and good reliability respectively. Pearson’s correlation coefficient values for both versions were 0.9 exhibiting excellent test-retest reliability. Percentage agreement and number of total questions correct which were used to evaluate convergent and divergent validity resulted in acceptable level for both versions by clustering together. The score of English version showed a significant strong positive correlation ($r=0.619$, $p < 0.001$) with the 14-MedLitRxSE, establishing criterion validity.

Conclusions: A reliable medication literacy tool with acceptable psychometric and criterion validity was developed for routine use in clinical practice for identifying medication literacy level of patients.

PP 34

Soleus muscle activation and its role in improving insulin sensitivity: Investigating the impact of soleus push-ups on glycemic control in sedentary individuals

Shehani HWTS, Chandrasekara A

Department of Nutrition and Dietetics, Faculty of Livestock Fisheries and Nutrition, Wayamba University of Sri Lanka, Sri Lanka.

Background: Insulin resistance is a precursor to type 2 diabetes mellitus, with obesity and sedentary behaviour. While soleus push-ups have demonstrated efficacy in enhancing glucose metabolism in controlled settings, their application in overweight or obese sedentary individuals in workplace environments remains underexplored.

Objective: To evaluate the effect of structured soleus push-ups on insulin sensitivity and glycemic control in overweight and obese sedentary office workers using the Triglyceride-Glucose (TyG) index method.

Methods: A controlled clinical intervention was conducted with overweight and obese male and female office workers and security staff. Participants were randomized based on gender in either the intervention or control group (n=20; in both intervention and control, male: female was 1: 1). The Intervention group performed 30 minutes of soleus push-ups daily for 6 weeks, tracked by app, which provided a rough estimation of daily push-up counts and records. Control group remained sedentary, but both groups received general dietary guidelines. Insulin sensitivity was assessed at baseline and post-intervention using the TyG index, along with body composition and biochemical parameters. Paired t-tests and independent t-tests were conducted to evaluate within-group and between-group differences at pre-and post-intervention.

Results: The intervention group demonstrated a statistically significant reduction in the TyG index (3.59 ± 0.15), fasting blood glucose (97.3 ± 8.49 mg/dL), fasting triglycerides (83.5 ± 15.19 mg/dL), fat mass (20.56 ± 6.42 kg), VLDL (18.1 ± 7.2 mg/dL), while HDL increased significantly (46.61 ± 2.42 mg/dL). Conversely, the control group experienced a significant increase in the TyG index (3.75 ± 0.20) and fasting blood glucose (103.8 ± 12.96 mg/dL).

Conclusions: Structured soleus push-ups significantly improve insulin sensitivity, lipid profiles, and glycemic control in sedentary overweight, obese individuals over six weeks. Findings suggest this simple exercise could be a feasible intervention for metabolic health improvement, though variations between overweight and obese individuals and uncontrolled physical activity factors with a large sample should be considered in future research.

PP 35

Occupational stress and quality of life among nurses at a selected hospital in Kalutara District, Sri Lanka

Fernando BHKM, Abeysinghe RMRP, Sanjeevani AM, Bandumani RA, Sandeepanee DPK, Abeyrathna WMDN, Jayamaha AR

Faculty of Nursing, KIU, Sri Lanka.

Background: Occupational stress is a significant concern in the nursing profession, accompanied by high workloads, extended hours, psychological and physiological disturbances. This stress adversely affects not only the health and wellbeing of nurses but also the quality of patient care.

Objective: This study aimed to evaluate the occupational stress and quality of life among nurses at a selected hospital in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted at Panadura Base Hospital, involving 215 nurses selected using whole sampling method. Data was collected using a pre-tested, self-administered questionnaire. Occupational stress was assessed using Expanded Nursing Stress Scale (ENSS) which is a Likert scale-based tool while Quality of Life was assessed using SF-12 Health survey. Descriptive statistics, independent t – test and correlation were conducted using SPSS version 25. Statistical significance was considered at $p < 0.05$. Ethical approval was obtained from relevant authorities.

Results: Most participants were females (93.50%), aged 25–30 years (35.30%), and predominantly single (83.30%). Most participants had over ten years of work experience (39.50%) and worked more than 56 hours per week (83.30%). Occupational stress was moderate (2.31 ± 0.32), with the highest stressors being conflicts with doctors (3.07 ± 0.91), and inadequate preparation (3.07 ± 0.84). Quality of life were nearly moderate for both the physical (51.98 ± 2.98) and mental components (43.57 ± 4.02). Occupational stress was significantly associated with age ($p=0.0002$) and gender ($p=0.0001$), indicating that older and female nurses experienced higher levels of stress. Female nurses also reported lower quality of life ($p=0.0170$) compared to male counterparts.

Conclusions: This study highlights occupational stress and quality of life and their significant association with demographic factors, emphasizing the need for targeted interventions to mitigate stress and improve nurses’ quality of life.

PP 36

Knowledge, attitudes and its associated factors regarding pediatric pain management among nursing officers in selected hospitals in Galle District, Sri Lanka

Wimalasekara KDAK, Priyangika D, Shirani KW, Nawarathna GMJM, Fernando SLS, Karunarathna TPNP, Sandakumari HS

Faculty of Nursing, KIU, Sri Lanka.

Background: Effective pediatric pain management (PPM) ensures the physical and emotional well-being of children undergoing medical and surgical treatment. Ineffective management can lead to long-term consequences, such as diminished quality of life and increased psychological distress.

Objective: This study assessed the knowledge, attitudes, and associated factors influencing PPM among nursing officers in selected hospitals in Galle district, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 116 nursing officers working at pediatric units in Teaching Hospital Karapitiya, Base Hospital Balapitiya, and Base Hospital Udugama, Base Hospital Elpitiya, using convenience sampling technique. Data were collected using a researcher-developed, validated, self-administered questionnaire and analyzed using SPSS version 24, incorporating descriptive statistics and inferential statistics, including chi-square test.

Results: The majority of participants were aged 36-45 years (48.3%) and held a bachelor's degree (62.1%), with 79.3% having 1-10 years of pediatric experience. Notably, none had formal training in PPM. Knowledge assessments revealed a moderate overall score (12.79 out of 20), with 69.0% demonstrating moderate knowledge and 25.0% showing poor knowledge. Attitudes toward pain management were generally favorable, with an average score of 82.95 out of 100, and 65.5% of nurses displaying positive attitudes. Factors influencing knowledge and attitudes included years of experience, age, had read any book/journal regarding pain management, and the presence of institutional pain management protocols ($p < 0.05$).

Conclusions: The findings underline the necessity for targeted training programs and standardized protocols to enhance nurses' capacity in PPM. Providing manageable shift schedules and addressing high workload are also vital to nursing performance and optimize improve patient outcome Overall, the study highlights the urgent need for institutional support and structured educational programs to enhance pediatric pain management practices.

PP 37

eHealth literacy and its associated factors among selected peri-urban diabetic population in Colombo District, Sri Lanka

Karunasinghe SPGDH¹, Nimasha MC¹, Wanigasundara WASD¹, Gobika S¹, Attanayaka AMSN¹, Sajinth P¹, Abeywickrama MS¹, Siribaddhana N¹, Nisansala MWN²

¹Faculty of Nursing, University of Colombo, Sri Lanka, ²Department of Fundamentals of Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.

Background: In the era of advancing technology, eHealth literacy is essential for patients with diabetes mellitus to effectively manage their disease condition. Assessment of eHealth literacy level and associated factors in this population is vital in developing targeted interventions to improve health outcomes.

Objective: The purpose was to assess eHealth literacy and its associated factors among a selected peri-urban diabetic population in Colombo district, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among a systematically selected random sample of patients with type 1 and type 2 diabetes mellitus, aged over 18, registered at the diabetic clinic of three selected government hospitals in Colombo district. Data were collected using an interviewer administered questionnaire which consisted of validated eHealth literacy scale (eHEALS). Descriptive and inferential analysis were performed using SPSS version 26.0. eHealth literacy level was categorized as mild (8-22), moderate (23-32) and high (33 - 40). A Chi-square test identified factors associated with eHealth literacy level with a p value < 0.05 considered as statistically significant. Ethical approval was obtained from the Ethics Review Committee of Faculty of Medicine, University of Colombo.

Results: Among the 422 participants, majority were females (60.4%) and married (85.3%). Mean diabetes duration was 9.1±6.9 years. Approximately 98% individuals were on treatments for diabetes mellitus. Around 66.4% had access to an internet device. Nearly half of the respondents (46%) demonstrated moderate eHealth literacy level. The mean eHealth literacy score was 24.3±9.4. Statistically significant associations were observed between eHealth literacy level and age, educational level, occupation and monthly income (p< 0.05).

Conclusions: The findings indicate moderate eHealth literacy level among patients with diabetes mellitus. Interventions such as patient motivation, workshops to enhance interest in using technological devices, and introducing apps for disease management could help in bridging this gap.

PP 38

Perception, practices and barriers regarding delivering health education among nurses in central province: Sri Lanka

Rathnayke ARMAU, Bandara OT, Mudaligae U

Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, Faculty of Nursing, University of Colombo, Sri Lanka.

Background: Health education is crucial for improved health outcomes, increased patient satisfaction, and better self-management of conditions, ultimately empowering patients to actively participate in their care. However, challenges such as time constraints, unstructured approaches, and varying patient needs hinder its implementation.

Objective: To explore nurses’ perceptions, practices and barriers of communication skills in health education.

Methods: A mixed-methods design was employed in four hospitals in Sri Lanka’s Central Province, involving 288 nursing officers. Quantitative data were collected via pre validated self-administered questionnaires, while qualitative insights were obtained through eight focus group discussions. Quantitative analysis was conducted using SPSS (version 26), with frequency analysis and cross tabulations while and thematic analysis was applied to analyse qualitative data.

Results: From the sample, 80 % of the nurses have reached to the diploma level in nursing and 19% of the nurses have reached to the degree level. Even though approximately 88 % of nurses agreed for answering the patient’s questions and his worries about are important, only 56% of nurses are agree with the chunk and check of information. However, only the 43% of nurses encourage patients to ask questions for clarification and 61% of the nurses are practicing the developing patient centred plan at the end of health education. Strong statistical significance level ($p=0.000$) can be identified with age of the nurses and practices of delivering health education . Similarly, strong statistical significance level ($p=0.001$) can be identified with work experience of the nurses and practices of delivering health education. Following main themes were emerged: perceived responsibility regarding health education among nurses, quality of the content is questionable, suggestions for improvement, factors affect the quality of health education and receptiveness of the patient.

Conclusions: All the nurses accept health education is a part of nursing care, however, there are several confusions about the methods of delivery. This study emphasizes the need for structured training on delivery methods of health education with leveraging evidence-based strategies and technology. Addressing workload challenges, improving supervision, and tailoring approaches to patient needs can significantly improve health outcomes.

Acknowledgement: University research grant /University of Peradeniya

PP 39

Attitudes on the use of electronic health records (EHRs) and associated factors among nursing officers at the National Cancer Institute, Sri Lanka

Nirmal BADB, Ganegoda GWUD, Abeyratne RMTB

Department of Nursing & Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Electronic Health Records (EHRs) represent a pivotal innovation in healthcare, enhancing documentation accuracy and accessibility, thereby optimizing patient care. Despite their widespread adoption in developed countries, developing nations, including Sri Lanka, face significant challenges in EHRs implementation. As primary healthcare providers, nurses play a crucial role in successfully utilizing EHRs.

Objective: This study aims to assess the attitudes and associated factors towards the use of EHRs among nursing officers at the National Cancer Institute, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted with a stratified sample of 228 nursing officers currently working at nine working units in the National Cancer Institute, Sri Lanka. Data were collected using a pre-tested self-administered questionnaire developed by the researchers with an extensive and intensive literature review. The level of attitudes towards EHRs was categorized as negative (0-72%) and positive (73% and above). Descriptive analysis, chi-square and Fisher's exact test of independence were used to assess associations using IBM SPSS Statistics version 26.

Results: Response rate was 85.07%. Participants who completed the survey were mostly female nurses (85.1%) aged 21-30 years (68%) with 2-5 years of work experience (38.5%). From the total number of participants 52.6% had positive attitudes while 47.4% had negative attitudes towards EHRs. However, level of attitudes of the participants was not significantly associated ($p > 0.05$) with age ($p=0.407$), gender ($p=0.192$), level of education ($p=0.343$), working unit ($p=0.183$) years of experience ($p=0.704$) and previous experience with EHRs ($p=0.161$).

Conclusions: Nursing officers at the National Cancer Institute, Sri Lanka, generally possess positive attitudes towards EHRs. Enhancing training programs and addressing specific barriers can further improve EHR adoption and utilization.

PP 40

Knowledge and practice regarding complementary feeding among mothers of children aged 6-24 months in Bope- Poddala MOH area, Galle District, Sri Lanka

Maduwanthi WPS, Sarangi EMN, Jayathilake MRS

Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Malnutrition is a pressing issue in many developing countries. Inadequate knowledge and practice related to breast feeding and complementary feeding can result undernutrition and obesity in children.

Objective: To assess the knowledge and practices regarding complementary feeding among mothers of children aged 6-24 months in the Bope-Poddala MOH area, Galle District, Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among 240 mothers using systematic random sampling technique. Data were gathered using a pre-tested, interviewer-administered questionnaire developed through an extensive literature review. The questionnaire consisted of three parts; sociodemographic and obstetrics history, level of knowledge on complementary feeding, level of practices regarding complementary feeding. The level of knowledge was categorized as (0-49%), fair (50-74%), and good (75-100%). While the level of practice was categorized as categorized as poor (0-39%), fair (40-69%), and good (70-100%). Descriptive statistics were analyzed using the SPSS version 26.

Results: Most of the participants who completed the survey were mothers of children aged 6-12 months (53.3%), Sinhalese (55%), and 49.6% of participants were belong to 26- 35-year age group. More than two-third of mothers had a good knowledge (70.2%), and practice (67.8%) related to the complementary feeding. While the rest demonstrated having fair knowledge (29.4%) and practice (32.2%).

Conclusions: Most of the mothers in the Bope-Poddala MOH area possessed good knowledge and practices regarding complementary feeding. Hence conducting ongoing educational programs are necessary to maintain awareness in the community to reduce malnutrition among children.

PP 41

Knowledge, attitudes and practice regarding breast cancer and its screening methods among women attending outpatient clinics in a selected Hospital in the Southern Province of Sri Lanka

Samankumari KGG, Jayathilake MRS

Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Breast cancer continues to be a major cause of morbidity and mortality throughout the world. In Sri Lanka, breast cancer survival rate is relatively low when compared to more developed nations. Early diagnosis and treatment of breast cancer improve prognosis for survival. Knowledge of breast cancer and its screening are crucial for its prevention.

Objective: This study aimed to assess knowledge, attitudes and practice regarding breast cancer and its screening methods among women attending outpatient clinics in a selected Hospital in the Southern province of Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among conveniently selected 163 women from the selected outpatient clinics in Walasmulla Base Hospital using a validated, pretested interviewer administered questionnaire. The questionnaire consisted of 46 questions covering three parts: knowledge, attitudes and their practices regarding breast cancer and its screening. Data were analysed using SPSS version 26. Descriptive statistics were used to analyse the demographic characteristics, knowledge level, practices of breast cancer and its screening. Attitude responses were analysed using five - point Likert scale and Chi square test was used to assess the relationship between the variables.

Results: Mean age was 47.5 (± 14.0) years. Among the participants, 46% had poor knowledge on both cancer and its screening. However, 56.4% (n=92) had positive attitudes and 69.9% had poor practice towards breast cancer and its screening. Moreover, 50.3% (n=82) participated in the self-breast examinations and clinical breast examinations while, only 6.1% had participated in the mammogram testing. The level of knowledge was associated with participants' age (p=0.000), clinics they attended (p=0.000), marital status (p=0.038), monthly income (p=0.017), educational status (p=0.000), history of breast cancer (p=0.008) and prior participation of any breast cancer awareness programme (p=0.000).

Conclusions: The study found positive attitudes but poor knowledge and practice towards breast cancer and its screening. Effective health education programs are required to improve awareness and participation for breast cancer screening.

PP 42

Assessment of knowledge and perceptions on sexually transmitted infections among undergraduates of the Faculty of Allied Health Sciences, University of Peradeniya

Kumari MAMK¹, Chandrasiri ILU²

¹Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, ²Department of Radiography / Radiotherapy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.

Background: Sexually Transmitted Infections (STIs) are a group of infectious diseases that are transmitted through sexual contact. Knowledge of STIs is crucial for healthcare professionals to accurately diagnose, treat, and prevent the spread of STIs. As future healthcare professionals, Allied Health Science (AHS) undergraduates need accurate knowledge and perception on STIs.

Objective: To assess the level of knowledge and perception on STIs among undergraduates of the Faculty of AHS, University of Peradeniya.

Methods: A descriptive, cross-sectional study was conducted among 422 undergraduates of the Faculty of AHS, UoP. The stratified random sampling method was used. Data collection was done using a validated, self-administered questionnaire which consisted of five sections; demographic data, precautions and treatments, risk factors, transmission, and symptoms associated with STIs. Final knowledge and perception scores were categorized as poor (below 50%), satisfactory (50%-74%), and good (above 75%). Chi-squared test was used to identify the associations at significance level of 0.05.

Results: The response rate was 93.84%. The majority were female (72%). Participants' mean age was 24.69±1.49 years. More than half of the participants (55%) had good knowledge and perceptions on precautions and treatments. Approximately 64% of the participants demonstrated a satisfactory level on risk factors. Around 44% of the participants had a satisfactory level on transmission while 47% of participants' knowledge and perceptions on symptoms associated with STIs were poor. More than two-thirds (72%) of the participants had satisfactory knowledge and perceptions on STIs. Participants' degree program significantly influenced their knowledge and perceptions on STIs ($p < 0.05$), while progression through academic years positively enhanced their understanding and viewpoints.

Conclusions: Despite having good knowledge and perceptions on precautions and treatments, satisfactory on transmission and risk factors, the knowledge on signs and symptoms were lacking among the participants. This gap underscores the need for enhanced educational interventions and awareness campaigns.

PP 43

Maternal satisfaction on labor and delivery services among postnatal women at Teaching Hospital Rathnapura in Sri Lanka

Amarasekara S¹, Nadeesha ALAS¹, Nishanthi WANA¹, Dissanayake TAMS¹, Gunawardana GJJ¹, Maduwanthi RM¹, Amarasekara AATD²

¹Faculty of Nursing, KIU, Sri Lanka, ²Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Maternal satisfaction is a critical indicator of the quality of maternity services, affecting maternal and neonatal health outcomes. Despite the importance of this issue, there is limited research on maternal satisfaction in labor and delivery in Sri Lanka.

Objective: To assess the level of satisfaction with labor and delivery services among postnatal women at maternity wards in teaching hospital Rathnapura.

Methods: A descriptive cross-sectional study was conducted among 329 postnatal women at Teaching Hospital Rathnapura from April-September 2024 using simple random sampling. Data were collected using an interviewer-administered questionnaire employing the Person-Centered Maternity Care Scale developed and validated in Sri Lanka. Data was analyzed using descriptive and inferential statistics in SPSS version 26. Satisfaction was assessed using a score, with values above the mean indicating high satisfaction. Ethical approval and further permission were obtained from the relevant authorities.

Results: The largest proportion of respondents (39.90%) were aged 26–30 years. Over half (57.30%, n=188) had completed secondary education. Half of the participants (51.8%, n=170) reported having one child, while 43.30% (n=142) indicated a parity of one. Regarding satisfaction, 50% (n=164) expressed satisfaction (mean score= 19.60) regarding medical services provided, 51.50% (n=169) expressed satisfaction with delivery care (mean score=32.57), and 58.50% (n=192) expressed satisfaction with environmental facilities (mean score=12.7). Considering overall satisfaction, 52.70% (n=173) expressed good overall satisfaction (mean score=64.8). Significantly, overall satisfaction revealed a strong positive correlation with delivery care satisfaction ($r=0.781$, $p<0.01$) and medical services ($r=0.532$, $p<0.01$) while environmental facilities ($r=0.300$, $p<0.01$) revealed a moderate positive correlation.

Conclusions: Nearly half of the participants reported satisfaction with labor and delivery services. Given the strong positive correlation between satisfaction with delivery care, medical services, and overall satisfaction, actions are needed to improve these areas. Enhancing maternal satisfaction with labor and delivery services requires staff training, education, and future research to identify influencing factors.

PP 45

Assessment of knowledge, practices, and associated factors influencing readiness for mentoring among nurses at a selected hospital, Sri Lanka

Hasanthika WAA¹, Gunawardena JGMK¹, Udayani DBMI¹, Sirikumbura PADT¹, Wimalasena WNS¹, Hansini KHC², Madhuwanthi RM¹

¹Faculty of Nursing, KIU, Sri Lanka, ²Asiri Academy of Health Sciences, Sri Lanka.

Background: Mentoring is essential for professional development in nursing, enhancing clinical skills and patient care quality. Readiness for mentoring among nurses depends on their knowledge, practices, and associated factors, requiring assessment to develop effective strategies.

Objective: The study aimed to assess the knowledge, practices, and associated factors influencing readiness for mentoring among nurses at the Teaching Hospital Rathnapura.

Methods: A descriptive cross-sectional study was conducted among 261 randomly selected nurses at the Teaching Hospital Rathnapura. Data were collected using a pre-tested, self-administered questionnaire assessing baseline characteristics, knowledge, and practices related to mentorship readiness. Knowledge scores were categorized on a 0–50 scale as good (36–50), moderate (16–35), and poor (0–15). Practice levels were evaluated using an 8-item, 5-point Likert scale, categorized as good (27–40), moderate (17–26), and poor (8–16). Ethical approval was obtained from the relevant authorities. Data were analyzed using descriptive and inferential statistics in SPSS version 27.

Results: The mean age was 37.14±5.89 years. The majority were female (80%), held a diploma qualification (64%), and had 1 to 5 years of working experience (85%). Accordingly, 74% of the participants demonstrated good knowledge, while 23% exhibited moderate knowledge regarding readiness for mentoring among nurses. A higher proportion (56%) demonstrated poor practices despite possessing good knowledge about readiness for mentoring among nurses. Age was significantly associated with both knowledge ($p=0.001$) and practices ($p=0.002$), while working experience associated with knowledge ($p=0.019$) and practice ($p<0.001$) regarding readiness for mentoring among nurses.

Conclusions: A substantial proportion of nurses exhibited good knowledge of readiness for mentoring; however, the prevalence of poor practices remains a critical concern. The significant associations between age, working experience, and both knowledge and practices underscore the urgent need for strategic interventions to bridge the gap between knowledge and practice, fostering effective mentoring readiness among nurses.

PP 46

Cyberchondria and sleep quality among undergraduates at a selected private university, in Sri Lanka

De Silva AVD, Karunarathna MNC, Dhanawantha MAJC, Sherami HG, Perera KPH, Upeksha SHD, Perera ACH

Faculty of Nursing, KIU, Sri Lanka.

Background: Sleep is a fundamental physiological process essential for well-being. Undergraduates are particularly vulnerable to poor sleep quality. Cyberchondria, characterized by excessive health-related internet search leading to increased anxiety, has been linked to sleep disturbances among students.

Objective: This study aimed to identify the association between cyberchondria and sleep quality among undergraduates at KAATSU International University (KIU), Sri Lanka.

Methods: A quantitative, descriptive cross-sectional study was conducted with a sample of 416 undergraduate students of four faculties (Faculty of Nursing, Faculty of Management, Faculty of Health Sciences, and Faculty of Computer Science & Engineering), selected through stratified random sampling. Data were collected using a self-administered questionnaire, with cyberchondria assessed via the Cyberchondria Severity Scale (CSS) and sleep quality was measured with the Pittsburgh Sleep Quality Index (PSQI). Data analysis was performed using SPSS version 26, with ethical approval obtained from the KIU Ethical Review Committee (ERC approval number: KIU/ERC/24/164).

Results: Out of 416 respondents, the mean age of participants was 27.3 ± 2.1 years, and 62.9% were males with the majority (40.2%) from the Faculty of Management. The majority (65.6%) used the Internet for over 20 hours per week. Mean CSS score was 35.18 ± 9.97 , indicating a moderate level of cyberchondria. The PSQI global score was 9.88 ± 1.71 , indicating moderate sleep difficulties. Although a significant association was found between cyberchondria and sleep quality ($p < 0.001$), Pearson correlation revealed a weak positive relationship ($r=0.112$, $p=0.112$).

Conclusions: This study identified a significant association between cyberchondria and sleep quality among undergraduates. Although the correlation was weak, the findings highlight the potential impact of excessive health-related internet use on sleep. Addressing cyberchondria through targeted interventions may contribute to improved sleep quality in this population.

PP 47

e- Health literacy and associated factors among student nurses in a selected nurses training school in Sri Lanka

Maduwanthi ULS¹, Walisundara WMKS¹, Wijesooriya KDUM¹, Thennakoon RGAIB¹, Upalirathna MGLD¹, Thilakarathna HMCRK¹, Amarasekara AATD²

¹Faculty of Nursing, KIU, Sri Lanka, ²Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: eHealth literacy is the ability to seek, understand, and evaluate health information from electronic sources. The rise of information and communication technologies has revolutionized healthcare. As such, student nurses' eHealth literacy is vital to the future generation of nursing professionals. Despite its importance, research on eHealth literacy among student nurses in Sri Lanka is limited.

Objective: To assess eHealth literacy and its associated factors among student nurses in a selected nurses training school in Sri Lanka.

Methods: A descriptive cross-sectional web-based study recruited 771 student nurses at the College of Nursing, Kandy, Sri Lanka, using total population sampling. The eight items eHealth literacy scale were used to collect data. Data was analyzed using descriptive statistics and chi-square tests in SPSS Version 25.0. Ethical approval and further permission were obtained from the relevant committees.

Results: Among 479 student nurses who responded, more than one third of the participants (39%), were aged 25 years (± 1.4). The majority were females (91.4%), in the second year of study (60.5%), had previous IT education (89.6%) and attended to programs on eHealth (60.1%). The average score of eHealth literacy among the students was 30.91 ± 5.0 . The majority (62.6%) of the participants demonstrated good eHealth literacy and most participants viewed IT inclusion in the nursing curriculum as necessary (77.6%). eHealth literacy was significantly associated with age ($p=0.000$), prior IT education ($p=0.000$), eHealth training ($p=0.000$), time spent on the internet ($p=0.020$), and perceptions of the internet's role in health decision-making and information access ($p=0.000$).

Conclusions: A positive perception was observed among student nurses regarding the integration of IT education and eHealth training into nursing curricula. Hence, integrating IT and eHealth topics into nursing curricula is essential to improve nurses' eHealth literacy. Promoting practical exposure to digital health tools will further increase nurses' readiness for technology-driven healthcare practices.

PP 48

Evaluating final-year nursing students' attitudes on AI integration in higher education: A study in the Western Province, Sri Lanka

Ratnayake SMS¹ Asurakkody TA²

¹Department of Health Science, NSBM Green University, ²Department of Fundamentals of Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.

Background: Artificial Intelligence (AI) has revolutionized education through technological advancements, and students view AI as an innovative solution to adapt to these changes.

Objective: This cross-sectional study aims to evaluate the attitudes toward AI among final-year state diploma nursing students in higher education, which remains unexplored.

Methods: A total of 422 final-year nursing students were selected using a systematic sampling method from three state nursing schools representing the three districts of the Western Province, Sri Lanka. Attitudes were assessed through a self-administered questionnaire using 26 items from the Student Attitude Toward Artificial Intelligence (SATAI) scale, as a 5-point Likert scale, a validated tool developed in Korea in 2022, with a total score range of 26 to 130.

Results: Attitude was assessed in three components: emotional, behavioral, and cognitive. All of the study participants were 21-30 years old. Among them, 412(95.4%) were unmarried and 10 (2.3%) were married. Sinhala 375(86.8%), Tamil 35(8.1%), and Muslim 12(2.8%). The majority of 376(87%) had moderate computer knowledge, 32(7.4%) had less, and 14(3.2%) had higher computer knowledge. The average student's attitudes towards AI, considering the ‘cognitive’ component, were the highest at 3.91, indicating ‘agree’ with statements. Behavioral and affective components were 3.76 and 3.70. The highest mean score of 4.12 was recorded for the statement, *"It is interesting to use AI"*. The distribution of participants' scores ranged from a minimum of 59 to 130, with an average score of 97.79 on the SATAI scale. The majority fell within the range of 101–115, with 184 students (42.6%), followed by 86–100 with 157 students (36.3%). Additionally, 56 students (13%) scored between 71–85, while smaller groups scored 116–130 (19 students; 4.4%) and 56–70 (6 students; 1.4%).

Conclusions: Total scores within the mid to higher ranges suggest that students had a positive attitude toward incorporating AI into their education.

PP 49

An effective plant cell digestion technique for microplastic analysis in plant-based foods

Pubudu Nirmani EPM¹, Wickramasinghe I¹, Mahatantila K², De Zoysa HPE²

¹Department of Food Science & Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Industrial Technology Institute, Bauddhaloka Mawatha, Colombo 7, Sri Lanka.

Background: Microplastics (MPs) are emerging contaminants of significant public health concern, particularly for infants. As plant-based foods become more prevalent in infant diets, precise detection of MPs in such food matrices is crucial for food safety. However, existing studies and standard methods predominantly focus on environmental sample analysis, with limited research on food safety applications. Among various MP detection techniques (light microscopy, Spectroscopy and chromatography), Nile Red staining offers advantages in rapidity, cost-effectiveness and sensitivity. However, interference from organic matter in food samples can hinder the method's effectiveness, necessitating optimized digestion protocols.

Objective: This study focus on validating an alkaline-oxidative digestion method for isolating MPs in plant-based infant foods, modifying the existing digestion techniques.

Methods: Food samples (5.0 g) were treated with 75 mL of 4 mol dm⁻³ KOH, shaken at 1200 rpm for an hour, and incubated overnight at 50⁰C. Subsequently, 12 mL of 50% H₂O₂ was added, followed by agitation and centrifugation at 3000 rpm for 15 minutes. A spiked sample with 100 MPs (Polyethylene, 300µm) and blanks were prepared for each batch, with triplicate analysis. Microplastic quantifications were performed using a stereo trinocular microscope under a blue light source (420–470 nm) with an orange filter (529 nm). Nile Red-stained MPs were visually examined and counted based on fluorescence intensity and morphological characteristics.

Results: The proposed digestion method effectively decomposed organic matter while preserving MPs, achieving a recovery rate of 83±0.82 %. The method demonstrated a reporting limit of 3 particles/g and detected 23±0.7 particles/g in the tested plant-based infant diet (n= 6).

Conclusions: This approach enhances MP isolation efficiency, improves organic materials removal, and achieves sufficient accuracy and precision when used with Nile Red staining detection proving that this digestion technique can be used to analyze MPs in plant-based food.

PP 50

The association between visceral adiposity index (VAI) and glycemic control: A cross-sectional study among women with Diabetes Mellitus at a tertiary care hospital in Sri Lanka.

Gunawardana STD¹, Ranasinghe MKG¹, Gamage MGTS¹, Wijesekara GUS¹, Jinasena TMRR²

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka. ²Department of Biochemistry, Colombo South Teaching Hospital, Sri Lanka.

Background: Visceral adiposity is a significant health challenge, contributing to insulin resistance and poor glycemic control in individuals with diabetes mellitus (DM). The Visceral Adiposity Index (VAI) is a sex-specific mathematical model incorporating anthropometric measurements [waist circumference (WC), body mass index (BMI)] and lipid parameters [triglycerides (TG) and high-density lipoprotein cholesterol (HDL-C)]. It serves as a reliable surrogate marker for visceral fat dysfunction and its associated metabolic risks.

Objective: To investigate the association between VAI and glycemic control in women with DM, attending to a tertiary care hospital in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted at Colombo South Teaching Hospital, Sri Lanka enrolling 343 women aged 20–80 years with a confirmed diagnosis of DM at least one year before the date of recruitment. Anthropometric data (weight, height, WC) of the participants were measured. Biochemical tests (glycated hemoglobin (HbA1c), fasting blood sugar (FBS), lipid profiles) results were obtained from the biochemistry laboratory of the hospital. The HbA1c level of less than 7% was defined as good glycemic control, while an HbA1c level of 7% or higher was defined as poor glycemic control. Spearman’s rank correlation was used to determine the association of VAI with HbA1c and FBS. The p-value of less than 0.05 was considered statistically significant.

Results: Among the participants, 75.5% had poor glycemic control, while 24.5% demonstrated good glycemic control. The median(Interquartile Range) values of key parameters were: VAI = 0.81(0.52), BMI=25.99(5.58) kg/m², WC=38.0(5.0)cm, TG=107.0(57.5) mg/dl, HDL-C= 48.0(15.6) mg/dl, HbA1c=8.1(2.3)% and FBS=130(56.0) mg/dl. VAI showed weak but statistically significant positive correlations with HbA1c ($\rho=0.124$, $p=0.021$) and FBS ($\rho=0.159$, $p=0.003$).

Conclusions: Higher VAI was associated with poorer glycemic outcomes among women with DM, indicating a potential role of visceral adiposity in glycemic dysregulation.

PP 51

Comparative evaluation of beetroot extract as an alternative to hematoxylin, turmeric and ginger extract as substitutes for eosin in histological staining

Silva THTD¹, Liyanage HGTD¹, Kaushalya WH¹, Fernando CS²

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Pathology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Natural dyes are emerging as sustainable, non-toxic alternatives to synthetic dyes used in histological staining, such as eosin in Hematoxylin and Eosin (H&E). Synthetic dyes pose health and environmental risks due to their toxic properties, whereas plant-derived dyes offer eco-friendly solutions with comparable staining efficacy through interactions based on acidity and charge. *Curcuma longa* (turmeric) and *Zingiber officinale* (ginger) extracts, containing curcumin, exhibit basophilic properties and *Beta vulgaris* (beetroot) derived betalains show acidophilic characteristics when appropriately acidified.

Objective: This study aimed to evaluate the efficacy of beetroot extract as a substitute for hematoxylin and turmeric and ginger extracts as alternatives to eosin.

Method: A total of 20 skin tissue blocks were utilized to evaluate natural alternatives to H&E staining. Turmeric extract (T) was prepared using 70% ethanol, ginger extract (G) was prepared using 90% ethanol, and aqueous beetroot extract (B) was prepared. Tissue sections were stained with H&T, H&G, B&E, B&T, B&G and the conventional H&E methods. Nuclear and cytoplasmic staining, along with other tissue components were graded as 1=Satisfactory, 2=Borderline, 3=Unsatisfactory.

Results: In H&T staining, a significant difference in nuclear staining was observed compared to H&E ($p=0.000$). Turmeric, employed as a counterstain, imparted a yellow colour to the cytoplasm ($p=0.128$), collagen ($p=0.468$), muscles ($p=0.594$), and RBCs ($p=0.594$), indicating no statistically significant difference compared to eosin. In H&G staining, no statistically significant difference in nuclear staining was observed ($p=0.572$), but cytoplasmic and other tissue components showed significant difference ($p<0.001$). In B&E and B&T staining, collagen, blood vessels, and RBC staining showed no statistically significant difference ($p>0.01$), while nuclear staining was absent. In B&G, all structures showed statistically significant differences ($p<0.01$).

Conclusions: Turmeric is a potential alternative to eosin, with H&T emerging as the most comparable to H&E. Beetroot and ginger were not effective alternatives for nuclear or counterstaining, with B&G being the least comparable combination.

PP 52

Variations in coagulation profile and platelet parameters among patients on regular maintenance hemodialysis for end stage kidney disease. Single center experience in Sri Lanka

Welarathne DNR¹, Vimukthika RKB¹, Weragala WD¹, Balasuriya BLT², Darshana LGT¹, Perera NJAHD²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka. ²Sri Jayewardenepura General Hospital, Sri Lanka.

Background: Patients with hemodialysis dependent ESKD may present with bleeding or thrombosis paradoxically. Endothelial and platelet dysfunction, clotting irregularities, comorbidities and hemo-incompatibility of the dialysis membrane with blood are key factors contributing to both hypo and hypercoagulability in ESKD.

Objective: To investigate variations in coagulation profile and platelet parameters among the patients in ESKD who are on regular maintenance hemodialysis at a tertiary care center.

Methods: A descriptive cross-sectional study was conducted, enrolling 39 adult patients above 18 years who have been on regular maintenance hemodialysis at Sri Jayewardenepura General Hospital. Laboratory values, including pre and post hemodialysis platelet count (PLT), mean platelet volume (MPV), platelet distribution width (PDW), prothrombin time (PT), international normalized ratio (INR), activated partial thromboplastin time (APTT), and thrombin time (TT) were collected. Statistical comparisons were made between pre- and post-hemodialysis values using Wilcoxon signed rank test. The p value < 0.05 was taken as statistically significant.

Results: Male to female ratio was 31:8 with the median age of 58 years. Statistically significant reductions were observed in post-hemodialysis PLT (p < 0.001), PT (p < 0.001), INR (p = 0.002), and APTT (p = 0.005) compared to pre-hemodialysis values.

Conclusions: The significant reduction in post-hemodialysis PLT would be due to the platelet hyper activation, dysfunction and exhaustion during hemodialysis. Significant shortening of post hemodialysis PT and APTT despite using heparin as anticoagulant is an unexpected finding. This may be explained by the increased concentration of clotting factors following fluid removal during dialysis. The intrinsic coagulation pathway is excessively activated by the activation of FXII, caused by exposure to the negatively charged artificial dialysis surfaces. However, we need further studies to conclude the mechanism of shortened post dialysis PT and APTT. Therefore, evaluating PT and APTT levels are essential for tailoring patients' further treatments.

PP 53

Association of body mass index (BMI) and total cholesterol levels with breast cancer staging in postmenopausal women undergoing treatment at Apeksha hospital, Maharagama, Sri Lanka

Fernando MAC¹, Afla MAF¹, Sahib FSK¹ and Rajapaksha DIG²

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Breast cancer is the most common cancer among women and the second leading cause of cancer-related mortality worldwide. Obesity, measured through Body Mass Index (BMI), and dyslipidemia, including elevated Total Cholesterol (TC), are recognized as key risk factors influencing breast cancer development and progression.

Objective: This study aimed to investigate the association of BMI and TC levels with breast cancer staging (Stages 1, 2, and 3, based on the TNM classification system) in postmenopausal women.

Methods: A retrospective cross-sectional study was conducted using medical records of 43 postmenopausal breast cancer patients undergoing treatment at Apeksha Hospital, Maharagama. Data were extracted for BMI, TC, triglycerides (TG), high-density lipoprotein-cholesterol (HDL-C) and low-density lipoprotein-cholesterol (LDL-C) at the time of diagnosis for the patients diagnosed between January 1, 2023, and December 31, 2023.

Results: The majority of participants (37.21%, n=16) were aged between 65–74 years, with most experiencing menopause by 52 years (34.88%, n=15). Stage 2 breast cancer was the most prevalent (37.2%, n=16), followed by stage 3 (34.9%, n=15) and stage 1 (27.9%, n=12). Mean BMI values for stages 1, 2 and 3 were $25.62 \pm 4.85 \text{ kgm}^{-2}$, $26.27 \pm 4.17 \text{ kgm}^{-2}$, and $25.01 \pm 4.78 \text{ kgm}^{-2}$ respectively ($p=0.712$). Corresponding mean TC levels were $196.29 \pm 35.97 \text{ mgdl}^{-1}$, $193.19 \pm 35.97 \text{ mgdl}^{-1}$, $186.72 \pm 56.11 \text{ mgdl}^{-1}$ ($p=0.861$). Among participants, 22 (51.16%) were obese ($\text{BMI} \geq 25 \text{ kgm}^{-2}$), and 6 (13.95%) were overweight ($\text{BMI} = 23\text{--}24.9 \text{ kgm}^{-2}$). High TC levels ($>200 \text{ mgdl}^{-1}$) were observed in 18 women (41.86%), with a mean TC of $191.56 \pm 42.91 \text{ mgdl}^{-1}$.

Conclusions: The findings of this study showed no significant association between BMI and breast cancer stage, nor between TC and breast cancer stage. Likewise, no significant relationships were found between TG, HDL-C, LDL-C, and cancer stages. While these results suggest that these factors may not directly influence breast cancer progression, further studies with larger sample sizes are needed to strengthen these findings.

PP 54

Haemoglobin levels in chronic kidney disease patients attending medical and nephrology clinic, Teaching Hospital, Jaffna: A demographic and duration perspective study

Sangavi T¹, Karthiga M³, Kanistan J³, Thangarajah BR², Arasaratnam V¹

¹Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka, ²Department of Medicine, Faculty of Medicine, University of Jaffna, Sri Lanka, ³Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

Background: Chronic Kidney Disease (CKD) is a worldwide health issue causing adverse health effects and, anaemia is a frequent complication.

Objective: To assess the association between Haemoglobin (Hb) levels, age, gender & CKD duration in the CKD patients attending Nephrology and Medical Clinic, Teaching Hospital Jaffna.

Methods: This is a descriptive cross-sectional study using convenience sampling method. Patients (137nos.) diagnosed with CKD (recommended Diagnostic Criteria) were included. Patients on renal replacement and erythropoietin therapy were excluded. Blood Hb level was estimated (Cyanmethemoglobin method). Other information from the patients were recorded (data collection sheets). Pearson correlation, chi-square and independent t-tests using SPSS software of the data were analyzed.

Results: Mean Hb levels of the females and males respectively were 12.25 (± 1.80) and 12.89 (± 2.03) g/dl. The mean Hb levels of the patients decreased from 13.31 (± 1.99) (≤ 30 years) to 11.77 (± 1.52) g/dl (≥ 61 years). Based on the Hb level, 66nos. were anaemic. Males of age group ≥ 61 years had mean Hb level of 11.99 (± 1.52) g/dl. Female patients of age group 51- 60 and ≥ 61 years had almost same Hb levels. Hb levels showed significant negative correlation with age ($p < 0.001$, $r = -0.327$). The mean Hb levels of the patients having CKD duration of < 1 to > 10 years ranged from 13.47 (± 1.70) to 11.99 (± 0.45) g/dl. Females with 6-10 years of CKD history had the mean Hb level of 11.38 (± 2.26) g/dl while the males with the history of 1-5, 6-10, > 10 years had almost same Hb levels. Hb levels showed significant negative correlation with CKD duration ($p = 0.001$, $r = -0.271$). The association between Hb levels and gender was not significant ($p = 0.052$, $t = -1.961$).

Conclusions: A progressive decline in haemoglobin levels with increase in the age and prolonged disease history was evidenced. These findings emphasized the need for close monitoring and management of anaemia in CKD patients for health improvements.

PP 55

The influence of serum globulins on albumin analysis by dye binding methods

Hettiarachchi V¹, Dissanayake M², Bandara WVRTG¹

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka. ²Department of Chemical Pathology, Teaching Hospital, Karapitiya, Sri Lanka.

Background: Bromocresol Green (BCG) and Bromocresol Purple (BCP) are the most popular dye binding methods used for routine measurement of serum albumin. Our previous study, which compared the BCG and BCP methods with the Capillary Zone Electrophoresis (CZE) method as a reference using Bland-Altman plots, revealed that the BCP method exhibits a closer agreement with CZE method. In contrast, the BCG method demonstrated a greater positive bias, overestimating albumin. Studies report that different globulins may be responsible for the discrepant results. Since the accurate measurement of serum albumin is crucial for clinical decision-making, understanding the role of different globulin fractions is essential

Objectives: To examine the influence of different serum globulin fractions (α -1, α -2, β , γ) on the discrepancies of serum albumin levels measured by BCG and BCP methods compared to CZE method as a reference.

Methods: Retained blood samples (n=45) received for serum protein electrophoresis at the Teaching Hospital, Karapitiya were collected. Serum protein electrophoresis was performed using the Sebia MINICAP Automated Capillary Electrophoresis System. BCP and BCG methods were performed by the Dimension Clinical Chemistry System analyzer and the Mindray BS-480 chemistry analyzer respectively. Data was statistically analysed using Spearman's rank correlation and multiple regression analyses.

Results: The difference between albumin values as measured by BCG and CZE methods showed a strong positive correlation with the α -1 globulin concentration ($r= 0.791$; 95% CI [0.63, 0.89]; $p < 0.01$). In contrast, Spearman's correlational studies revealed no significant correlation with α -2, β , or γ -globulin concentrations ($p > 0.05$). The discrepancy between albumin levels as measured by BCP and CZE methods did not demonstrate a statistically significant correlation with any of the globulin fractions, including α -1 globulin ($p = 0.117$). Multiple regression analysis indicated that total globulin concentration was not significantly associated with differences in albumin measurements for either BCG-CZE ($p = 0.322$) or BCP-CZE ($p = 0.670$) comparisons ($p > 0.05$).

Conclusions: The study highlights that the discrepancy between the BCG method and the reference method, CZE, is significantly associated with α -1 globulin concentration, suggesting a potential nonspecific binding of BCG to α -1 globulins. In contrast, the BCP method is less affected by globulin interference.

PP 56

Growth optimization of *Malassezia furfur* on Sabouraud Dextrose Agar (SDA) supplemented with extracted egg yolk oil: Determination of minimum volume requirements

Shalini R¹, Kannathasan S¹, Baskarasingam A¹, Gnanakarunyan TJ¹, Sivasinthujah S²

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka,

²Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

Background: *Malassezia furfur* is a lipophilic yeast, causes various skin diseases. In-vitro research on this clinically significant pathogen has been hampered in Sri Lanka by lack of accessible, cost-effective culture media for isolation and subculture.

Objective: To evaluate the growth characteristics of *M. furfur* on SDA supplemented with varying concentrations of egg yolk oil and to determine the minimum volume required for optimal growth.

Methods: *M. furfur* was isolated from Pityriasis versicolor (03) patients attending Teaching Hospital Jaffna, on SDA with ghee media, and was confirmed microscopically, macroscopically, and biochemically. Egg yolk oil was extracted by solvent extraction method (2-propanol and hexane). SDA culture plates with different volumes of egg yolk oil (2x, x, x/2, x/4, x/8, and x/16; x refers to oil extracted from one egg yolk) were streaked with colonies of *M. furfur* and incubated at 32 °C. Growth level (5-point scale), isolation, and colony size (mm) were taken on the 3rd and 5th days of incubation. Each experiment was triplicated.

Results: *M. furfur* was confirmed microscopically and biochemically by ‘spaghetti-meatballs’ appearance and catalase positivity. The oil volume extracted from one egg yolk and yield in percentage were 2 mL and 33.33 % respectively. On day 3, all plates showed growth level 4, isolating colonies on SDA at 2x, x, x/2, x/4, and x/8 oil volumes, with a colony size of 1.5±0.1 mm except in the x/16 plate. On day 5, isolated colonies were observed only in x/2, x/4, and x/8 plates with a colony size of 2.0 ±0.1 mm, which aligns with the ideal colony size of *M. furfur* (2- 3 mm). The oil volumes: x/2, x/4, and x/8 exhibited similar growth levels, isolation, and colony size.

Conclusions: This study indicates that SDA with egg yolk oil promotes *M. furfur* growth, with x/8 (0.25 mL) as the minimum volume for optimal growth

PP 57

Alarming Tetracycline resistance in *Campylobacter jejuni*: A study of Sri Lankan poultry isolates

Tennakoon TMPST^{1,2}, Priyantha MAR², Weerasooriya KMSG²

¹Cardiff Metropolitan University, Cardiff, Wales, UK, ²Department of Biomedical Science, Faculty of Health Sciences, International College of Business and Technology, Sri Lanka, ³Veterinary Research Institute, Peradeniya, Sri Lanka.

Background: *Campylobacter jejuni* is a major cause of bacterial gastroenteritis globally, often linked to poultry as a primary reservoir. Although tetracycline is commonly used to treat severe campylobacteriosis, its widespread use in veterinary and human medicine has driven the emergence of resistance, posing a significant threat to effective treatment. Despite extensive global research, data on tetracycline resistance in *C. jejuni* in Sri Lanka are limited, necessitating this study.

Objective: The study aimed to evaluate the prevalence and extent of tetracycline resistance in *C. jejuni* isolates from poultry in Sri Lanka.

Methods: This study was conducted from June to September 2024 at the Veterinary Research Institute (VRI), Peradeniya, using stored, pre-isolated, pre-classified samples of *Campylobacter jejuni* originating from environmental poultry fecal droppings collected from the Northwestern Province. The micro broth dilution method, following the European Committee on Antimicrobial Susceptibility Testing (EUCAST) guidelines, was used to assess the minimum inhibitory concentrations (MICs) of tetracycline in 30 isolates. The tetracycline concentration gradient was prepared in a twofold dilution series, ranging from 256-0.5 mg/L. Bacterial work was done in Biosafety 2 cabinets under the biosafety guideline at VRI.

Results: An alarming 93.33% of the tested isolates exhibited resistance to tetracycline, with MIC values equal to or exceeding the EUCAST-defined resistance threshold of >2 mg/L. MIC values ranged from 0.5-64 mg/L, with the most frequent MIC value being 8 mg/L, observed in 28.33% of isolates. Only two isolates (6.67%) were categorized as susceptible, with MIC values of 0.5 mg/L and 2 mg/L. This resistance rate represents the highest recorded in Sri Lanka to date, underscoring the severity of the resistance issue.

Conclusions: The findings highlight a concerning prevalence of tetracycline resistance in poultry-derived *C. jejuni* isolates, emphasizing the urgent need for mitigation strategies to preserve the efficacy of tetracycline and mitigate associated public health risks.

PP 58

Comparative evaluation of the performance of washed and unwashed human blood agar for isolating *Streptococcus pneumoniae* from respiratory tract specimens

Galagamage U¹, Weerasinghe MSA¹, Wickramaratne WLS¹, Chathuranga BAG¹, Senarathne TKRR¹, Vidanagama D²

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²The Department of Microbiology, Lady Ridgeway Hospital for Children, Sri Lanka.

Background: Pneumonia is the eighth leading cause of mortality in Sri Lanka, with *Streptococcus pneumoniae* identified as the predominant causative pathogen. The isolation rates of *S. pneumoniae* from respiratory specimens remain notably low when using conventional culture methods. In developing countries, this diagnostic limitation is attributed to the widespread practice of substituting human blood for the recommended sheep blood in culture media.

Objective: This study evaluated the efficacy of blood agar prepared with 3% and 5% human blood, in both washed and unwashed conditions, for *S. pneumoniae* isolation from respiratory specimens.

Methods: The study compared five blood agar formulations: conventional sheep and human blood agar in four variations (3% and 5% concentrations, both washed and unwashed). Leftover respiratory specimens from the Microbiology Laboratory at Lady Ridgeway Hospital for Children, Colombo 08, were inoculated onto each agar type over a consecutive period of three to four weeks and incubated overnight. The presence of *S. pneumoniae* was evaluated based on the observation of alpha-hemolysis and draughtsman colonies on blood agar, as well as Gram staining characteristics. Confirmation of *S. pneumoniae* was performed using the optochin sensitivity test. The isolation rates of *S. pneumoniae* were assessed from the number of isolates recovered from cultured specimens.

Results: *S. pneumoniae* was isolated in 9.33% (7/75) of respiratory specimens, with comparable recovery rates across all five agar types. Colony morphology, colony size, and optochin inhibition zones were consistent across media types. Notably, alpha haemolysis was more distinct on 3% human blood agar (both washed and unwashed) compared to 5% preparations.

Conclusions: Human blood agar demonstrates comparable efficacy to sheep blood agar for *S. pneumoniae* isolation. Among the tested formulations, 3% unwashed human blood agar emerges as an effective and practical alternative for sheep blood in routine diagnostic use.

PP 59

Study of white blood cell parameters among patients with primary erythrocytosis and or thrombocytosis in a tertiary care center in Sri Lanka

Hettige DHIU¹, Mohotti M², Abeywardana S², Silva EH¹

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka,

²National Hospital Galle, Sri Lanka.

Background: JAK2V617F mutation, a point mutation which occurs at 617th position of JAK Homology2 (JH2) domain of Janus Kinase2 (JAK2) gene with the substitution of valine by phenylalanine. This results in hyperactivity of erythropoietin, thrombopoietin and granulocyte colony-stimulating factor receptors promoting proliferation in myeloid lineage cells, increasing the myeloid cells count (red blood cells, platelets and granulocytes) in peripheral blood. Polycythemia Vera, Essential Thrombocythemia and Primary Myelofibrosis are the type of Myeloproliferative Neoplasms (MPNs) occurring due to JAK2 mutation.

Objective: To study WBC parameters among JAK2V617F positive and negative patients with primary erythrocytosis and or thrombocytosis in National Hospital, Galle (NHG).

Methods: A total of 35 patients with primary erythrocytosis and or non-reactive thrombocytosis screened according to an inclusion and exclusion criteria were included. After obtaining informed written consent, a conventional PCR on JAK2V617F mutation was performed on EDTA samples. WBC parameters obtained through Mindray BC-6800 were compared among JAK2V617F positive and negative patients. Independent sample t-test was performed using SPSS software (version-26).

Results: Six out of 35 samples were excluded due to the absence of bands related to JAK2V617F mutation on gel electrophoresis. Out of remaining 29 samples;15 samples were positive and 14 samples were negative for JAK2V617F mutation.

A statistically significant difference was observed between JAK2V617F positive and negative patients on WBC count ($p=0.023$), neutrophil count($p=0.003$) and basophil count ($p=0.022$).

The mean(SD) for JAK2V617F positive patients on WBC, neutrophil and basophil counts were; $16.02(5.14)\times 10^3/\mu\text{l}$, $11.50(4.13)\times 10^3/\mu\text{l}$, $0.16(0.15)\times 10^3/\mu\text{l}$, and negative patients were $8.03(3.72)\times 10^3/\mu\text{l}$, $4.12(1.50)\times 10^3/\mu\text{l}$, $0.08(0.06)\times 10^3/\mu\text{l}$, respectively.

Conclusions: JAK2V617F positive patients have a significantly higher mean value of WBC, neutrophil and basophil counts than the negative patients. This can be used as a screening procedure to narrow down the possible suspects of JAK2V617F mutation from patients with primary erythrocytosis and or non-reactive thrombocytosis before performing a confirmatory test. Further investigation with an increased sample size is recommended.

PP 60

Assessment of Antibiofilm efficacy of Rhamnolipid-Coated foley and silicone urinary catheters against *Proteus mirabilis* biofilm formation

Mohamad MI¹, Pananwala NP¹, Premakanthan B¹, Nissanka NMC², Dilhari KAA³, Weerasekera MM², Priyadarshana G⁴

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ⁴Department of Materials and Mechanical Technology, Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka.

Background: *Proteus mirabilis* is a key pathogen causing catheter-associated urinary tract infections (CAUTIs) due to its ability to form crystalline biofilms. Rhamnolipids, biosurfactants offer a promising approach to mitigate these biofilm-associated complications.

Objective: The study aimed to assess and compare the antibiofilm efficacy of rhamnolipid-coated Foley and silicone urinary catheters against *P. mirabilis* biofilm formation.

Methods: This was a laboratory-based experimental study. *Pseudomonas aeruginosa* ATCC 27853 was cultivated in a mineral salt medium, and the rhamnolipids produced were extracted using the solvent extraction method. Extracted rhamnolipids were purified by cold acetone and characterized using Fourier-transform infrared (FT-IR) spectroscopy. Sterile Foley and silicone catheters were coated with rhamnolipid suspensions 25, 50, 100, 200 mg/mL at 37°C for 24 hours, followed by drying at 40°C. FT-IR analysis was done to confirm rhamnolipid coating. Coated and uncoated catheters were incubated in 0.5 McFarland standard *P. mirabilis* (n=6) suspension in Tryptic soy broth (TSB) for 24 hours, then transferred to TSB for another 24 hours. After the second 24 hours incubation, biofilm reduction on rhamnolipid-coated Foley and silicone catheters were assessed using MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) and crystal violet (CV) assays.

Results: FT-IR spectra confirmed the successful coating of Foley and silicone catheters with rhamnolipid by comparing them to uncoated catheters and pure rhamnolipid. Characteristic peaks at 3364 cm⁻¹(O-H stretching), 2959 cm⁻¹(C-H stretching), 1633 cm⁻¹(C=O stretching), 1410 cm⁻¹(CH₂ bending), 921 cm⁻¹(C-H bonds), and others confirmed the presence of rhamnolipid coating. At the concentration of 200 mg/mL, MTT assay results showed ~40% biofilm reduction in most *P. mirabilis* strains (4/6;67%) on rhamnolipid-coated Foley catheters, while fewer strains (2/6;33%) exhibited 30-38% reduction on silicone catheters. CV assay revealed 34-48% biofilm reduction on Foley catheters versus 32-38% on silicone catheters.

Conclusions: Rhamnolipid-coated Foley catheters are more effective in reducing *P. mirabilis* biofilm formation than silicone catheters. These coatings hold promise for mitigating biofilm-related complications. Further studies are recommended to optimize coating formulations and explore their application in various catheter materials.

PP 61

Bacteriological profile of blood culture isolates at a children’s hospital in Sri Lanka

Somapala UPVS¹, Madhuwanthi WD², Senarathne TKR⁴, Rathnayake RGL³, Vidanagama D¹

¹Lady Ridgeway Hospital for Children, Colombo, Sri Lanka, ²Medical Research Institute, Sri Lanka, ³Department of Biochemistry, Faculty of Medicine, Uva Wellassa University of Sri Lanka, ⁴Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Bloodstream infections (BSIs) are a major concern among hospitalized children, particularly those with prematurity, critical illness, or immunodeficiencies. Identifying causative bacterial pathogens and their antibiotic susceptibility patterns is crucial for effective treatment and infection control.

Objective: To determine the bacteriological profile and antibiotic susceptibility patterns of blood culture isolates from children (≤ 14 years) admitted to Lady Ridgeway Hospital for Children (LRH), Colombo.

Methods: A descriptive cross-sectional study was conducted at the Microbiology Laboratory of LRH from February to September 2022. Over 5000 blood cultures were processed using an automated system and only positive cultures were studied further. Isolates were identified using standard biochemical tests. Antibiotic susceptibility was tested using the disk diffusion method according to CLSI guidelines. Data were analyzed using SPSS (version 21).

Results: Among 301 blood culture isolates, 21 (7%) were *Candida* spp., 173 (57.5%) were Gram-positive bacteria, and 107 (35.5%) were Gram-negative bacteria. Among Gram positives, the most common were Coagulase-negative Staphylococci (CNS) (59.5%, 103/173), followed by *Staphylococcus aureus* (20.8%, 36/173). Of *Staphylococcus aureus* isolates, 41.7% (15/36) were methicillin-resistant (MRSA). Of the six *Enterococcus* isolates, two were vancomycin-resistant. Among Gram-negative bacteria, Coliform spp. (44%, 47/107) were predominant. Of Coliform spp., 84.4% resistant to ampicillin, 56.5% were resistant to cefotaxime and 24% were resistant to meropenem. Among the 30 *Pseudomonas* isolates, amikacin resistance was seen in 46.4% and meropenem resistance was seen in 30%. *Acinetobacter* spp. exhibited 53.3% carbapenem resistance.

Conclusions: The study highlights significant antibiotic resistance among bloodstream pathogens in hospitalized children at LRH. Gram negatives were predominant pathogens. CNS indicated a possible skin contamination rate of 1.9% (103/5341). MRSA and carbapenem-resistant *Acinetobacter* spp. posed notable therapeutic challenges. High prevalence of 3rd generation cephalosporins resistance in coliforms and significant levels of carbapenem resistance among Coliforms and *Pseudomonas* species were the other concerns.

PP 62

Design and evaluation of novel primer sets for efficient detection of the angiogenic Vascular Endothelial Growth Factor-A gene (VEGF-A)

Thennakoon TMND¹, Kodikara PB¹, Tharshan S¹, Edirisinghe ST², Weerasekera M³, Yasawardene SG²
¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Vascular endothelial growth factor A (VEGF-A) in humans plays a significant role in the growth of blood vessels, such as wound healing and tumor angiogenesis. Therefore, VEGF-A is also used as a biomarker for certain cancers.

Objective: The focus of the present study is to design and evaluate novel primer sets that can accurately amplify a particular region of the VEGF-A gene by conventional polymerase chain reaction (PCR). Designing new primers essential to explore novel variants, isoforms or experimental conditions that have not been extensively studied yet.

Method: A total of 30 novel primer sets for the VEGF-A gene were designed using ‘Primer3’ web software version 4.1.0, and the specificity was checked using NCBI ‘Primer BLAST’. All primer sets were further considered for the melting temperature, GC% content, end stability, and the formation of self-dimers and hetero dimers using IDT Oligoanalyzer tool. Based on the results, 2 primer sets were selected for the conventional PCR. Using the phenol-chloroform extraction method DNA was extracted from 8 blood samples and subjected to conventional PCR with custom synthesized novel primer sets. Then the banding positions were visualized using agarose gel electrophoresis.

Results: The optimal PCR conditions for the primer set A2 (Forward 5'-GGCGTCGCACTGAACTTTT-3' and Reverse 5'-TCGGCGAGCTACTCTTGCT-3') was amplified under 94°C initial activation for 3min, 94°C denaturation for 30s, 63°C annealing for 30s, 72°C extension for 30s, and 72°C elongation for 10min. The amplicon size was observed as 312bp. A1 primer set exhibited non-specific amplification (Forward 5'-GGGCTCATGGACGGGTGA-3' and Reverse 5'-GTGGAGGTAGAGCAGCAAGG-3').

Conclusions: Designed novel primer set A2 amplified a particular region (from 5636 to 5947) in exon 1 of the VEGF-A gene, resulting in a 312bp product. It was found to be specific and could serve as a valuable tool for effectively detecting the VEGF-A gene.

PP 63

Prevalence and factors associated with anemia among children under five years of age in Base Hospital Polpithigama, Sri Lanka

Rathnayaka RMGI, Lakmali WACN, Wijerathna NN, Bandara PMEM, Upeksha SHD, Perera ACH
Faculty of Nursing, KIU, Sri Lanka.

Background: Anemia poses a significant risk to children's health by impairing immune function, cognitive development, and physical growth, increasing susceptibility to infections and infant mortality. Reports indicate that anemia is a serious public health concern affecting children in Sri Lanka.

Objective: This study focuses on assessing the prevalence of anemia and identifying associated factors among children under five years attending the Base Hospital Polpithigama, Kurunegala District, Sri Lanka.

Methods: A cross-sectional study was conducted using convenience sampling, involving parents and children under five years of age (n=316) who were admitted to the pediatric wards at Base Hospital Polpithigama. Baseline data were obtained through a pre-tested, interviewer-administered questionnaire, while objective data were extracted from Bed Head Tickets (BHTs). Statistical analyses were performed using SPSS software, incorporating descriptive statistics, correlation analysis, and chi-square tests.

Results: From the participants, 47.5% children were anemic, with 29.7% having mild anemia, 13.6% moderate anemia, and 4.2% severe anemia. Chi-square analysis revealed a statistically significant association between anemia and factors such as BMI (p=0.008), parental occupation (p=0.043), household income (p=0.006), and parental education (p=0.002). Specifically, anemia was more prevalent among children with lower BMI (r=-0.48, p=0.008), those whose parents had lower educational levels (r=-0.51, p=0.002), and those from lower-income households (r = -0.49, p=0.006). Correlation analysis showed a moderately positive relationship between hemoglobin levels and anemia (r=0.52, p<0.001). Social and cultural factors, such as parental awareness of anemia (r=-0.45, p=0.021), healthcare access (r=-0.41, p=0.034), and traditional dietary practices (r=-0.47, p=0.018), exhibited significant correlations with anemia. Dietary factors, including inadequate consumption of iron-rich foods (r=-0.50, p=0.009) and meal frequency (r=-0.46, p=0.015), were also significantly associated with anemia.

Conclusions: The study identified hemoglobin levels, BMI, parental occupation, household income, parental education, and social, cultural, and dietary factors as key contributors to anemia in children under five years. To reduce anemia prevalence, routine deworming for intestinal parasites, which was found to be inadequate among the study population, and continuous health education for parents on anemia prevention are essential.

PP 64

Nutritional analysis of Sri Lankan high-performance para-athletes

Batawala AV¹, Dahanayake UNJ², Ekanayake L², Chandrasekara A¹

¹Department of Nutrition Dietetics, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka,

²Institute of Sports Medicine, Colombo, Sri Lanka.

Background: Sri Lanka has paid relatively less attention to the nutritional status of "Para-Athletes," who have achieved remarkable success in recent years.

Objective: This research aims to analyze nutritional status of Sri Lankan high performance para-athletes.

Methods: Dietary, anthropometric, body composition and bio-chemical data were taken by 3-day dietary recalls, interview-based questionnaires and from pathology reports taken from professionals. Dietary data were analyzed using the software “FOODBASE2000”. Body fat analysis was done using 7 skinfold measurements with Jackson-Pollock equation and Siri equation.

Results: The mean BMI of the participants was 24.1 ± 6.5 kg/m² (n=23). The mean body fat percentage for males and females were $10.0\% \pm 3.3$ and $18.3\% \pm 7.9$ respectively, both falling below normal ranges. However, 60% of males and 33% of females showed normal body fat percentages. The mean daily energy intake was 2643.0 ± 857.5 kcal, with macronutrient contributions as follows: carbohydrates 414.6 ± 144.6 g ($59.9\% \pm 10.9$ of total energy), protein 94.4 ± 44.2 g ($13.9\% \pm 3.4$ of total energy), and fat 78.7 ± 45.6 g ($26\% \pm 8.7$ of total energy). Based on dietary recommendations, 52% of participants had an inadequate carbohydrate intake, while 8% consumed excessive amounts. 60% of participants had an inadequate protein intake, and 17% consumed excessive amounts. Regarding fat intake, 17% were inadequate, and 21% were excessive. Mean Calcium intake was 644.6 ± 250.9 mg/day, insufficient in 87% of participants while iron intake was 17.9 ± 7.2 mg/day insufficient in 43% participants. Considering biochemical analysis, Low serum Vitamin D was observed in 35% of participants (mean serum level of 40 ± 38 ng/mL).

Conclusions: The findings indicate that Sri Lankan high-performance para-athletes experience notable nutritional imbalances. There is a prevalent insufficiency in calcium and iron intake, suboptimal macronutrient distribution, and a significant occurrence of serum vitamin D deficiency.

PP 65

Formulation and quality evaluation of oats (*Avena sativa*) and coconut (*Cocos nucifera*) milk-based non-dairy yoghurt

Navayukan V, Dias PGI

Department of Food Science and Technology, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka.

Background: Plant-based dairy alternatives are increasingly popular due to their lactose-free nature, environmental friendliness, suitability for vegan lifestyles, and rich alternative protein content. However, these products remain limited in availability in the local market.

Objective: This study was aimed at the formulation and quality evaluation of oats (*Avena sativa*) and coconut (*Cocos nucifera*) milk-based yoghurt.

Methods: Oat and coconut yoghurt (OCOY) was formulated using the mixed culture of *Lactobacillus* spp., *Streptococcus* spp., and *Bifidobacterium lactis*. Yoghurts prepared from oats milk (OY) and cow milk (CY) were the control samples. Standard AOAC methods were used to analyse the proximate composition (crude fat, ash, moisture). Shelf stability was evaluated by measuring the peroxide value and microbial counts. Physiochemical (pH, total soluble solid (TSS), solid non-fat (SNF), color), and rheological (viscosity, texture profile) properties were measured using instrumental methods. Sensory evaluation on 30 untrained panellists was performed using a five-point hedonic scale.

Results: The optimal consistency for OCOY was achieved at a grounded oat-to-coconut milk ratio of 1.30:5.00. The crude fat content of OCOY (2.97 ± 0.35) was significantly lower ($P=0.00$) than conventional yoghurt (CY) (8.83 ± 0.40). The pH, TSS, and SNF values of OCOY met standard limits, with the highest overall sensory acceptability (4.67 ± 0.66) compared to OY. OCOY showed lower yellowness (b^* : 9.79 ± 1.35) and higher viscosity than CY, with stable oxidative and microbial properties after three weeks of storage. Its texture analysis indicated higher hardness, lower adhesiveness, and greater cohesiveness, all favorable for yoghurt.

Conclusions: OCOY is a suitable option for individuals with lactose intolerance, offering a texturally superior alternative to CY.

PP 66

Bacteria isolated from raw cow milk and their antibiotic susceptibility in Gampaha District, Sri Lanka

Rajapakshe RAKI¹, Saravananathan T¹, Bandara URPS¹, Dissanayake DMBT²

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Foodborne diseases and Antimicrobial Resistance (AMR) including Multi-Drug-Resistance (MDR) in foodborne pathogens is a growing public health threat, annually affecting 600 million worldwide.

Objective: This study aimed to assess the microbial quality of raw cow milk from Gampaha district, Sri Lanka, to identify clinically important bacteria in raw cow milk and to assess their antibiotic susceptibility patterns.

Methods: A descriptive cross sectional study was carried out from March-July 2024. A total of 46 fresh cow milk samples were collected systematically from 13 veterinary divisions in Gampaha district, proportionately to local cow populations. Samples were processed according to standard microbiological methods and bacteria were identified. Colony count was taken by the surface spread method. Antibiotic susceptibility was determined using disk diffusion method with 16 antibiotics from different antibiotic classes according to CLSI guidelines. MDR was defined as resistance to antibiotics of three or more different antibiotic classes.

Results: All the collected samples grew bacteria (100%) and 140 organisms were isolated. Four samples out of 46, exceeded standard bacterial limit (3×10^5 CFU/ml) and identified as unsatisfactory. The most prevalent organism identified was *Staphylococcus aureus* (28.57%, 40/140), followed by coagulase-negative *Staphylococcus* spp. (25.71%, 36/140), Gram-positive bacilli (25%, 35/140), coliforms (11.43%, 16/140), *Pseudomonas* spp. (6.43%, 9/140), and *Streptococcus* spp. (2.85%, 4/140). Twenty-five percent of *Staphylococcus aureus* strains (10/40) were methicillin-resistant (MRSA) and 41.66% (15/36) of coagulase-negative *Staphylococci* also were methicillin-resistant. Additionally, 5% (2/40) of *S. aureus* had inducible clindamycin resistance. Carbapenem resistance was found in 33.33% (3/9) of *Pseudomonas* isolates, and 50% (8/16) of coliform strains produced Extended-Spectrum β -Lactamases (ESBL). Among all 140 isolates, only one strain (0.714%) expressed MDR.

Conclusions: The presence of clinically important bacteria in considerable amounts in raw milk with high resistance rates for commonly used antibiotics poses a serious risk, as it can lead to human infections that are difficult to treat. Addressing this multifaceted issue necessitates the adoption of ‘One Health’ approach, which includes human, animal and environment health systems.

PP 67

Prevalence of different types of anaemia among patients with type 2 diabetes mellitus attending National Hospital, Galle

Adikaram DMSE¹, Dharmabandu S², Silva EH¹

¹Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, ²The German- Sri Lanka Friendship Hospital for Women, Galle, Sri Lanka.

Background: Anaemia is a significant public health challenge among individuals with type 2 diabetes mellitus (DM), with these patients being 2-3 times more likely to develop anaemia than non-diabetic individuals. The morphological types of anaemia include normocytic normochromic, microcytic hypochromic, and macrocytic anaemia, and the clinical types of anaemia are mild, moderate and severe anaemia. The presence of anaemia is an additional burden to the micro and macro vascular complications of diabetic patients, emphasizing the need for early diagnosis, classification, and management of types of anaemia among patients with type 2 DM to improve patient outcomes.

Objective: This study investigates the prevalence of different morphological and clinical types of anaemia among type 2 DM patients attending National Hospital, Galle.

Methods: A cross-sectional, laboratory-based study was conducted on 198 anaemic type 2 DM patients attending National Hospital, Galle, aged 18 years and older. Anaemic patients were identified based on haemoglobin levels (<12 g/dL for females and <13 g/dL for males) from full blood count reports. Their retained EDTA blood samples were used to prepare thin blood smears, which were stained with Leishman’s stain. Then, they were examined microscopically under the supervision of two supervisors. Anaemic patients were categorized into morphological and clinical types. Their sociodemographic and haematological data were collected.

Results: The findings revealed that normocytic normochromic anaemia (86.36%) was the most common morphological type, followed by microcytic hypochromic (10.10%) and macrocytic anaemia (3.54%). Clinically, 51.01% of patients had mild anaemia, 48.48% had moderate anaemia, and 0.51% had severe anaemia. According to the study, females (62.63%) were more prone to anaemia-DM condition, and this anaemia-DM condition was more prevalent among patients aged 51–60 years (35.4%), with the majority (32.83%) having lived with diabetes for 6–10 years.

Conclusions: According to the study, normocytic normochromic and mild anaemia are more prevalent among type 2 DM patients attending National Hospital, Galle.

PP 68

A study of correlation between body mass index and serum lipid profile in iron deficiency anaemic females – A pilot study

Vihangika KS¹, Rathwita IMRDK¹, Gunasekara GWHK¹, Withanage ND¹, Moonesinghe C², Dias P³

¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Pathology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka,

³Department of Statistics, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.

Background: Iron deficiency anaemia (IDA) is a global nutritional deficiency, while dyslipidemia threatens cardiovascular health. Obesity/overweight increases the risk of comorbidities, including IDA. The main mechanism that links obesity and IDA is the low-grade systemic inflammation associated with increased body mass index (BMI). Although, BMI and dyslipidemia correlations with IDA are reported, data is lacking in Sri Lanka, where both conditions are major concerns.

Objective: To investigate the correlation between BMI and serum lipid profile parameters in iron deficiency anaemic females.

Methods: A case-control study of 48 females (24 IDA, 24 healthy controls) conducted and lipid profiles and serum iron analyzed using automated biochemistry analyzers. Subjects were categorized according to WHO BMI cut off values for Asians: underweight, normal and overweight. Obese subjects were excluded. IDA was confirmed based on haemoglobin, serum iron, and blood picture analysis by a consultant haematologist. Statistical analysis was conducted using SPSS software, employing descriptive statistics and correlation analysis.

Results: The majority of cases were overweight (62.5%) while controls were normal and overweight in equal percentages (45.83%). There was no significant difference between median haemoglobin, serum iron and lipid parameters across BMI categories in both groups. Cases had altered lipid parameters with the majority of deviations observed in overweight cases having more than one parameter being altered within an individual (Increased: TG; n=4; TC; n=7; LDL; n=12; HDL; n=5). Controls did not show dyslipidaemia. There was a significant moderate positive correlation between serum iron and TG in the overweight cases ($p=0.011$, $r=0.635$), and serum iron and TC ($p=0.022$, $r=0.679$) in overweight controls.

Conclusions: The predominant pattern of overweight-related IDA risk suggests obesity disrupts iron homeostasis. Overweight IDA subjects also exhibited greater dyslipidemia than controls. Positive correlations between serum iron and lipid parameters (TG, TC) in overweight individuals highlight the need for further studies in Sri Lanka on iron homeostasis, dyslipidemia, and overweight.

Oral Presentations

International Research Conference in Health Sciences 2025 (IRCHS 2025)		
SN	OP ID	Title
<i>Session I - Nursing Management and Health Promotion</i>		
1.	OP 2	<p>Experiences of using external breast prosthesis after mastectomy among middle-aged women at Jayam Wijayarathnam Cancer Care Center, Ragama <u>Ranasinghe UCD</u>¹, Hettiarachchi MHDAC¹, Shyamika AAY¹, Perera RKDW¹, Senanayake KIDF², Munidasa KGPK¹ ¹Department of Nursing, Faculty of Health Sciences, The Open University of Sri Lanka, ²The Library, Faculty of Nursing, University of Colombo, Sri Lanka.</p>
2.	OP 3	<p>The level and determinants of family caregivers' strain in providing palliative care at a selected hospital in Sri Lanka <u>Nandima AGCD</u>¹, Gayani MM¹, Ruchirani RMA¹, Lakshika A¹, Maduwanthi WP¹, Upeksha SHD¹, Meegoda MKDL² ¹Faculty of Nursing, KIU, Sri Lanka, ²Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
3.	OP 4	<p>Incidence of central line associated bloodstream infections and their association with central line care practices among adult ICU patients in tertiary care hospitals of Kandy District, Sri Lanka <u>Yapa YAHSM</u>¹, Samarasinghe S² ¹Department of Nursing, Faculty of Allied Health Science, University of Peradeniya, Sri Lanka, ²Department of Anesthesiology and Critical Care, Faculty of Medicine, University of Peradeniya, Sri Lanka.</p>
4.	OP 5	<p>Nurses' awareness on infection control measures in a selected hospital, Sri Lanka Karunarathne UU¹, Dissanayake BHCU¹, Dilhara KARR¹, Perera ASC¹, <u>Mali KD</u>¹, Abeyrathna WMDN¹, Amarasekara AATD² ¹Faculty of Nursing, KIU, Sri Lanka, ²Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
5.	OP 6	<p>Perception of fathers towards the paternal role and involvement during the postpartum period: An exploratory descriptive qualitative study <u>Swarnahansi MSSMM</u>¹, Weerasingha BRGTK¹ ¹Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.</p>

6.	OP 7	<p>Usage of online resources and social media for acquisition of maternity information and emotional support among pregnant mothers in De Soysa maternity hospital, Sri Lanka</p> <p><u>Priyadarshani DGL</u>¹, Wijayasundara WMSK²</p> <p>¹Faculty of Technology and Applied Sciences, Open University Malaysia, ²College of Nursing, Anuradhapura, Sri Lanka.</p>
7.	OP 8	<p>Perceived facilitators towards the implementation of simulation-based learning among nursing educators in state universities in Sri Lanka</p> <p>Gamage PMW^{1,2}, Perera KSI¹, Sanjeewani WU¹, Jayarathna GHE¹, Madhushani JVPA¹, Vithusha U¹, Atputharajah A¹, Sujana MF¹, Priyadarshani UGN¹, Nisansala MWN¹</p> <p>¹Faculty of Nursing, University of Colombo, Sri Lanka, Faculty of Graduate Studies, KIU, Sri Lanka.</p>
Session II - Current Trends in Laboratory Diagnostics		
8.	OP 9	<p>Evaluation of elemental composition in <i>Proteus mirabilis</i> crystalline biofilms: An <i>in-vitro</i> bladder model study</p> <p><u>Nissanka NMC</u>¹, Dilhari KAA.², Priyadarshana G³, Munaweera I⁴, Weerasekera MM¹</p> <p>¹Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka,</p> <p>³Department of Materials and Mechanical Technology, Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka, ⁴Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
9.	OP 10	<p>Development of an efficient and cost-effective Nile-Red staining technique for assessing microplastic contamination in Sri Lankan liquid milk products</p> <p><u>Perera HSD</u>¹, Wickramasinghe I¹, Mahatantila K², De Zoysa HPE²</p> <p>¹Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Industrial Technology Institute, Baudhdhaloka Mawatha, Colombo 07, Sri Lanka.</p>
10.	OP 11	<p>An accurate AI Dermatoscope for skin cancer identification</p> <p><u>Wijesundara WMDDB</u>¹, Wannige CT¹, Achala Liyanage², Madushika MKS³</p> <p>¹Department of Computer Science, Faculty of Science, University of Ruhuna, Sri Lanka, ²Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka, ³National Heavy Vehicle Regulator (NHVR) Company, Australia.</p>

11.	OP 12	<p>Evaluating the potential toxicity of three selected herbal-based skin whitening creams available in the Sri Lankan market using Zebrafish embryo model</p> <p><u>Ibtesam H</u>¹, Kalpana GLC¹, Musrifa MKF¹, Karunarathna KAAU³, Ratnayake WMKM⁴, Suresh TS^{2,5}</p> <p>¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Biochemistry and Animal House, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ⁴Department of Cosmetic Sciences, Faculty of Health Sciences, CINEC Campus, Sri Lanka, ⁵Centre for Plant Material and Herbal Product Research, University of Sri Jayewardenepura, Sri Lanka.</p>
12.	OP 13	<p>Comparison of maternal and umbilical cord blood vitamin D levels among a selected population of pregnant mothers with gestational diabetes mellitus attending a main government sector teaching hospital in Colombo, Sri Lanka</p> <p><u>Wimalajeewa TMDYD</u>¹, Hettiaratchi UPK², Amarasekara AATD³, Prathapan S⁴, Jayawardane MAMM¹</p> <p>¹Department of Obstetrics and Gynaecology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ⁴Department of Community Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
13.	OP 14	<p>Influence of body mass index on proteinuria progression in diabetic patients: A retrospective analysis</p> <p><u>Madhurahini R</u>¹, Kavindi DMM², Sandeepa KHME², Rodrigo WSY², Arasaratnam V¹</p> <p>¹Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka, ²Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.</p>
Session III - Research in Natural Products and Drug Discovery – I		
14.	OP 25	<p>Application of <i>Lactobacillus plantarum</i> in fermentation of <i>Pouteria campechiana</i> (Canistel, Sinhala: Ratalawulu) and investigation of its effect on nutritional quality</p> <p><u>Isurandi GAPC</u>, Amarakoon R</p> <p>Department of Microbiology, University of Kelaniya, Sri Lanka.</p>
15.	OP 26	<p>The effect of dietary nitrate supplementation from beetroot juice on blood pressure regulation in hypertensive individuals: A single-blind comparative intervention study</p> <p><u>Dilaxshana N</u>, Balasuriya DK, Chandrasekara A.</p> <p>Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries, and Nutrition, Wayamba University of Sri Lanka.</p>

16.	OP 27	<p>Exploring the ergogenic potential of dietary nitrate supplementation: The impact of beetroot juice on athletic performance and endurance <u>Balasuriya DK</u>, Dilaxshana N, Chandrasekara A <i>Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka.</i></p>
17.	OP 30	<p>Development of natural tablet binder from the crude gum of plant <i>Macaranga peltata</i> <u>Balasoorya BARD</u>¹, Tennakoon TMSA¹, Salinda HGH¹, Viruni LR¹, Sabalingam S², Gunawardana SLA¹ ¹<i>Department of Pharmacy and Pharmaceutical sciences, Faculty of Health Sciences, CINEC Campus, Malabe, Sri Lanka.</i>, ²<i>Department of Pharmacy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defense University, Sri Lanka.</i></p>
18.	OP 31	<p>Chocolate-flavored soy milk powder: Adapting spray drying for enhanced quality <u>Piyasinghe RBTM</u>¹, Fernando HRP², Bawatharani R³ ^{1,3}<i>Dept. of Agric. Engineering, Faculty of Agriculture, Eastern University of Sri Lanka</i>, ²<i>Food Research Unit, Gannoruwa, Peradeniya, Sri Lanka.</i></p>
Session IV - Medication Safety and Public Health		
19.	OP 15	<p>Assessment of adherence to methotrexate and folic acid in Rheumatoid arthritis patients: A cross-sectional study <u>Kamshana K</u>¹, Yadhury S¹, Diluxcy R¹, Kalki P¹, Narani A² ¹<i>Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka</i>, ²<i>Rheumatology and Rehabilitation Center, Teaching Hospital Jaffna, Sri Lanka.</i></p>
20.	OP 16	<p>Adherence to tacrolimus and its influencing factors in renal disease patients: A cross-sectional study <u>Yasothe G</u>¹, Abinaya S¹, Sivatharan S¹, Thuvaragan S¹, Brammah RT² ¹<i>Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka</i>, ²<i>University Medical Unit, Faculty of Medicine, University of Jaffna, Sri Lanka.</i></p>
21.	OP 17	<p>Identifying medication-related problems in a selected Base hospital in North Central Province, Sri Lanka: A descriptive cross-sectional study <u>Sirilal WARR</u>^{1,2}, <u>Jayasiri LLKS</u>¹, Wickramasinghe NDD¹ ¹<i>Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka</i>, ²<i>Primary Medical Care Unit, Aselapura, Sri Lanka.</i></p>
22.	OP 18	<p>Patterns and prevalence of off-label use of psychotropic medicines for children and adolescents attending psychiatric clinics at National Hospital Galle <u>Srimalie MGA</u>¹, <u>Abeykoon AMAU</u>², Buddhika RBJ² ¹<i>National Hospital Galle, Galle, Sri Lanka</i>, ²<i>Department of Pharmacy, Faculty of Health Science, The Open University of Sri Lanka.</i></p>

23.	OP 19	<p>Knowledge, attitudes, and practices on antiretroviral therapy (ART), among HIV patients attending the sexually transmitted disease (STD) clinics in Kalutara District</p> <p><u>Ekanayaka BS</u>^{1,2}, Fernando WTS², Buddhika RB²</p> <p>¹Sexual Transmitted Disease clinic Kalutara, Nagoda, Sri Lanka, ²Department of Pharmacy, Faculty of Health Science, The Open University of Sri Lanka.</p>
24.	OP 20	<p>A prototype of an intra uterine device (IUD) for trouble making monkeys</p> <p><u>Abeyratne KMGWCPB</u>¹, Devasurendra P², Perera PPTL¹, Bandaranayake HEMK¹, Akalanka M², de Silva³ MP, Nawaz J³, Gamage BGSS¹, Dangolla A¹, Ranawana KB⁴</p> <p>¹Department of Veterinary Clinical Science, University of Peradeniya, Sri Lanka, ²Department of Wildlife Conservation, Sri Lanka, ³Teaching Hospital, Peradeniya, Sri Lanka, ⁴Department of Zoology, University of Peradeniya, Sri Lanka.</p>
25.	OP 21	<p>AI-powered digital nutrition tool: Developing a calorie counting and diet planning platform for professional use</p> <p><u>Bandara RMNA</u>¹, Mauran M², Thevarajah K¹, Adikari AMNT¹, Chandrasekara A¹</p> <p>¹Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries and Nutrition, ²Wayamba University of Sri Lanka, Sri Lanka, MSA Shipping PVT LTD, Colombo 14, Sri Lanka.</p>
Session V - Research in Natural Products and Drug Discovery - II		
26.	OP 22	<p><i>In silico</i> drug repurposing of small molecule inhibitors to impede viral replication of Kaposi’s sarcoma- associated herpes virus</p> <p><u>Udeshika KVH</u>¹, Peiris LDC¹, Senapathi T²</p> <p>¹Department of Zoology, Faculty of Applied, University of Sri Jayewardenepura, Sri Lanka, ²Department of Chemistry, Faculty of Applied, University of Sri Jayewardenepura, Sri Lanka.</p>
27.	OP 23	<p>Synthesis, <i>in vitro</i> α-glucosidase inhibition potency, enzyme kinetics, and <i>in silico</i> studies of 2-phenyl-3H-quinazoline-4-one derivatives as potential anti-diabetic agents</p> <p><u>Pathirana KPSS</u>, Dissanayake DMWS, Gunaratna MJ</p> <p>Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka.</p>
28.	OP 24	<p><i>In-vitro</i> anti-urolithiatic activity of sequential Soxhlet extracts of <i>Garcinia quaesita</i> Pierre (Rath goraka) seeds and isolated compounds</p> <p><u>Gammanpila GIDHS</u>, Gunaratna MJ</p> <p>Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka.</p>

29.	OP 28	Biological activities of selected plant-based natural resins in Sri Lanka <u>Gangodawila GKNP</u> ¹ , Nadeshkumar A ¹ , Herath HMD ¹ , Jayasuriya WJABN ¹ , Dissanayake RK ² ¹ Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ² Department of Chemistry, University of Prince Edward Island, Canada.
30.	OP 29	Evaluation of anti-oxidant and anti-inflammatory activity in seed extracts of <i>Elettaria cardamomum</i> (L) Maton <u>Lekamge LNL</u> ¹ , Jayasuriya WJABN ¹ , Hapuarachchi SD ² , Herath HMDR ¹ ¹ Department of Pharmacy and Pharmaceutical Sciences, University of Sri Jayewardenepura, Sri Lanka, ² Department of Ayurveda Pharmacology and Pharmaceutics, Faculty of Indigenous Medicine, University of Colombo, Sri Lanka.

Poster Presentations

International Research Conference in Health Sciences 2025 (IRCHS 2025)

Serial Number	PP ID	Title
Track I - Research in Natural Products		
1.	PP 1	Formulation of a novel bulk-forming laxative using papaya seed powder, psyllium husk and coconut powder Wijesinghe AHMS, Hettiarachchi HACO <i>Department of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka.</i>
2.	PP 3	Morphological and thermal insights into green-synthesized hydroxyapatite nanoparticles using cow dung Razak M ^{1,2} ; Gamagedara TP ^{2,3} <i>¹Cardiff Metropolitan University, Cardiff, Wales, UK, ²Department of Basic Science, Faculty of Allied Health Sciences, University of Peradeniya, Peradeniya, Sri Lanka, ³Post Graduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka.</i>
3.	PP 5	Formulation and evaluation of antifungal gel for tinea corporis by using <i>Achyranthes aspera</i> leaves extract Christina T ¹ , Lukirtha S ¹ , Tharshika K ¹ , Sivasinthujah S ¹ , Gnanakarunyan TJ ² <i>¹Department of Pharmacy, University of Jaffna, Sri Lanka, ²Department of Medical Laboratory Sciences, University of Jaffna, Sri Lanka.</i>
4.	PP 6	Antiobesity and antioxidant potential of selected green seaweeds found in coastal areas of Sri Lanka Abeysinghe AMAN, Amarasinghe NR <i>Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka</i>
5.	PP 7	Green synthesis and characterization of nano-hydroxyapatite-based toothpaste Gamagedara TP ¹ , Kavindi HAA ² <i>¹Department of Basic Sciences, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, ²Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.</i>
6.	PP 8	Enhanced thermal stability of hydroxyapatite nanoparticles via poly (acrylic acid) integration: Structural and characterization study. Pathirana KPDDK ^{1,2} , Gamagedara TP ^{2,3} <i>¹Cardiff Metropolitan University, Cardiff, Wales, UK, ²Department of Basic Science, Faculty of Allied Health Sciences, University of Peradeniya, Peradeniya, Sri Lanka, ³Post Graduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka.</i>

7.	PP 9	<p>Harnessing the therapeutic and sustainable potential of Sri Lankan clay: A scientific approach to fashion and lifestyle innovations for consumer well-being and environmental resilience</p> <p><u>SmarasinghaWR</u>CI, WasalaKVKD <i>Department of Integrated Design, Faculty of Architecture, University of Moratuwa, Sri Lanka.</i></p>
Track II - Medication safety and Public Health		
8.	PP 10	<p>Perceived barriers towards medication administration error reporting and their associated factors among nursing officers at Base Hospital Homagama, Sri Lanka</p> <p><u>Dinuwanthi ANN</u>, Nasmil UHM, Jayathilake MRS <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i></p>
9.	PP 11	<p>A comparative study of three regional pharmacovigilance centers in South Korea</p> <p><u>Fernando MGKM</u>¹, Seo Yeon Jin¹, Samaranyake NR², Ji Hyun Park¹ ¹College of Pharmacy, Duksung Women’s University, South Korea, ²Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
10.	PP 12	<p>Assessing patient education, awareness and monitoring practices for adverse effects of long-term oral corticosteroid (LTOC) therapy in tertiary care settings in the Kandy District: A cross-sectional study</p> <p><u>Anton NS</u>, Perera PN <i>Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.</i></p>
11.	PP 13	<p>Evaluation of calcium, magnesium and pH levels of the water consumed by renal stone patients selected from Teaching Hospital, Jaffna, Sri Lanka</p> <p><u>Viveka M</u>¹, Muthuhari KADS², Sandamini MADB², Balagobi B³, Arasaratnam V¹ ¹Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka, ²Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, ³ Department of Surgery, Faculty of Medicine, University of Jaffna, Sri Lanka.</p>
12.	PP 14	<p>Knowledge, attitudes, and practices on the use of insulin among patients attending the diabetes clinic of Police Hospital Colombo</p> <p><u>Ujithasiri KPT</u>^{1,2}, Chathumali VGI², Buddhika RBJ² ¹Police Hospital, Colombo, Sri Lanka, ²Department of Pharmacy, Faculty of Health Sciences, The Open University of Sri Lanka, Sri Lanka.</p>
13.	PP 15	<p>Reliability and psychometric validation of a medication adherence tool for English or Sinhala speaking populations – An interim analysis</p> <p>Wijesinghe DS, Senadheera GPSG, Samaranyake NR <i>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i></p>

14.	PP 16	<p>Bacteriological and physical quality of drinking well water in a selected Grama-Niladhari division in the Boralesgamuwa Medical Officer of Health (MOH) area</p> <p>Welikala SK, <u>Wickramasinghe WMHR</u>, Wijesinghe LATM, Chathuranga BAG <i>Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i></p>
15.	PP 17	<p>Knowledge, practice, and associated factors related to self-injecting insulin among patients with diabetes attending the diabetic clinic at the National Hospital of Sri Lanka</p> <p>Walakadawaththa WLJM, Udayangani HMDT, Wijesinghe TTR, De Silva NDC, Wickramasinghe AUS, Nimesha P, Sandakumari HHHS <i>Faculty of Nursing, KIU, Sri Lanka.</i></p>
16.	PP 18	<p>Diabetic-related health literacy and its associated factors among patients with type 2 diabetes mellitus attending the diabetes clinic at a selected hospital in Colombo, Sri Lanka</p> <p><u>Rathnayake WRAN</u>¹, <u>Wijenayake KTP</u>¹, <u>Perera KDRP</u>¹, <u>Seneviratne AK.DMN</u>¹, <u>Saparamadu SHPBN</u>¹, <u>Rathnayake NRRS</u>¹, <u>Kariyawasam KHAY</u>¹, <u>Amarasekara AATD</u>² ¹ <i>Faculty of Nursing, KIU, Sri Lanka,</i> ² <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i></p>
17.	PP 19	<p>Quality of life among caregivers of patients with schizophrenia in National Institute of Mental Health (NIMH), Sri Lanka</p> <p><u>Hameed A</u>, <u>Meegoda MKDL</u> <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i></p>
18.	PP 21	<p>Baseline anthropometric and clinical characteristics among participants of a non-communicable disease (NCD) screening program</p> <p><u>Abeyrathna PTM</u> , <u>Gayanjalee DA</u>, <u>Dharmapala WDSK</u>, <u>Keragala KAR</u>, and <u>Chandrasekara A</u> <i>Department of Nutrition and Dietetics, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka.</i></p>
Track III- Nursing Management and Health Promotion		
19.	PP 2	<p>The level of knowledge on epilepsy management and its associated factors of final year student nurses under the Ministry of Health and in Western Province, Sri Lanka</p> <p><u>Balasooriya BPGHD</u>, <u>Gunasekare MKCP</u>, <u>Jayawikrama LKRN</u>, <u>Rajawardhana RWMRV</u>, <u>Sankha NDKRS</u>, <u>Sumanarathna KMDTP</u>, <u>Wannakuarachchi SI</u>, <u>Senarathne HS</u>, <u>Asurakkody TA</u> <i>Faculty of Nursing, University of Colombo, Sri Lanka</i></p>

20.	PP 23	Assessment of job satisfaction and associated factors among nursing officers who are working at a selected hospital in Northern province, Sri Lanka <u>Kodithuwakku NBE</u> , Ariyaratna AGTS, Kavindya HLJ, Jayashanki TRN, Imalka WH, Upeksha SHD, Perera ACH <i>Faculty of Nursing, KIU, Sri Lanka.</i>
21.	PP 24	Depression, cognitive impairment, and disability among older adults with chronic illnesses in Batticaloa: A cross-sectional study Viranga JK, Erandi SMI, Silva KHSD, Preethimali WMA, Samarakoon HMKS, <u>Rathnakumari KN</u> , Sandakumari HS <i>Faculty of Nursing, KIU, Sri Lanka.</i>
22.	PP 25	Relationship between self-efficacy and self-management of diabetes among rural Sri Lankan adults with type 2 diabetes mellitus <u>Premadasa SS</u> ¹ , Masingboon K ¹ , Samartkit N ¹ , Amarasekara AATD ² ¹ <i>Faculty of Nursing, Burapha University, Chon Buri, Thailand,</i> ² <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
23.	PP 26	Knowledge and practices towards adult anaphylaxis management and its associated factors among nursing officers in Kegalle District General Hospital, Sri Lanka <u>Gamlath OPMWGMNA</u> , Nasmil UHM, Damayanthi LC <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
24.	PP 27	Lifestyle practices among patients with non-communicable diseases attending non-communicable disease clinic at Teaching Hospital Karapitaya, Sri Lanka Sajeewani MGG, Silva AII, Iroshini KPT, Udayangani HTN, Priyangika AGH, Amalka UA, <u>Edirisuriya MD</u> , Senarath NSASN <i>Faculty of Nursing, KIU, Sri Lanka.</i>
25.	PP 28	Development, translation and validation (face and content) of medication adherence tool for English or Sinhala speaking populations <u>Wijesinghe DS</u> , Senadheera GPSG, Samaranyake NR <i>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
26.	PP 29	Awareness of anti-cancer chemotherapy administration and causes of medication administration errors among nurses treating patients with cancer: A Cross-sectional survey at the National Cancer Institute (NCI), Sri Lanka

		<u>Bathila RKKAW</u> , Premathilaka HPW ,Ravihari GDS ,Kumari GKS ,Gunasena KAMT, Edirisuriya MD , Senerath NSASN <i>Faculty of Nursing, KIU, Sri Lanka.</i>
27.	PP 30	Quality of life and its associated factors among nursing officers working in Colombo South Teaching Hospital <u>Abesundara MBNS</u> , Damayanthi LC <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
28.	PP 31	Knowledge, attitude, practice and associated factors toward older adults among nurses in a selected hospital in Sri Lanka Ekanayake WPNC ¹ , Damayanthi MDP ¹ , Madhushika SAR ¹ , Priyadarshani VA ¹ , Priyadarshani KGTC ¹ , Thilakarathna HMCRK ¹ , Amarasekara AATD ² ¹ <i>Faculty of Nursing, KIU, Sri Lanka, </i> ² <i>Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
29.	PP 33	Psychometric properties and criterion validation of medication literacy tool (MedLit-Q) for Sri Lanka <u>Wijesinghe DS</u> , KN Nimeshi, Shanika LGT, Senadheera GPSG, Samaranyake NR, <i>Department of Pharmacy and Pharmaceutical Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
30.	PP 34	Soleus muscle activation and its role in improving insulin sensitivity: Investigating the impact of soleus push-ups on glycemic control in sedentary individuals <u>Shehani HWTS</u> , Chandrasekara A <i>Department of Nutrition and Dietetics, Faculty of Livestock Fisheries and Nutrition, Wayamba University of Sri Lanka, Sri Lanka.</i>
31.	PP 35	Occupational stress and quality of life among nurses at a selected hospital in Kalutara District, Sri Lanka Fernando BHKM, Abeysinghe RMRP, Sanjeevani AM, Bandumani RA, <u>Sandeepanee DPK</u> , Abeyrathna WMDN, Jayamaha AR <i>Faculty of Nursing, KIU, Sri Lanka.</i>
Track IV - Reproductive, Maternal and Child Health		
32.	PP 22	The association between excessive usage of digital screens and behavioural changes in preschool children in three selected divisional secretariat areas in Sri Lanka <u>Sewwandi GVHH</u> ¹ , Menike WARP ² ¹ <i>Department of Medicine, Faculty of Medicine, Rajarata University of Sri Lanka, </i> ² <i>Department of Fundamentals Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.</i>

33.	PP 36	Knowledge, attitudes and its associated factors regarding pediatric pain management among nursing officers in selected hospitals in Galle district, Sri Lanka Wimalasekara KDAK, Priyangika D, Shirani KW, <u>Nawarathna GMJM</u> , Fernando SLS, Karunarathna TPNP, Sandakumari HS <i>Faculty of Nursing, KIU, Sri Lanka.</i>
34.	PP 40	Knowledge and practice regarding complementary feeding among mothers of children aged 6-24 months in Bope- Poddala MOH area, Galle District, Sri Lanka Maduwanthi WPS, Sarangi EMN, Jayathilake MRS <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
35.	PP 41	Knowledge, attitudes and practice regarding breast cancer and its screening methods among women attending outpatient clinics in a selected Hospital in the Southern Province of Sri Lanka <u>Samankumari KGG</u> , Jayathilake MRS <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
36.	PP 42	Assessment of knowledge and perceptions on sexually transmitted infections among undergraduates of the Faculty of Allied Health Sciences, University of Peradeniya <u>Kumari MAMK</u> ¹ , Chandrasiri ILU ² <i>¹Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, ²Department of Radiography / Radiotherapy, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka.</i>
37.	PP 43	Maternal satisfaction on labor and delivery services among postnatal women at Teaching Hospital Rathnapura in Sri Lanka <u>Amarasekara S</u> ¹ , Nadeesha ALAS ¹ , Nishanthi WANA ¹ , Dissanayake TAMS ¹ , Gunawardana GJJ ¹ , Maduwanthi RM ¹ , Amarasekara AATD ² <i>¹Faculty of Nursing, KIU, Sri Lanka, ²Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i>
Track V - Education and Use of Technology in Health and Health Sciences		
38.	PP 37	eHealth literacy and its associated factors among selected peri-urban diabetic population in Colombo district, Sri Lanka <u>Karunasinghe SPGDH</u> ¹ , Nimasha MC ¹ , Wanigasundara WASD ¹ , Gobika S ¹ , Attanayaka AMSN ¹ , Sajinth P ¹ , Abeywickrama MS ¹ , Siribaddhana N ¹ , Nisansala MWN ² <i>¹Faculty of Nursing, University of Colombo, Sri Lanka, ²Department of Fundamentals of Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.</i>

39.	PP 38	<p>Perception, practices and barriers regarding delivering health education among nurses in Central Province, Sri Lanka</p> <p>Rathnayke ARMAU, Bandara OT, Mudaligae U <i>Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, Faculty of Nursing, University of Colombo, Sri Lanka.</i></p>
40.	PP 39	<p>Attitudes on the use of electronic health records (EHRs) and associated factors among nursing officers at the National Cancer Institute, Sri Lanka</p> <p><u>Nirmal BADB</u>, Ganegoda GWUD, Abeyratne RMTB <i>Department of Nursing and Midwifery, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i></p>
41.	PP 45	<p>Assessment of knowledge, practices, and associated factors influencing readiness for mentoring among nurses at a selected hospital, Sri Lanka</p> <p>Hasanthika WAA¹, Gunawardena JGMK¹, Udayani DBMI¹, <u>Sirikumbura PADT¹</u>, Wimalasena WNS¹, Hansini KHC², Madhuwanthi RM¹ ¹<i>Faculty of Nursing, KIU, Sri Lanka, ²Asiri Academy of Health Sciences, Sri Lanka.</i></p>
42.	PP 46	<p>Cyberchondria and sleep quality among undergraduates at a selected private university, in Sri Lanka</p> <p><u>De Silva AVD</u>, Karunaratna MNC, Dhanawantha MAJC, Sherami HG, Perera KPH, Upeksha SHD, Perera ACH <i>Faculty of Nursing, KIU, Sri Lanka.</i></p>
43.	PP 47	<p>e- Health literacy and associated factors among student nurses in a selected nurses training school in Sri Lanka</p> <p><u>Maduwanthi ULS¹</u>, Walisundara WMKS¹, Wijesooriya KDUM¹, Thennakoon RGAIB¹, Upalirathna MGLD¹, Thilakarathna HMCRK¹, Amarasekara AATD² ¹<i>Faculty of Nursing, KIU, Sri Lanka, ²Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</i></p>
44.	PP 48	<p>Evaluating final-year nursing students' attitudes on AI integration in higher education: A study in the Western Province, Sri Lanka</p> <p><u>Ratnayake SMS¹</u> <u>Asurakkody TA²</u> ¹<i>Department of Health Science, NSBM Green University, ²Department of Fundamentals of Nursing, Faculty of Nursing, University of Colombo, Sri Lanka.</i></p>

Track VI - Current trends in laboratory diagnostics		
45.	PP 49	<p>An effective plant cell digestion technique for microplastic analysis in plant-based foods Pubudu Nirmani EPM¹, Wickramasinghe I¹, Mahatantila K², De Zoysa HPE² ¹Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Industrial Technology Institute, Bauddhaloka Mawatha, Colombo 7, Sri Lanka.</p>
46.	PP 50	<p>The association between visceral adiposity index (VAI) and glycemic control: A cross-sectional study among women with Diabetes Mellitus at a tertiary care hospital in Sri Lanka. Gunawardana STD¹, Ranasinghe MKG¹, Gamage MGTS¹, Wijesekara GUS¹, Jinasena TMRR² ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka. ²Department of Biochemistry, Colombo South Teaching Hospital, Sri Lanka.</p>
47.	PP 51	<p>Comparative evaluation of beetroot extract as an alternative to hematoxylin, turmeric and ginger extract as substitutes for eosin in histological staining Silva THTD¹, Liyanage HGTD¹, Kaushalya WH¹, Fernando CS² ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Pathology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
48.	PP 52	<p>Variations in Coagulation Profile and Platelet Parameters Among Patients on Regular Maintenance Hemodialysis for End Stage Kidney Disease. Single Center Experience in Sri Lanka. Welarathne DNR¹, Vimukthika RKB¹, Weragala WD¹, Balasuriya BLT², Darshana LGT¹, Perera NJAHD² ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka. ²Sri Jayewardenepura General Hospital, Sri Lanka.</p>
49.	PP 53	<p>Association of body mass index (BMI) and total cholesterol levels with breast cancer staging in postmenopausal women undergoing treatment at Apeksha hospital, Maharagama, Sri Lanka Fernando MAC¹, Afla MAF¹, Sahib FSK¹ and Rajapaksha DIG² ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
50.	PP 54	<p>Haemoglobin levels in chronic kidney disease patients attending medical and nephrology clinic, Teaching Hospital, Jaffna: A demographic and duration perspective study Sangavi T¹, Karthiga M³, Kanistan J³, Thangarajah BR², Arasaratnam V¹ ¹Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka, ²Department of Medicine, Faculty of Medicine, University of Jaffna, Sri Lanka, ³Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.</p>

51.	PP 55	<p>The influence of serum globulins on albumin analysis by dye binding methods <u>Hettiarachchi V</u>¹, <u>Dissanayake M</u>², <u>Bandara WVRTG</u>¹ ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka. ²Department of Chemical Pathology, Teaching Hospital, Karapitiya, Sri Lanka.</p>
52.	PP 56	<p>Growth optimization of <i>Malassezia furfur</i> on Sabouraud Dextrose Agar (SDA) supplemented with extracted egg yolk oil: Determination of minimum volume requirements <u>Shalini R</u>¹, <u>Kannathasan S</u>¹, <u>Baskarasingham A</u>¹, <u>Gnanakarunyan TJ</u>¹, <u>Sivasinthujah S</u>² ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka, ²Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.</p>
53.	PP 57	<p>Alarming Tetracycline resistance in <i>Campylobacter jejuni</i>: A study of Sri Lankan poultry isolates <u>Tennakoon TMPST</u>^{1,2}, <u>Priyantha MAR</u>², <u>Weerasooriya KMSG</u>² ¹Cardiff Metropolitan University, Cardiff, Wales, UK, ²Department of Biomedical Science, Faculty of Health Sciences, International College of Business and Technology, Sri Lanka, ³Veterinary Research Institute, Peradeniya, Sri Lanka.</p>
54.	PP 58	<p>Comparative evaluation of the performance of washed and unwashed human blood agar for isolating <i>Streptococcus pneumoniae</i> from respiratory tract specimens <u>Galagamage U</u>¹, <u>Weerasinghe MSA</u>¹, <u>Wickramarathne WLS</u>¹, <u>Chathuranga BAG</u>¹, <u>Senarathne TKRR</u>¹, <u>Vidanagama D</u>² ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²The Department of Microbiology, Lady Ridgeway Hospital for Children, Sri Lanka.</p>
55.	PP 59	<p>Study of white blood cell parameters among patients with primary erythrocytosis and or thrombocytosis in a tertiary care center in Sri Lanka <u>Hettige DHU</u>¹, <u>Mohotti M</u>², <u>Abeywardana S</u>², <u>Silva EH</u>¹ ¹Department of Medical laboratory Sciences, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, ²National Hospital Galle, Sri Lanka.</p>
56.	PP 60	<p>Assessment of antibiofilm efficacy of Rhamnolipid-Coated foley and silicone urinary catheters against <i>Proteus mirabilis</i> biofilm formation <u>Mohamad MI</u>¹, <u>Pananwala NP</u>¹, <u>Premakanthan B</u>¹, <u>Nissanka NMC</u>², <u>Dilhari KAA</u>³, <u>Weerasekera MM</u>² and <u>Priyadarshana G</u>⁴ ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Basic Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ⁴Department of Materials and Mechanical Technology, Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka.</p>

57.	PP 61	<p>Bacteriological profile of blood culture isolates at a children’s hospital in Sri Lanka <u>Somapala UPVS</u>¹, Madhuwanthi WD², Senarathne TKR⁴, Rathnayake RGL³, Vidanagama D¹ ¹Lady Ridgeway Hospital for Children, Colombo, Sri Lanka, ²Medical Research Institute, Sri Lanka, ³Department of Biochemistry, Faculty of Medicine, Uva Wellassa University of Sri Lanka, ⁴Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
58.	PP 62	<p>Design and evaluation of novel primer sets for efficient detection of the angiogenic Vascular Endothelial Growth Factor-A gene (VEGF-A) Thennakoon TMND¹, <u>Kodikara PB</u>¹, Tharshan S¹, Edirisinghe ST², Weerasekera M³, Yasawardene SG² ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>
59.		
59.	PP 63	<p>Prevalence and factors associated with anemia among children under five years of age in Base Hospital Polpithigama, Sri Lanka <u>Rathnayaka RMGI</u>, Lakmali WACN, Wijerathna NN, Bandara PMEM, Upeksha SHD, Perera ACH Faculty of Nursing, KIU, Sri Lanka.</p>
60.	PP 64	<p>Nutritional analysis of Sri Lankan high-performance para-athletes <u>Batawala AV</u>¹, Dahanayake UNJ², Ekanayake L². and Chandrasekara A¹ ¹Department of Nutrition Dietetics, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka, ²Institute of Sports Medicine, Colombo, Sri Lanka.</p>
61..	PP 65	<p>Formulation and quality evaluation of oats (<i>Avena sativa</i>) and coconut (<i>Cocos nucifera</i>) milk-based non-dairy yoghurt <u>Navayukan V</u>, Dias PGI Department of Food Science and Technology, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka.</p>
62	PP 66	<p>Bacteria isolated from raw cow milk and their antibiotic susceptibility in Gampaha district, Sri Lanka <u>Rajapakshe RAKI</u>¹, Saravananathan T¹, Bandara URPS¹, Dissanayake DMBT² ¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ²Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.</p>

63.	PP 67	Prevalence of different types of anaemia among patients with type 2 diabetes mellitus attending National Hospital, Galle <u>Adikaram DMSE</u> ¹ , Dharmabandu S ² , Silva EH ¹ ¹ Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka, ² The German- Sri Lanka Friendship Hospital for Women, Galle, Sri Lanka.
64.	PP 68	A study of correlation between body mass index and serum lipid profile in iron deficiency anaemic females – A pilot study <u>Vihangika KS</u> ¹ , Rathwita IMRDK ¹ , Gunasekara GWHK ¹ , Withanage ND ¹ , Moonesinghe C ² , Dias P ³ ¹ Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Sri Jayewardenepura, Sri Lanka, ² Department of Pathology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, ³ Department of Statistics, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka.

"WE ARE SRI LANKA'S LEADING PHARMACEUTICAL MANUFACTURER."

Sri Lanka's first EU-GMP-approved pharmaceutical manufacturing facility with USFDA compliance, EU GMP and WHO-GMP/NMRA-Sri Lanka approval.

Founded in 2016, Celogen Group has become a leading pharmaceutical conglomerate in Sri Lanka, serving hospitals and clinics nationwide



Team-driven innovation

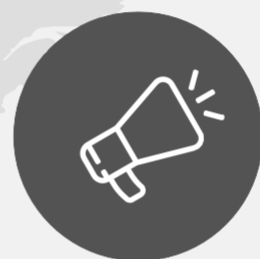
Our rapid growth stems from a dedicated team of over 425 professionals, including scientists and experts, supported by advanced R&D facilities and modern technology.

Celogen Lanka is always committed to provide effective and quality healthcare solutions at affordable prices thus enabling people to lead healthier lives.



Diversity

Celogen Lanka specializes in producing and marketing over 650 products, including various tablet types



Extensive

Our portfolio covers a wide range of therapeutic areas, from chronic conditions to wellness and care, ensuring comprehensive healthcare solutions.



EUGMP Approved

Sri Lanka's first EU GMP approved state-of-the-art manufacturing facility.



Innovation

Fostering progress through continuous innovation and research in line with pharmaceutical industry standards



Giving sight to your future is important

That's why your sight is precious to you

For over 30 years we have continued to provide excellence in eye care solutions. With groundbreaking technology and the highest quality lenses and frames, we ensure the best in vision excellence.

With our caring staff, we guarantee that your experience with vision care becomes one of your fondest memories.

Spectacles | Sunglasses

Contact Lenses | Hearing Aids



VISION CARE OPTICAL SERVICES (PVT) LTD
No. 06, Ward Place Colombo 07.

 **011 75 75 100 / 011 268 1818**



VISION 2020 TECHNO

636/B, 11th lane, Muththettugoda road,
Thalangama north,
Baththaramulla.

What we have

- **Handheld Refractometer / HandyRef**
- **OCT RS-1 Glauvas**
- **Optical Biometer AL-Scan M**
- **Trial frame lens**
- **Vision chart**



HandyRef



OCT



AL-Scan



Trial frame lens



Vision chart



076 647 0386



info@vision2020techno.com



INTERNATIONAL RESEARCH CONFERENCE IN HEALTH SCIENCES 2025

**Faculty of Allied Health Sciences
University of Sri Jayewardenepura
Nugegoda - Sri Lanka**