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# Proceedings of
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# University of Ruhuna

# "Advancing Health Equity through Research and Innovation"

## August 21, 2026

**Faculty of Allied Health Sciences, University of Ruhuna,**

**Galle, Sri Lanka**

iRuFARS - 2026

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# Foreword

The 4th International Research Symposium (iRuFARS-2026) was organised by the Faculty of Allied Health Sciences at the University of Ruhuna, Sri Lanka. The abstracts and full papers from diverse disciplines of Allied Health Sciences have been peer reviewed prior to acceptance. The abstracts and full papers have been edited to maintain language accuracy and page limits. Responsibilities for the content text of the abstracts and full papers included in this publication remain with the respective authors. No part of this serial publication will be reproduced in any form.

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# Message from the Keynote Speaker - 1

*Prof. Mahati Chittem*
*Professor of Health & Medical Psychology*
*Department of Liberal Arts*
*Indian Institute of Technology (IIT), India*

## Supportive Care Needs: The Missing Dimension of Health Equity

Health equity is traditionally discussed in relation to disparities in access to healthcare, health outcomes, and the social determinants of health. Yet equitable healthcare requires more than the provision of services; it also requires an understanding of whether individuals' physical, informational, emotional, practical, social, and psychological needs are recognised and addressed throughout the illness trajectory. The concept of supportive care needs has emerged internationally as a valuable framework for identifying gaps in care and improving patient-centred healthcare delivery. Within this literature, needs are typically conceptualised as either met or unmet, providing a basis for service planning, resource allocation, and intervention development.

Drawing on supportive care research from oncology and chronic illness populations, this keynote argues that such classifications may be insufficient for understanding health equity in South Asian healthcare contexts. In many low and middle-income settings, patients frequently encounter *under-met needs*, i.e., needs that are only partially addressed, yet are often assumed by healthcare systems to have been adequately met. Equally important are *unknown needs*, i.e., needs that remain unrecognised because patients lack the information, language, or opportunities necessary to identify and articulate them. These needs may be obscured by limited health literacy, family-mediated communication, hierarchical clinician-patient relationships, and resource-constrained healthcare environments.

Using examples from South Asian research on illness communication, treatment decision-making, caregiving, and psychosocial adjustment, this presentation will explore how unmet, under-met, and unknown supportive care needs contribute to persistent health inequities. It will argue that advancing health equity requires healthcare systems not only to respond to expressed needs, but also to identify partially met and unrecognised needs that remain hidden within routine care. Expanding supportive care frameworks in this way offers new opportunities for more equitable, person-centred healthcare delivery across the region.

***Keywords:*** *Health Equity, Supportive Care*

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## Message from the Keynote Speaker - 2

*Prof. Rohan D. Jeremiah*
*Human Development Nursing Science*
*Associate Dean, Global Health, College of Nursing*
*University of Illinois Chicago, Chicago, IL, USA*

# Context, Trust, and Partnership: A Path to Global Health Leadership

Health systems around the world face shared challenges, from ageing populations to the rising burden of non-communicable disease, that no single institution or country can solve alone. These challenges do not respect borders, and increasingly, neither do the solutions. Addressing them well requires health professionals equipped to think across cultures, systems, and disciplines, and institutions willing to invest in such leadership. The countries best positioned to meet this moment are not necessarily those with the most resources, but those with strong foundations in health professions education and public health infrastructure, paired with a willingness to engage as full partners in shaping global health knowledge rather than simply receiving it.

Drawing on more than a decade of global health practice across multiple regions, this keynote argues that durable global health impact comes not from transferring models wholesale but from building genuine partnerships grounded in local strengths. Sri Lanka illustrates this opportunity well, with a well-established public health infrastructure and notable success in maternal and child health. Recent academic and clinical engagement across the country revealed strong demand among health professionals, students, and faculty for globally informed, practice-oriented training, alongside institutional momentum toward research capacity-building and international collaboration.

This keynote offers a way of thinking about global health practice, centred on four ideas: understanding context, building trust, sharing partnership, and strengthening systems. Together, these mean grounding work in lived realities rather than imported assumptions, earning credibility through consistency and follow-through, designing solutions together rather than one party leading, and translating relationships into lasting capacity. The opportunity ahead is one of regional leadership: as Sri Lankan institutions invest internally, they are also building the foundation to shape global health knowledge and practice well beyond their borders.

***Keywords:*** *Capacity-building, Global health leadership, Health systems strengthening, Partnership, Sri Lanka*

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## Message from the Keynote Speaker - 3

*Prof. Beate-Christin Hope Kolltveit*
*Diabetes specialist nurse*
*Master program Advanced Clinical Nursing/*
*Nurse Practitioner*
*Faculty of Health and Social Sciences*
*Western Norway University of Applied Sciences, Norway*

# Applying Guided Self-Determination as a Counselling Approach in the Follow-Up of People with Chronic Disease

Type 2 diabetes, obesity, and chronic obstructive pulmonary disease (COPD) are examples of chronic conditions with increasing prevalence worldwide. This development poses significant challenges to healthcare systems, particularly as populations are ageing and people are living longer with chronic diseases, while the healthcare workforce is not growing at the same pace. Consequently, supporting individuals in managing their own health and daily life with chronic illness will become an increasingly important priority in future healthcare services.

Guided Self-Determination (GSD) is an empowerment-based counselling approach designed to strengthen patients' autonomy, motivation, and capacity for self-management. The method facilitates a collaborative partnership between healthcare professionals and patients, encouraging reflection, problem-solving, and active participation in health-related decision-making. By focusing on patients' personal experiences, values, and goals, GSD supports the development of sustainable behavioural changes and increased responsibility for disease management.

In the follow-up of individuals with type 2 diabetes, obesity, and COPD in primary care, Guided Self-Determination may contribute to improved self-management, enhanced self-efficacy, and greater engagement in lifestyle changes. The approach can help patients identify barriers to behavioural change, strengthen motivation for treatment adherence, and develop practical strategies for managing symptoms and everyday challenges. Furthermore, GSD promotes person-centred care by recognising patients as active partners in the management of their chronic condition rather than passive recipients of care.

As the burden of chronic disease continues to grow, there is an increasing need for feasible, acceptable, and cost-effective interventions that support long-term prevention and management. Guided Self-Determination represents a promising counselling approach that may enhance patient empowerment and contribute to more sustainable chronic disease management in primary healthcare settings, thereby helping to address the growing burden of conditions such as type 2 diabetes, obesity, and COPD.

***Keywords:*** *Guided Self-Determination, empowerment, self-management, chronic disease, type 2 diabetes, obesity, COPD, primary care, person-centred care.*

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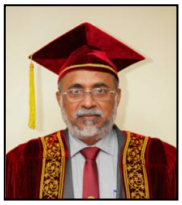
# Message from the Vice-Chancellor, University of Ruhuna - Chief Guest



*Snr. Prof. P.A. Jayantha*
*Vice Chancellor*
*University of Ruhuna*
*Matara*
*Sri Lanka*

It is with immense pleasure that I extend my warmest greetings to the 4th International Research Symposium of the Faculty of Allied Health Sciences (iRuFARS-2026) of the University of Ruhuna.

Despite the groundbreaking advancements in medical science and technology, global healthcare disparities persist for millions of people worldwide. Health equity is a key reminder that everyone deserves an equal opportunity to achieve optimal health regardless of their socioeconomic status, geographic location, gender, or age. To bridge this divide, it requires a combination of innovation, compassion, and strong collaborations. Therefore, this year's theme, "Advancing Health Equity through Research and Innovation", addresses a defining priority of contemporary healthcare.

As centers of learning, research and innovation, universities have a unique responsibility in this endeavour. The Faculty of Allied Health Sciences of the University of Ruhuna demonstrates a vibrant research culture, promoting high-quality research and creating a dynamic platform like this to exchange ideas, present novel findings, and explore emerging trends in the allied health sciences field. Initiatives like this symposium significantly strengthen the university's contribution to national development.

I commend the Faculty of Allied Health Sciences for establishing and continuing this commendable initiative, and I am confident that the knowledge disseminated through this symposium contributes meaningfully to improving the health and well-being of communities in Sri Lanka and beyond.

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# Message from the Dean, Faculty of Allied Health Sciences

*Prof. W.V.R.T.D.G. Bandara*
*Dean, Faculty of Allied Health Sciences*
*University of Ruhuna*
*Galle, Sri Lanka*

It is with great pleasure and immense pride that I welcome you to the 4th International Research Symposium of the Faculty of Allied Health Sciences (iRuFARS-2026). Since our inception in 2018, this annual research symposium has grown rapidly, adding vibrant academic colours and setting new benchmarks in scholarly excellence with every passing year. Today, it stands as a hallmark event in our faculty calendar, fostering local and international academic partnerships.

The core objective of iRuFARS has always been to provide a dynamic, collaborative platform for researchers, academics, and healthcare professionals to disseminate knowledge, share groundbreaking insights, and bridge the gap between research and practice. This year's timely theme, "Advancing Health Equity through Research and Innovation," emphasises our collective global responsibility to address healthcare disparities. It calls upon us to leverage technological and scientific breakthroughs to ensure inclusive, high-quality healthcare access for all populations.

Marking a historic milestone in our journey, iRuFARS-2026 introduces several progressive initiatives designed to elevate our scientific standards. For the first time, we have adopted the Conference Management Toolkit (CMT) to streamline and digitise our submission and review management. Furthermore, we are proud to inaugurate the iRuFARS Oration and introduce the Research Excellence Awards for Scientific Publications, recognising the tireless efforts of our faculty scholars who push the boundaries of healthcare discovery.

This spectacular event would not have been possible without the dedication of our community. I would like to extend my heartfelt gratitude to the Organising Committee, brilliantly chaired by Prof. Nirmala Rathnayaka, for their unwavering commitment, strategic planning, and meticulous execution in bringing this international symposium to fruition.

To our presenters and authors: I congratulate you on your high-quality submissions and selection for this prestigious conference. Your intellect and scientific rigour drive our field forward. I wish you all an enriching, thought-provoking conference experience and the very best of luck in your future research endeavours and academic pursuits.

Thank you.

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# Message from the Chairperson, iRuFARS-2026

*Prof. R.H.M.P.N. Rathnayake*
*Chairperson, iRuFARS 2026*
*Faculty of Allied Health Sciences*
*University of Ruhuna*

It is with immense pleasure and great honour, I welcome you to the 4th International Research Symposium of the Faculty of Allied Health Sciences, University of Ruhuna – iRuFARS 2026.

The theme of this year's symposium, "Advancing Health Equity through Research and Innovations," reflects our commitment to harnessing the power of research, innovation, and collaboration to address disparities in health and healthcare. In an increasingly complex world shaped by rapid technological advancements, demographic transitions, and evolving healthcare needs, achieving health equity requires evidence-based solutions, innovative approaches, interdisciplinary collaboration, and a sustained commitment to ensuring that no individual or community is left behind.

The iRuFARS 2026 marks several significant milestones in the continuing journey of this symposium. For the first time in the history of iRuFARS, we have introduced the Conference Management Toolkit (CMT) for abstract submission and management of the peer-review process. This represents an important step towards strengthening the quality, transparency, and efficiency of our scholarly activities. Nearly 86 abstracts were received, and each submission underwent a rigorous peer-review process. Following this comprehensive review, 64 high-quality abstracts were selected for presentation, reflecting the breadth and diversity of research and innovation taking place in the field of Allied Health Sciences.

Another landmark achievement of iRuFARS 2026 is the introduction of the first-ever Oration, delivered by a distinguished senior academic from our own Faculty. This initiative provides a valuable opportunity to recognise and celebrate academic excellence, reflect on significant scholarly contributions, and inspire future generations of academics and researchers.

In our continued efforts to foster a strong culture of research and academic excellence, we are also proud to introduce the Excellence in Research Publications Award. This award scheme has been established to recognise outstanding contributions to scientific publications by academic staff, non-academic staff, and students. Through this initiative, we hope to encourage our faculty community to pursue high-quality research, disseminate knowledge through impactful scientific publications, and contribute to the advancement of health sciences locally and globally.

The international dimension of iRuFARS 2026 is further enriched by the participation of three distinguished keynote speakers from the United States of America, Norway, and India. Their expertise, diverse professional experiences, and perspectives shaped by different cultural and healthcare contexts add immense value to this symposium. Their contributions provide us with an important opportunity to broaden our perspectives, appreciate cross-cultural variations in health and healthcare, and explore innovative approaches to advancing health equity across diverse populations and settings.

The Pre-Congress Workshop further complements the theme of the symposium by examining health equity through multiple and interconnected dimensions. The workshop explores the role of emerging technologies and innovations, geriatric care, and legal and ethical perspectives, highlighting the multifaceted nature of health equity and the importance of developing comprehensive and inclusive approaches to healthcare.

I sincerely appreciate the guidance of the Vice-Chancellor, University of Ruhuna and the Dean, Faculty of Allied Health Sciences and the dedication and commitment of the organising committee, abstract reviewers, academic and non-academic staff, students, and all other contributors whose collective efforts have made iRuFARS 2026 possible. I extend my heartfelt gratitude to our distinguished keynote speakers, invited speakers, session chairs, reviewers, authors, presenters, and participants for sharing their expertise and contributing to this important academic gathering.

I am confident that the research and innovations presented at iRuFARS 2026, together with the exchange of knowledge and ideas, will inspire meaningful collaborations, stimulate new research directions, and contribute to translating evidence and innovation into action. This symposium serves as a catalyst for academic excellence, research advancement, and transformative innovation towards creating a more equitable, inclusive, and healthier society.

On behalf of the Faculty of Allied Health Sciences, University of Ruhuna, I warmly welcome you to iRuFARS 2026 and wish you a productive, inspiring, and memorable symposium experience.

Thank you.

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# Oration - iRuFARS 2026

*Dr. Thamudi Darshi Sundarapperuma*
*Senior Lecturer*
*Department of Nursing,*
*Faculty of Allied Health Sciences*
*University of Ruhuna*

## Shaping the Future: Effect of Lifestyle Interventions on Diabetes Risk in Postpartum Women with Gestational Diabetes

Gestational Diabetes Mellitus (GDM) is one of the most common metabolic disorders during pregnancy and is a major contributor to the global diabetes epidemic. Although, it is expected to normalise blood glucose levels after delivery, they have a considerably high risk of developing type 2 diabetes mellitus (T2DM), metabolic syndrome, and cardiovascular disease later in life. Since postpartum follow-up and preventive interventions are inadequate, particularly in low- and middle-income countries such as Sri Lanka, these studies were conducted to develop, evaluate and assess the feasibility of a culturally appropriate lifestyle intervention programme designed to attenuate the progression from GDM to T2DM among Sri Lankan postpartum women with a history of GDM.

The work was carried out in the following sequential manner.

The culturally sensitive dietary and physical activity intervention protocol was developed based on findings of qualitative focus group discussions with mothers who had experienced GDM, in-depth interviews with healthcare workers, an extensive literature review, and consultation with experts in the field. The findings highlighted several barriers to healthy lifestyle practices, including cultural beliefs, misconceptions regarding postpartum nutrients and physical activities, financial constraints, childcare responsibilities, lack of motivation and inadequate awareness among both mothers and health professionals.

The intervention was a community-based, quasi-experimental study involving one hundred postpartum mothers with a history of GDM in their index pregnancies. Participants were assigned to intervention and control groups and followed for one year. The intervention group received individualised dietary counselling, structured physical activity guidance, regular telephone follow-ups, home visits, and continuous monitoring using dietary and activity diaries. At the end of 12 months, the intervention group demonstrated significant improvements in dietary habits, physical activity levels, anthropometric measurements, fasting blood glucose, HbA1c and insulin resistance. Further, no participants in the intervention group developed diabetes according to HbA1c criteria. Insulin resistance assessed by HOMA-IR remained remarkably lower in the intervention group compared to the control group. Although inflammatory markers didn't show any differences, the intervention substantially improved overall metabolic health and reduced future diabetes risk.

The feasibility of the intervention was explored using qualitative focus group discussions and in-depth interviews involving mothers, family members and public health midwives. Participants consistently described the intervention was practical, beneficial, and essential. Key facilitators of adherence included continuous monitoring, spouse support, personal responsibility and motivation

to maintain health. Major barriers included complementing family responsibilities, inconsistent advice from health professionals, limited self-interest and negative social influence. Participants recommended structured postpartum follow-ups, improved public awareness through media and continuous professional development for health professionals to strength the intervention.

This programme represented the 1st lifestyle intervention specifically developed and scientifically evaluated for postpartum mothers with a history of GDM in Sri Lanka. The findings showed that culturally tailored, community-based interventions can effectively improve glycemic control and reduce insulin resistance. Beyond generating scientific evidence, this work provides a practical framework for integrating postpartum diabetes prevention into national maternal health services.

**Introduction**

Gestational Diabetes Mellitus (GDM) is often considered a condition that ends with childbirth. Unfortunately, for many women, pregnancy marks only the beginning of a lifelong glycemic journey. GDM makes a considerable contribution to the global diabetes epidemic. It was estimated that in the year 2021, 16.8% of the women who had live births had some form of hyperglycemia during pregnancy, out of which 86.4% were due to GDM[1] Women with a previous history of GDM have a 10-fold relative risk of developing type 2 diabetes mellitus (T2DM), 2- to 5-fold relative risk of metabolic syndrome, 1.7-fold risk of cardiovascular disease and 50% risk of recurrence of the same in subsequent pregnancies[2]

There are many risk factors that increase the progression of GDM to T2DM. Ethnicity, pre-pregnancy weight, age, parity, family history of diabetes and individual's genetic predisposition[3] are considered as non-modifiable risk factors, while obesity and weight gain are considered as modifiable risk factors for future T2DM. Diabetes and pre-diabetes both are also known to be associated with insulin resistance. It is reported that mothers with GDM who are considered pre-diabetic, suffer from insulin resistance due to deficiency of insulin secretion or chronic insulin resistance at cellular level which probably would have occurred before pregnancy[4].

Gestational diabetes mellitus has a strong link with chronic low-grade inflammation[5]. Chronic subclinical inflammation or 'metaflammation' is known to be a part of the insulin resistance syndrome (IRS). It is a trigger factor to originate IRS and eventually the development of DM[6].

Early and effective postpartum lifestyle interventions are reported to delay or prevent the development of type 2 diabetes by one-sixth times in women with a history of GDM[7]. Postpartum fatigue, maternal attachment for the newborn, childcare demands[8], lack of assistance with childcare and insufficient time[9] are the most common barriers to the success of intervention programmes for postpartum women.

Literature on the impact of lifestyle interventions on mothers with a history of GDM is limited in the South Asian region. Although studies related to screening, prevalence and long-term complications of GDM have been done in Sri Lanka, no literature is available on interventions carried so far. Sri Lanka is a small island which has a unique sociocultural background. Hence, our own findings are important, especially to be used in the Sri Lankan context. Therefore, the aims of the study were to develop a simple, cost-effective, culturally acceptable intervention programme to reduce the progression of GDM to T2DM and to understand perspectives of the women regarding the lifestyle intervention and to evaluate the feasibility of implementation of the above lifestyle intervention programme in these mothers with a history of GDM.

**Studies Carried Out**

**Developing a culturally appropriate intervention**

The two protocols were designed based on information obtained from semi-structured focus group discussions (FGD) with antenatal mothers with a history of GDM, In-depth Interviews (IDI) with health care workers, review of relevant literature and opinions of experts in the relevant field (a nutritionist and an exercise physiologist). Data obtained by the focus group discussions and in-depth interviews were analysed using thematic analysis.

Seven themes related to dietary behaviours emerged from FGDs and IDIs[8]. Three themes; namely, ‘myths and traditions specific to diet during the postpartum period', 'financial barriers' and 'negligence of mothers and families' emerged from both groups of participants while the themes, 'time pressure' and 'lack of motivation' emerged only from the mothers. ‘Lack of awareness regarding GDM and its postpartum dietary recommendations', and 'cultural barriers' surfaced solely from in-depth interviews with healthcare workers. Similarly, eight themes related to physical activity emerged from FGDs and IDIs[10]. Two themes; namely, 'myths and practices related to physical activities specific to postpartum period' and 'lack of awareness of mothers and families' emerged from both groups of participants while the themes,' time pressure', 'stigma' and 'child demands' emerged only from the mothers. 'Traditional and cultural believes', 'lack of influence from health care workers' and 'lack of motivation' surfaced solely from in-depth interviews with healthcare workers. The findings from the FGD /IDI and expert ideas were used in the development of the dietary and exercise intervention protocols, which mainly enhanced their cultural adaptation and relevance to the local setting.

Sri Lankan postpartum mothers mainly consume a high-carbohydrate diet such as rice, jack curry and tender jack curry and avoid some important sources of minerals and vitamins (sprats, eggs and green leaves) during breastfeeding due to cultural beliefs and traditional practices. These recipes were modified with the support of a nutrition expert to ensure a healthy diet (Kola kenda, non-starchy curries and fruits), but without additional economic burden or time pressure to the family. The level of activities were also enhanced by modifying their household activities, without interrupting their family responsibilities. The dietary and exercise protocols were validated by a panel of experts in the field comprising two exercise physiologists and two nutritionists/dietitians. Structured checklists were used to assess the content of each dietary and physical activity modification of the protocol. To ensure understanding of the protocol, it was pretested among a sample of women with similar characteristics from a different setting.

Many women mainly adhere to the societal norms and are unwilling to give in traditional believes and practices. Similarly, some other researchers have also identified cultural issues as barriers for healthy diet and physical exercise[11]. Thus, these beliefs and practices were considered when designing lifestyle intervention programmes to enhance the compliance of both mothers and healthcare workers to improve the quality of the programmes.

A quasi-experimental study was conducted to ascertain the impact of dietary and exercise interventions on insulin resistance and inflammatory response in postpartum women with diagnosed GDM.

One hundred postpartum mothers with a history of GDM in their index pregnancies were selected for the study at the very beginning of their discharge from hospital after delivery. These mothers were randomly assigned into two groups as an intervention group and a control group using cluster randomisation. In the initial assessment (at 0 months) and the final assessment (at 12

months), their fasting blood glucose (FBG), two-hour blood glucose, HbA1c and fasting insulin were measured, and HOMA-IR was calculated. In addition to the above parameters, anthropometric measurements such as weight, BMI, waist circumference, and waist-to-hip ratio (WHR) and waist-to-height ratio (WHtR) were assessed at the two time points, together with the dietary intake and physical activity patterns.[12,13,14]

Dietary and exercise interventions were introduced to the individuals in the intervention group following the initial assessment. Both groups were requested to maintain the diet diary for three days (two weekdays and one day during the weekend) over a period of one year. They were also requested to maintain the activity diary and serial pedometer readings for 7 days per month for a one-year period. All Subjects in the study were contacted once in fortnight by phone calls. Intervention group was reinforced on the diet and physical activity modification protocols while the controls were contacted to ensure continuity of them in the study. Further, the mothers in the intervention group were visited at the PHM offices or home settings each month.

The FBG, anthropometric parameters, dietary and exercise patterns were assessed at the 6th postpartum month, and the final assessment of all parameters was done after the completion of the 12th month.

There were no significant differences in the above parameters among women in the intervention and control groups at the initial assessment. Dietary intake and physical activity frequency had significantly improved in the intervention group after 12 months, compared to the control group. Anthropometric measurements had improved to healthy levels among the intervention group. All median values of FBG, two-hour blood glucose, HbA1c and HOMA-IR only in the intervention group were below the cutoff values for impaired glucose tolerance and diabetes mellitus[1,15]. According to HbA1c values, no individual in the intervention group was found to be having T2DM. Further, based on the HOMA-IR, in the intervention group, only one participant had been detected as having insulin tolerance, while all others had normal insulin sensitivity. However, in the control group, participants were detected as having insulin resistance[16].

Further, hs-CRP, a stable marker for inflammation, was used to detect the inflammatory response of the mothers recruited for phase 1 of the study. All mothers with a history of infection in the past three months and with infection or symptoms of infection during data collection were excluded from the study at recruitment, leaving a sample of 100 mothers. However, no significant difference was observed between the two groups.

This culturally acceptable, individualised and well-monitored lifestyle intervention comprised of dietary and physical activity modifications implemented in the community setting was able to produce remarkable reductions in anthropometric indices and glycaemic parameters, finally reducing insulin resistance among postpartum women with a history of GDM.

Although the intervention demonstrated favourable metabolic outcomes, effectiveness alone is inadequate. Its long-term success depends on whether mothers and other stakeholder groups find it practical and acceptable in day-to-day life.

**Can this protocol work in real life?**

A qualitative phenomenological design was used to evaluate the feasibility of implementation of the lifestyle modification programme aimed at attenuating the development of diabetes mellitus in mothers with a history of GDM[17].

The study used semi-structured FGDs and IDIs. Three separate guides were prepared by the research team to facilitate the data collection. These guides were developed by using the findings of a literature review conducted under four domains namely, (1) feelings about the lifestyle intervention, (2) facilitating factors, (3) barriers and (4) suggestions for improvement.

The participants included postpartum women with a history of GDM who underwent the comprehensive, supervised lifestyle intervention programme developed in the study for a period of one year. It was ensured that both subjects who had completed the programme and those who dropped out due to various reasons were included. Focus group discussions were conducted with mothers who completed the lifestyle intervention programme successfully (adherence group), mainly to explore the facilitating factors which allowed them to adhere to the programme and FGD with dropouts were aimed at identifying the barriers. Both groups were encouraged to give their suggestions to improve the programme. A total of 6 FGDs were carried out among forty-five mothers. The FGDs with the adherence and dropout groups were carried out separately to prevent data contamination.

In-depth Interviews were used to explore the perceptions and experiences of family members of both ‘adherence’ and ‘dropout’ groups regarding the lifestyle modification programme. Altogether, 9 IDIs were carried out with family members until the saturation point was reached (3 IDIs from each district).

In addition, a total of 6 FGDs were carried out among forty PHMs in the selected MOH areas. These discussions explored experiences and perceptions of midwives regarding the lifestyle intervention programme. Their concerns and queries relevant to lifestyle modifications were discussed after formal data collection. A framework approach was used for data analysis in both phases.

Altogether 16 themes emerged from FGDs and IDIs under the four domains. Three themes related to domain 1; namely ‘practicality’, essentiality’ and ‘effectiveness’, emerged from all three groups. In general, all mothers in both adherence and dropout groups, PHMs and family members highlighted the essentiality and effectiveness of the introduced programme. The mothers in the adherence group entertained the positive consequences that they experienced by following this programme, while the dropouts regretted about their failure. The PHMs highlighted the observed positive mental and physical changes of these mothers.

Six themes related to domain 2 were identified. Two themes; namely, being monitored’ and ‘spouse support’ emerged from all three groups. ‘Desire for being healthy and beautiful’ emerged from healthcare workers and family members, while ‘knowing the risk of future diabetes’ emerged from mothers and healthcare workers. The themes, self-responsibility’ and ‘decision-making ability’ surfaced solely from FGDs with mothers.

Five themes related to domain 3 emerged from semi-structured FGDs and IDIs. Three themes namely, 'negative influences from healthcare workers', 'social influence' and 'prioritising competing demands over one's own health' emerged from all three groups whereas 'lack of self-interest' emerged from mothers. The theme 'uncertainty about future' was identified from FGDs with PHMs.

Four themes related to domain 4 emerged from the study. Three themes; namely, 'compulsory continuous follow-up of postpartum mothers', 'awareness through television and social media', and 'continuous professional development of healthcare workers' emerged from all three groups.

Another theme, 'awareness starting at school level', surfaced only from FGDs with mothers and healthcare workers.

All three groups who participated in the present study suggested continuing follow-up and ensuring closer monitoring of mothers during the first postpartum year.

In this study, spouse support was identified as one of the major facilitating factors by all three study groups. This support has been described in the previous literature as emotional and instrumental (such as physical, material or financial) support[18]. In this study, husband's interest has been enhanced with the knowledge gained and visible results of the programme. A major barrier identified in this study was the negative influence from the healthcare workers. In the Sri Lankan setting, people believe in their closest healthcare worker for guidance on health matters. Beliefs about GDM or T2DM in healthcare workers influence the health beliefs in the patient and the family[19]. Mothers claimed that sometimes they got confused due to varying advice coming from their family doctor, the area midwife and the study team. Contradictory information from various persons is known to cause confusion in patients[19]. Family members of the study participants mainly believe in the guidance provided by the healthcare worker closest to them.

**Scientific contribution**

Collectively, the original research represents the first culturally adapted lifestyle intervention specially designed and evaluated for postpartum mothers with a history of GDM in Sri Lanka. The work progressed systematically from identifying barriers, developing evidence-based interventions, evaluating glycemic parameters, and finally exploring implementation in real-life settings.

**Conclusions**

The results demonstrate that a culturally tailored, community-based lifestyle intervention can considerably reduce glycemic risk among women with previous GDM. It also highlights that sustainable prevention depends not only on scientific evidence but also on understanding women's lived experiences, family support and healthcare systems.

Finally, it shows that postpartum diabetes is not an unavoidable consequence of gestational diabetes, though culturally appropriate lifestyle interventions supported by families and community healthcare workers, it is possible to significantly reduce future diabetes risk. Hence, these findings will contribute to strengthening postpartum diabetes prevention policies and improving the long-term health of mothers in Sri Lanka and in similar low- and middle-income countries.

Since Sri Lanka is a multicultural country, it would be worthwhile to develop a multi-culture-sensitive lifestyle intervention to attenuate the progression of GDM to T2DM, which can be disseminated widely throughout the country. It is strongly suggested that postpartum follow-up of GDM mothers is formalised with a standard protocol or guideline with clear instructions for healthcare workers on the postpartum management of GDM mothers. In addition, the mothers should be made aware of GDM, its complications and the importance of lifestyle changes to prevent or reduce the risk of T2DM. Strategies suggested to achieve this include using social media to convey health messages and introduction of awareness programmes starting from school age. The findings of this study are expected to pave the way and enhance the quality of future lifestyle intervention protocols and facilitate the development of other preventive strategies for postpartum mothers with a history of GDM.

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**Ethical approval**

Ethical clearance was obtained from the Ethics Review Committee of the University of Sri Jayewardenepura (ERC 52/14, 48/16). Sri Lanka Clinical Trials Registry (SLCTR/2015/021)

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# Abstracts of the pre-congress workshop

## Plenary Session 1: Bridging the Gaps in Health Equity

*Senior Prof. Hiran Amarasekera*
*Director, Digital Media and Communication*
*Professor in Forestry & Environmental Science*
*University of Sri Jayewardenepura*
*Sri Lanka*

# Advancing Health Equity through Responsible AI Innovation

Across Sri Lanka and globally, patients are already using ChatGPT to check their medications, query their diagnoses, and interpret their test results, often before speaking to a health professional. This is not a future scenario. It is happening now. The question is no longer whether AI will enter healthcare. It is whether health professionals will lead that process or be bystanders to it.

This keynote examines both the transformative potential and the ethical responsibilities that AI brings to healthcare practice. Drawing on real-world examples across nursing, pharmacy, medical laboratory science, and clinical education, the talk explores how AI tools are being used to enhance clinical accuracy, reduce documentation burden, and support evidence-based practice. Particular attention is given to tools readily accessible to healthcare professionals, including large language models, AI-powered research assistants, and structured prompting approaches for generating patient education materials and clinical summaries.

The talk also addresses risk. AI systems can produce confident but incorrect outputs in clinical contexts. Training data bias can systematically disadvantage underserved populations. Patient data privacy and informed consent remain unresolved challenges in many health AI deployments. The "human-in-the-loop" principle is not a technical preference; it is a professional obligation.

A central theme is health equity. In low-resource and rural settings, AI holds genuine promise as a tool for democratising healthcare access. Yet that promise will only be realised through deliberate, inclusive design and policy. Health professionals and educators in Sri Lanka are well placed to shape that conversation.

The keynote concludes with a call for AI literacy to be embedded as a core graduate competency in Allied Health Sciences curricula, and for this faculty and congress to lead that effort nationally.

***Keywords:*** *artificial intelligence, health equity, responsible AI, clinical practice, Allied Health Sciences education*

*Prof. Mahati Chittem*
*Professor of Health & Medical Psychology*
*Department of Liberal Arts*
*Indian Institute of Technology (IIT), India*

## Psychological Pathways to Health Inequity

Health inequities are commonly attributed to structural determinants such as socioeconomic disadvantage, geographic access, and healthcare infrastructure. While these factors are undeniably important, they do not fully explain why disparities in health outcomes persist even when services are available. This plenary argues that psychological processes constitute a critical, yet often overlooked, pathway through which health inequities are produced and maintained. Drawing on research from South Asia, the presentation will examine how illness perceptions, health literacy, stigma, communication practices, trust in healthcare providers, and family involvement in decision-making shape individuals' engagement with health services across the continuum of care.

Using examples from studies on cancer communication, chronic illness management, treatment decision-making, and help-seeking behaviours, the talk will illustrate how psychological and relational factors influence symptom recognition, healthcare utilisation, treatment adherence, and patient participation. Particular attention will be given to South Asian healthcare contexts, where family-centred care, diagnosis disclosure practices, gendered social roles, and sociocultural norms can either facilitate or constrain access to information and healthcare choices. These processes often interact with existing social and economic disadvantages, amplifying inequities in health outcomes.

The plenary will propose that addressing health inequity requires moving beyond structural solutions alone and recognising the psychological pathways that shape how individuals understand illness, navigate healthcare systems, and exercise agency in their care. This perspective offers new opportunities for designing more equitable health communication and intervention strategies.

*Dr. Amila Chandrasiri*
*Consultant Community Physician*
*Regional Director of Health*
*Galle*
*Sri Lanka*

## Health Inequity Across Different Cultures

Health inequities across different cultures are a known challenge in many countries. Accessibility to health care and the health-seeking behaviours of communities are deeply connected to the cultural backgrounds of people. Cultural factors can have a bidirectional impact on health equity.

Culture shapes how people view health, use medical care, and experience wellness. Culture defines what people think causes illness, whether physical, spiritual, or environmental. Some cultures promote consultingtraditional healers before going to modern clinics. These cultural beliefs and practices directly drive health equity by creating gaps or bridges in how different groups access appropriate care

Sometimes cultural factors become inhibitory factors to accessing health care, leading to inequities. Language factor becomes a key barrier and can also lead to mistrust. Standard care models that ignore dietary or religious needs make patients skip treatments.

Lack of cultural awareness among health workers is a key contributory factor. Systemic oppression can also selectively hinder the accessibility of certain cultures.

Therefore, it's important to gain good insight about this relationship. Developing cultural safety in health systems is important to minimise inequities and ensure health equity. Recruiting healthcare workers from local communities will also be helpful in building safety and trust. Sri Lanka delivers free Universal Health Care for all citizens and that ensures equitable healthcare delivery across all geographical areas and communities. However, certain gaps are still existing in remote areas and the estate sector. In the Sri Lankan context, some key lifestyle factors which influence health, such as diet and physical activities are significantly influenced by culture.

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## Plenary Session II: Capacity Building for Active Ageing

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*Senior Lecturer*
*Department of Nursing*
*Faculty of Allied Health Sciences*
*University of Ruhuna*

# Introduction: Capacity Building for Active Ageing

Sri Lanka is experiencing a significant demographic transition, with a rapidly increasing older population creating new and complex demands on the country's health and social care systems. Recognising this emerging challenge, national policies have increasingly prioritised the wellbeing of older people, while rapid decisions have been taken to expand and strengthen services for this growing population. However, sustainable and comprehensive older care requires more than expanding services; it requires integrating older care into the existing healthcare system and developing a skilled, multidisciplinary workforce.

Capacity building across the education, health, and social care sectors is therefore essential to ensure that older people receive accessible, equitable, coordinated, and high-quality care. In this context, the CAPAGE project was developed in response to a national need to strengthen the capacity and infrastructure required for effective older-person care in Sri Lanka. Through its seven work packages, the CAPAGE project will provide targeted interventions, utilise allocated resources effectively, and generate considerable benefits for the development of the country's older care system.

The project will strengthen professional knowledge and skills, improve collaboration among relevant sectors, support education and training, and enhance the delivery of age-responsive services. Importantly, CAPAGE represents not only an immediate intervention but also a foundation for the sustainable development of geriatric and older care services in Sri Lanka.

As the needs of the ageing population continue to evolve, further projects, expanded investments, and specialised initiatives will be essential. Continued collaboration among policymakers, academic institutions, healthcare professionals, social care providers, and communities will be critical to ensuring that Sri Lanka develops a resilient, integrated, and person-centred older care system capable of meeting the needs of present and future generations.

***Keywords:*** *CAPAGE project, Capacity building, Older care*

*Dr. Sithira Senevirathna*
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## Steady Steps in Healthy Ageing: Falls Prevention and Mobility Preservation

As populations age, maintaining functional independence and mobility becomes a cornerstone of healthy longevity. Falls represent one of the leading causes of morbidity, loss of independence, and institutionalization among older adults. However, falling is not an inevitable consequence of aging; rather, it is a multifactorial geriatric syndrome that is largely predictable and preventable.

This presentation aims to explore the key determinants of postural stability in older adults and outline actionable, clinical, and lifestyle-based strategies to mitigate fall risks. The session will focus on translating evidence-based interventions into practical frameworks for patients, primary caregivers, and healthcare providers.

Key Topics Covered:

Understanding the Multifactorial Risk Profile: Deconstructing intrinsic risk factors (gait and balance deficits, sarcopenia, visual impairment, and cognitive decline) alongside extrinsic environmental hazards.

The Role of Comprehensive Geriatric Assessment: Early screening tools and clinical risk stratification for high-risk older individuals.

Targeted Interventions for Fall Prevention: The efficacy of tailored progressive resistance and balance training, medication rationalisation (deprescribing fall-risk increasing drugs), and home hazard mitigation.

Preserving steady steps requires a proactive, multidisciplinary approach that shifts the narrative from reactive crisis management to early risk identification and strength preservation. Empowering older adults and their support systems with targeted prevention strategies ensures that longevity is accompanied by dignity, confidence, and continued independence.

***Keywords:*** *Falls, Mobility, Older adults*

*Dr. Asha Wettasinghe*
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*Department of Allied Health Sciences*
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## Optimising Mobility and Ergonomic Practices for Older Adults

Population ageing has led to an increasing prevalence of mobility limitations, falls, musculoskeletal disorders, and functional decline, making mobility preservation a cornerstone of healthy ageing. The World Health Organisation (WHO) recognises mobility as a key component of intrinsic capacity and functional ability, advocating comprehensive interventions that integrate exercise, ergonomic principles, environmental modifications, and person-centred care. Current evidence demonstrates that multidisciplinary approaches improve mobility, reduce disability and falls, and enhance quality of life among older adults.

International guidelines recommend multicomponent exercise programmes incorporating progressive resistance, balance, flexibility, and functional training to maintain physical function and independence. Ergonomic strategies, including safe transfer techniques, appropriate body mechanics, optimal seating and sleeping postures, assistive device prescription, and home modifications, further support safe participation in daily activities while reducing injury risk. Systematic reviews also highlight the effectiveness of community-based multidisciplinary interventions combining exercise, education, environmental assessment, behavioural strategies, and caregiver involvement to sustain functional independence.

Despite strong evidence, implementing best practices remains challenging in low- and middle-income countries due to limited workforce capacity and insufficient geriatric training. The Capacity for Active Ageing (CAPAGE) project, co-funded by the Erasmus+ Programme of the European Union, addresses these challenges by strengthening geriatric education and rehabilitation capacity across Sri Lankan universities. Through competency-based curricula, interdisciplinary education, Geriatric Assessment Laboratories (GALs), educational resources, and community engagement, CAPAGE equips future healthcare professionals with the skills required to optimise mobility, prevent falls, apply ergonomic principles, and deliver person-centred rehabilitation.

Future practice should embrace digital health technologies, wearable sensors, and tele-rehabilitation to enhance long-term outcomes. Integrating evidence-based rehabilitation with educational initiatives such as CAPAGE provides a sustainable model for strengthening the geriatric workforce and promoting healthy ageing, independence, and quality of life in Sri Lanka and other low- and middle-income countries.

*Prof. Samadhi Rajapaksa*
*Chairman*
*Institute of Palliative Medicine*
*Sri Lanka*

## Palliative Care in Older Age: Living Well Until the End

Population ageing is transforming healthcare worldwide, with increasing numbers of older adults living with frailty, multimorbidity, cognitive impairment, functional decline, and complex symptom burdens. Palliative care in older age should therefore extend beyond end-of-life care and focus on enabling people to live as well as possible, for as long as possible, according to what matters most to them. The presentation highlights this shift from a predominantly disease-centred approach towards active, holistic, and person-centred care that prioritises comfort, function, dignity, autonomy, meaningful relationships, and a preferred place of care.

Older adults frequently experience unpredictable illness trajectories, recurrent crises, declining physiological reserve, and competing treatment priorities. Consequently, palliative care should not be delayed until a precise terminal prognosis is established. Instead, integration should be triggered by unmet needs, persistent symptoms, functional loss, recurrent hospitalisations, increasing dependence, psychosocial complexity, and caregiver burden. Comprehensive geriatric assessment combined with palliative assessment provides an important framework for identifying physical, functional, cognitive, psychological, social, spiritual, nutritional, and medication-related needs while keeping the older person's priorities at the centre of decision-making.

Effective care requires proactive symptom management, careful medication review and deprescribing, recognition of delirium and non-verbal distress, preservation of meaningful function, and attention to loneliness, identity, spirituality, and social connection. Communication regarding goals of care and acceptable treatment trade-offs is equally important, particularly when decision-making capacity fluctuates. Advance care planning should be viewed as an ongoing process involving the older person, family, and caregivers, supported by anticipatory crisis planning and coordinated care.

Ultimately, palliative care in older age is not simply about managing dying. It is about reducing avoidable suffering while preserving personhood, dignity, relationships, independence and meaning.

*Dr. Kalpani Abhayasinghe*
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## Healthy Ageing and Readiness for Care: Are We Prepared for the Ageing Society of the Future?

Population ageing is one of the most significant demographic transformations of the twenty-first century. Advances in public health, medical care, and socioeconomic development have contributed to increased life expectancy worldwide, resulting in a rapidly growing older adult population. While longer lives represent a major achievement, they also present complex challenges for individuals, families, communities, and health systems. Healthy ageing has therefore become a global priority, emphasizing functional ability, independence, wellbeing, dignity, and quality of life throughout later life.

Older adults may experience multiple chronic diseases and age-related conditions, including cardiovascular disease, diabetes, dementia, frailty, sensory impairment, mobility limitations, depression, and social isolation. These challenges can increase the need for long-term care and coordinated support across home, community, and institutional settings. Importantly, healthy ageing extends beyond disease prevention to creating supportive environments that enable older adults to remain active, independent, and socially connected.

Care for older adults is a shared responsibility. Family members remain the primary source of support in many countries, while nurses, physicians, allied health professionals, social care workers, and community organizations contribute to health promotion, disease prevention, functional maintenance, chronic disease management, and continuity of care. However, smaller families, changing social structures, workforce shortages, migration, and increasing care needs are placing growing pressure on existing caregiving systems.

This plenary session will examine whether individuals, communities, health systems, and societies are adequately prepared for the realities of population ageing. It will explore gaps in caregiver preparedness, health and social care workforce capacity, age-friendly services and environments, community support, long-term care, and policy implementation. It will also consider strategies to strengthen readiness through life-course health promotion, caregiver education and support, workforce development, integrated care, community-based services, age-friendly environments, and multisectoral collaboration.

Ultimately, preparing for an ageing society requires moving from reactive approaches to proactive investment in healthy ageing and care readiness. Longer lives should be accompanied by opportunities to live with dignity, purpose, independence, and meaningful participation. Achieving this requires empowering older adults, supporting caregivers, strengthening the care workforce, and developing resilient, equitable, and age-friendly systems for the future.

***Keywords:*** *Healthy ageing, caregiving readiness, family caregivers, community care, long-term care, age-friendly systems, health workforce, quality of life.*

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## Plenary Session III: Towards a New Era of Patient Care

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*Board Certified Consultant in Health Informatics*
*Ministry of Health*
*SriLanka*

# Towards New Trends in Health Systems

Health systems worldwide are shifting from disease-centred to person-centred models, integrating primary, secondary, and tertiary care around continuous, personalised pathways. Advances in genomics and open health data are moving medicine from population-based protocols toward genetically and biometrically informed care, extending healthy life-years. Artificial intelligence is accelerating this transition from drug discovery and diagnostics to triage, resource allocation, and predictive analytics that anticipate patient deterioration before it occurs while telemedicine, wearables, and hospital-at-home models extend real-time, home-based care and narrow equity gaps in access. Yet these innovations carry risks: genetic discrimination, algorithmic bias, and data privacy and confidentiality concerns demand deliberate ethical and regulatory attention. Realising this potential responsibly requires parallel investment in workforce capacity, training clinicians in digital and data literacy and developing new roles such as clinical informaticians and AI ethicists alongside governance frameworks for data protection, AI oversight, and sustainable financing. This talk surveys these converging trends in personalised medicine, AI-enabled care, and digital health, examining how leadership, cross-sector collaboration, and research-to-policy translation can help health systems, including Sri Lanka's, harness innovation while safeguarding equity, safety, and public trust.

***Keywords:*** *Artificial intelligence, Digital Health, Health systems*

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*SriLanka*

## Legal Perspectives in Health Equity

Legal perspectives on health equity focus on utilising laws, regulations, and judicial interpretations to dismantle systemic barriers to fair health outcomes. Globally, this involves transitioning from a model of basic equal access to one that addresses social determinants of health and historical disadvantages. While countries like the U.S. use statutory frameworks such as Medicaid and the Affordable Care Act to fill constitutional gaps, international human rights law increasingly frames health as a fundamental right, pressuring states to fulfill legal obligations proactively.

In Sri Lanka, the legal landscape is defined by a transition from healthcare being a non-enforceable "welfare benefit" under the Directive Principles of State Policy to an explicit, justiciable fundamental right. Despite the lack of an original constitutional mandate, the Sri Lankan judiciary has played a crucial role by invoking the Right to Equality and an implied Right to Life to protect public health interests (Sriyani Silva v. Iddamalgoda (2003)), including regulating tobacco and ensuring access to medicine. However, the rise of out-of-pocket expenses and drug shortages continues to challenge these legal protections, underscoring the need for concrete constitutional reform to safeguard vulnerable populations.

***Keywords:*** *Health equity, Health care, Legal perspectives*

# Oral Presentations

# Medical Laboratory Science

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**OP 01**

# Association of the Systemic Immune Inflammation Index with Cardiovascular Disease Risk in Patients Attending the Medical Clinic at a Tertiary Care Hospital in Sri Lanka

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**Background:** Cardiovascular Diseases (CVDs) remain a major contributor to global mortality and morbidity, and represent a significant, growing health burden in Sri Lanka. Chronic inflammation plays a key role in the development and progression of CVD, and the Systemic Immune Inflammation Index (SII) may serve as a practical, cost-effective marker for CVD stratification.

**Objective:** To investigate the association of SII with the five World Health Organisation/International Society of Hypertension (WHO/ISH) 10-year CVD risk groups and evaluate its discriminative ability.

**Methods:** This descriptive cross-sectional study enrolled 197 participants aged 40-79 years attending the medical clinic at the Colombo South Teaching Hospital, Kalubowila, using consecutive sampling. Participants meeting the inclusion criteria who provided informed consent were recruited, while those meeting the predefined exclusion criteria were excluded. Data including age, sex, current smoking status, systolic blood pressure (SBP) and blood samples for fasting blood glucose, full blood count and total cholesterol level were collected. Participants were classified into CVD risk percentages as <10, 10 to <20, 20 to <30, 30 to <40 and ≥40% designated as groups 1 to 5. SII was calculated as (platelet count×neutrophil count)/lymphocyte count. Spearman's rank correlation assessed associations, Receiver Operating Characteristic curve (ROC) analysis evaluated the discriminative ability. Multivariable ordinal logistic regression was performed with ordered WHO/ISH CVD risk categories (Groups 1–5) as the dependent variable, adjusting for age, sex, diabetes status, SBP and total cholesterol.

**Results:** The participants were distributed as Group 1 (n=84), Group 2 (n=55), Group 3 (n=3), Group 4 (n=17) and Group 5 (n=9). SII positively correlated with increasing CVD risk ($\rho$=0.275, $p$<0.001) and was independently associated with higher CVD risk groups (adjusted OR=1.0018, 95% CI: 1.0005-1.0032, $p$=0.007). ROC analysis indicated an excellent discriminative ability for the highest risk group, Group 5 (AUC=0.833).

**Conclusion:** SII was significantly associated with WHO/ISH CVD risk groups and may serve as a simple, low-cost marker for CVD risk stratification.

***Keywords:*** *Cardiovascular disease risk, Discriminative ability, Full blood count, SII, WHO/ISH*

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**OP 02**

# The Association of Systemic Immune Response Index with Cardiovascular Disease Risk in Patients Attending to Medical Clinic at a Tertiary Care Hospital in Sri Lanka

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**Background:** Cardiovascular diseases (CVD) remain a leading cause of global morbidity and mortality, heavily affecting low- and middle-income countries, including Sri Lanka. Composite haematological indices like Systemic Immune Response Index (SIRI) may offer a cost-effective approach for early CVD risk stratification.

**Objective/s:** To investigate the association of Systemic Immune Response Index (SIRI) with the five World Health Organization/International Society of Hypertension (WHO/ISH) CVD risk groups and to evaluate its discriminative ability.

**Methods:** An analytical cross-sectional study was conducted among 197 participants aged between 40–79 years attending the medical clinic at Colombo South Teaching Hospital, Kalubowila, Sri Lanka. Data, including age, sex, smoking status, alcohol use and physical activity were collected using an interviewer-administered questionnaire. Height and weight were measured to calculate BMI. Blood samples were collected for full blood count, total cholesterol and fasting blood glucose tests. Participants were assigned to five groups (1–5) according to CVD risk percentages as <10%, 10-<20%, 20-<30%, 30-<40% and ≥40%. SIRI was calculated as (neutrophil count×monocyte count)/lymphocyte count. Spearman's rank correlation was used to assess the associations. Receiver Operating Characteristic (ROC) curve analysis was performed to evaluate discriminative ability. Multivariable ordinal logistic regression analysis was performed, adjusting for BMI, alcohol use and physical activity.

**Results:** The participants were distributed among five CVD risk groups as follows: group 1 (84), group 2 (55), group 3 (32), group 4 (17) and group 5 (9). SIRI showed a significant positive correlation with CVD risk ($\rho$=0.507, $p$<0.001). ROC curve analysis demonstrated good discriminative ability of SIRI for identifying individuals in the highest-risk group (Area under the curve = 0.794, 95% CI: 0.590–0.954; Optimal cutoff: 15.38; Sensitivity: 66.67%; Specificity: 89.89%). Multivariable logistic regression analysis indicated that SIRI was significantly associated with higher CVD risk groups (adjusted OR=1.06, 95% CI: 1.02-1.12, $p$=0.005).

**Conclusion/s:** SIRI is a cost-effective and readily available inflammatory biomarker for identifying individuals at high CVD risk and improves risk stratification in clinical practice.

***Keywords:*** *Cardiovascular disease risk, SIRI, Inflammatory biomarker, Risk stratification, Full blood count*

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**OP 03**

# Variation in Maternal Thyroid Hormone Levels during Exclusive Breastfeeding: A Cross-sectional Study in Galle District

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**Background:** Maternal thyroid hormonal status plays a critical role during lactation, influencing maternal health and infant development. However, evidence describing variations in thyroid hormone levels during exclusive breastfeeding in community settings remains limited, particularly in low- and middle-income countries.

**Objective:** To assess differences in maternal Thyroid-Stimulating Hormone (TSH) and free thyroxine (fT4) levels during exclusive breastfeeding among lactating mothers in Galle District.

**Methods:** A community-based cross-sectional study was conducted among 172 lactating mothers without known thyroid disorders or serious medical illnesses. Participants were categorised into four lactation stages: delivery (0-7 days), early (1-2 months), mid (3-4 months), and late (5-6 months). Mothers were recruited into each group, and a blood sample from each participant was analysed for serum TSH and fT4 using ELISA. Group differences were assessed using one-way ANOVA. Regression analysis was performed to assess hormonal model trends across lactation duration.

**Results:** The mean maternal age was 31.5±5.0 years, with 49.7% being primiparous. Median (IQR)TSH concentrations were 2.6 (1.2-5.0), 1.5 (0.61-2.80), 1.4 (0.7-2.74), and 1.7 (0.9-3.2) mIU/L across the four lactation stages, respectively. Median (IQR) fT4 concentrations were 0.8 (0.2-1.0), 1.0 (0.7-1.6), 1.2 (0.9-1.6), and 1.1 (0.6-1.4) ng/dL, respectively. ANOVA demonstrated significant differences in fT4 levels across lactation stages ($p$<0.001), whereas TSH levels did not differ significantly ($p$=0.37). Linear regression showed a significant positive association between lactation stage and fT4 levels (B=0.124, $p$=0.002), while no significant association was observed for TSH (B=-0.333, $p$=0.22).

**Conclusions:** Maternal fT4 levels differed significantly across postpartum groups during exclusive breastfeeding, whereas TSH levels remained relatively stable. Higher median fT4 concentrations were observed among mothers in the mid- and late-lactation stages than in the immediate postpartum period. These findings suggest differences in maternal thyroid hormone profiles across lactation stages and provide community-based evidence to support postpartum thyroid monitoring among breastfeeding mothers.

***Keywords:*** *Exclusive Breastfeeding, Free Thyroxine, Maternal Health, Thyroid Stimulating Hormone*

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**OP 04**

# Prevalence, Molecular Characterisation and Nanoparticle-based Control of Biofilm-forming Multidrug-resistant Bacteria in Water Plumbing Systems

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**Background:** Biofilm-forming bacteria in water plumbing systems threaten public health due to their persistence and resistance to disinfectants and antibiotics. Nanoparticle-based strategies offer a promising solution for biofilm control.

**Objective:** This study evaluated the prevalence of biofilm-forming bacteria in domestic water plumbing systems, characterised them using biochemical and molecular techniques, assessed their antibiotic resistance, and investigated nanoparticle-based strategies for biofilm control.

**Methods:** Water samples from distribution and drainage lines were analysed for biofilm formation using the tissue culture plate, Congo red agar, and tube methods. Biofilm-producing isolates were identified by biochemical and molecular techniques. Biofilm-associated genes were detected, and their expression under different glucose concentrations was analysed using quantitative real-time polymerase chain reaction. Antibiotic susceptibility testing followed Clinical Standards Institute guidelines. The antibiofilm efficacy of hydrothermally synthesised $TiO_2$ and microwave-assisted ZnO nanoparticles was evaluated for six months using coated and uncoated PVC pipe models.

**Results:** Overall, 66.13% of isolates were biofilm producers, with a higher prevalence in drainage lines than distribution lines. Strong, moderate, and weak biofilm producers accounted for 34.45%, 17.98%, and 13.70% of isolates, respectively. *Escherichia coli* was the predominant biofilm-forming species, followed by *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, and *Staphylococcus epidermidis.* Molecular analysis confirmed key biofilm-associated genes, while gene expression varied with glucose concentration, highlighting the influence of nutrient availability on biofilm formation. All tested isolates exhibited multidrug resistance. ZnO-$TiO_2$ nanocoated PVC pipes reduced biofilm formation by 26.85% in water samples and 39.93% in pipe scrapings compared with uncoated controls.

**Conclusions:** Domestic water plumbing systems harboured a high prevalence of multidrug-resistant biofilm-forming bacteria. Detection of biofilm-associated genes and glucose-dependent gene expression highlighted the molecular basis of biofilm persistence. ZnO-$TiO_2$ nanocoatings effectively reduced biofilm formation, demonstrating a sustainable and practical strategy to improve water quality and reduce biofilm-associated public health risks.

***Keywords:*** *Antibiofilm activity, Biofilm-associated genes, Biofilm-forming bacteria, Multidrug resistance, Nanoparticle treatment*, *Water plumbing systems*

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**OP 05**

# Genotoxicity of Chewing Betel Leaves with Tobacco: A Case Study in a Rural Village in Sri Lanka Using the Comet Assay on Human Buccal Mucosa Cells

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**Background:** Betel leaves chewing with areca nut, tobacco and slaked lime is common in rural Asia. These components contain genotoxic compounds causing DNA damage. The comet assay is a sensitive, reliable method to evaluate genotoxicity.

**Objective:** To evaluate genotoxic effects on buccal mucosal cells by comparing DNA damage among betel chewers and non-chewers in rural Sri Lanka and to assess the effects of tobacco use and chewing frequency on DNA damage levels.

**Methods:** A cross-sectional study was conducted with 20 participants in Bowalawaththa Grama Niladhari area, Kandy District. Buccal cell samples were collected from two groups: betel chewers (n=10; 5 tobacco users, 5 non-users) and non-betel chewers (n=10). The alkaline comet assay was performed using agarose-coated slides, which were stained and examined under a fluorescence microscope. Comet images were analysed with CometScore to determine DNA damage parameters (tail length, % tail DNA, and tail moment). Statistical analysis used non-parametric tests.

**Results:** Betel chewers showed higher DNA damage values that were not significantly different from non-chewers. (tail length: -15.300±3.650 px vs. 7.400±0.970; px, tail moment:- 9.100±3.050 vs. 3.370±0.880; $p>0.05$). Tobacco users exhibited greater damage and were significantly different from non-users. (tail length: - 18.900±4.590 px vs. 2.10±0.440 px; tail moment: -11.500±3.850 vs. 0.290±0.070; $p<0.01$). DNA damage increased with chewing duration in betel chewers. The mean tail length was 5.470±2.470 px (<5 years), 5.430±2.910 px (5-10 years), and 21.10±5.590 px (>10 years) ($p<0.05$).

**Conclusion:** There was a consistent trend of increased DNA damage in betel chewers, tobacco users and with longer chewing duration. However, further large-scale studies are required to confirm these correlations.

***Keywords:*** *Alkaline Comet assay, Betel chewers, DNA damage, Non-betel chewers, Oral Genotoxicity*

# Nursing and Midwifery

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**OP 06**

# Strategies Used to Prevent Hospital Readmissions at National Hospital, Galle, Sri Lanka

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**Background:** Preventing avoidable hospital readmissions is an important indicator of healthcare quality, with nurses playing a key role in discharge planning, patient education, and continuity of care. Understanding current strategies used in clinical practice is essential for identifying strengths and areas requiring improvement in transitional care.

**Objective:** To assess the current strategies used to prevent hospital readmissions at National Hospital Galle from the perspective of nursing officers involved in the discharge process.

**Methods:** A descriptive cross-sectional study was conducted among 102 nursing officers working in medical, surgical, paediatric, and psychiatric wards at National Hospital Galle. Participants were selected using stratified random sampling. Data were collected using a researcher-developed, pre-tested, self-administered questionnaire based on the literature and refined through pilot testing. The questionnaire assessed discharge planning, readmission tracking, medication management, patient education, follow-up care, and interprofessional communication. Data were analysed using descriptive statistics with SPSS version 25.0.

**Results:** Nearly half of the nursing officers (49.5%) relied on manual methods to track readmissions, while 32.0% used electronic health records and 10.7% followed standardised protocols. Patient education at discharge was reported by 69.4% of participants. Discharge planning was mainly based on clinical complexity (53.5%), while 51.0% involved family members. Written discharge instructions were provided by 49.0%, but only 8.8% encouraged patients to ask questions. Medication education was primarily verbal (75.5%), and only 25.7% reported conducting routine follow-up calls.

**Conclusion:** Readmission prevention strategies are implemented inconsistently and rely largely on individual nursing practices. Strengthening standardised discharge protocols, improving nurse training, and establishing routine post-discharge follow-up may improve continuity of care and reduce avoidable hospital readmissions.

***Keywords**: Discharge process, Nursing strategies, Readmission prevention*

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**OP 07**

# Effectiveness of Scenario-based Pain Management Education on Nursing Students' Knowledge and Attitudes

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**Background**: Previous studies in Sri Lanka suggest that nursing students frequently demonstrate inadequate knowledge and attitudes regarding pain management. Scenario- based education (SBE) promotes active learning and clinical reasoning through realistic clinical situations and may improve pain management competencies. However, evidence on its effectiveness in Sri Lanka remains limited.

**Objective**: To assess the effectiveness of an SBE programme in improving nursing students' knowledge and attitudes regarding pain management compared with traditional lecture-based teaching.

**Methods**: A quasi-experimental study was conducted among 140 nursing students of the 2020A batch from two Schools of Nursing (SON) in Sri Lanka (SON Matara and SON Galle), with 70 participants per group. The intervention group (I) received six SBE sessions on pain management in fracture, cervical cancer, laparotomy, bone cancer, below-knee amputation and appendicitis, while the control group (C) received six traditional lectures. Knowledge and attitudes were assessed using the previously validated English version of the Knowledge and Attitudes Survey Regarding Pain questionnaire. Scenario quality was evaluated using the Simulation Scenario Quality Instrument (SSQI). Data were analysed using chi-square, paired and independent sample t-tests with effect sizes (Cohen's d).

**Results**: Baseline characteristics were comparable between groups ($p$>0.05). Most participants were female (I=97.1%, C=95.7%), aged 23-26 years (I=84.3%, C=90.0%), and had biology backgrounds (I=71.4%, C=87.1%). Pre-test scores were not significantly different between groups (I=44.59±7.77 vs. C=45.87±7.46; $p$=0.322). Both groups showed significant post-intervention improvements (I: t(69)=16.72, $p$<0.001; C: t(69)=9.96, $p$<0.001). Post-test scores were significantly higher in (I) (78.93±14.56) than in (C) (60.01±9.28) (t (117.13)=9.17, $p$<0.001; d=1.55). All scenarios achieved acceptable SSQI quality scores.

**Conclusion**: SBE was more effective than lecture-based teaching within the study setting. Further multi-centre randomised studies are recommended to confirm these findings.

***Keywords:*** *Attitudes, Knowledge, Nursing students, Pain management, Scenario-based education*

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**OP 08**

# Experience over Design: Nurses' Port Preferences in Ported PIVC Use

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**Background:** Ported Peripheral Intravenous Catheters (PIVCs) are a common standard for intravenous access. Manufacturers developed the injection port specifically for drug administration by injection. It possesses specific advantages such as easy access and no blood spill. Nurses, as the primary users of PIVCs, develop extensive user experience and empirical knowledge that shape their preferences and techniques over time. In clinical practice, we observed that nurses are often reluctant to use the dedicated injection port in PIVC for drug administration by injection, a pattern that remains underexplored in the existing literature.

**Objective:** To assess nurses' preferences regarding the use of different ports in ported PIVCs and identify the perceived rationale for preference.

**Methodology:** A descriptive cross-sectional study was conducted among registered nurses at National Hospital Galle, Sri Lanka, in 2023, following ethical approval. A total of 324 nurses were recruited using simple random sampling. Data were collected using a content-validated, piloted, interviewer-administered questionnaire. Data were analysed using SPSS version 25.0, and descriptive statistics along with Pearson's chi-square test were used.

**Results:** Among the participants, 64% (n=207) preferred to use the lower port for drug administration via injection, rather than the dedicated injection port. Participants who preferred the lower port noted some of the following perceived advantages of the lower port over the injection port: less resistance during injection (80.2%), less pain (65.7%), ability to aspirate when blood clot is suspected (54.1%), and enhanced feedback regarding fluid flow or catheter blockage (49.8%). Port preference was significantly associated with current working speciality ($p$=0.001).

**Conclusions:** Despite being designed to provide advantages, nurses' preference for using the lower port reflects the advantages perceived through their clinical experience. However, further research is needed to generalise these findings. Furthermore, these findings suggest that manufacturers should collaborate with nurses to improve clinical utility and patient safety.

***Keywords****: Peripheral intravenous catheter, Injection port, Intravenous drug administration, Nursing practice, Ported cannula*

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**OP 09**

# Evidence-based Practice in Obstetric Nursing in Sri Lanka: Insights from National Health Stakeholders

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**Background:** Evidence-Based Practice (EBP) is crucial for improving maternal and neonatal outcomes. Despite nurses' central role, limited evidence exists on how national stakeholders perceive obstetric nurses' readiness for EBP in Sri Lanka.

**Objective:** To explore the perspectives of national healthcare stakeholders on obstetric nurses' EBP knowledge, attitudes knowledge, attitudes, readiness, implementation, and barriers affecting EBP adoption in Sri Lanka.

**Methods:** An exploratory qualitative study design was employed. Six purposively selected stakeholders, including senior nursing administrators, educators, a regulatory council member, a public health leader, a senior academic, and a specialist obstetrician, were interviewed. A pre-tested, semi-structured interview guide was used. Key informants were purposively selected through expert sampling based on their strategic roles, expertise, and influence on EBP in obstetric nursing. Selection was guided by representation of key stakeholder groups, including nursing leadership, regulatory bodies, academia, and obstetric care providers, rather than the achievement of data saturation due to the limited number of experts occupying these roles. Sessions were audio-recorded, transcribed verbatim, and analysed using thematic analysis. Credibility and trustworthiness were ensured through peer debriefing, audit trails, member checking, and reflexive discussions.

**Results:** Data were analysed using inductive thematic analysis, which generated five main themes: EBP knowledge and awareness, EBP readiness and facilitators, EBP implementation, attitudes toward EBP, and barriers to EBP adoption. Stakeholders recognised the importance of EBP but identified limited conceptual understanding and research engagement among nurses. Leadership support, professional development opportunities, and interprofessional collaboration were perceived as key facilitators, whereas policy gaps, organisational constraints, hierarchical influences, workload, and individual resistance hindered implementation.

**Conclusion:** Stakeholders identified that although obstetric nurses demonstrate clinical competence and commitment to patient care, limited EBP knowledge, constrained readiness, hierarchical influences, and multilevel system, institutional, and individual barriers hinder EBP adoption in Sri Lanka. Multi-level strategies, including national policy development, curriculum reform, protected professional development opportunities, and formal recognition pathways, are essential to strengthen EBP implementation and ultimately improve maternal and neonatal health outcomes.

***Keywords:*** *Evidence-based practice, Obstetric nursing, Stakeholder perspectives, Qualitative research, Sri Lanka*

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**OP 10**

# Awareness Regarding Increased Screen Time and its Effects on Eye among Patients Aged 20–30 Years Attending the Outpatient Department at the National Hospital Sri Lanka

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**Background:** There is a rising global screen exposure and its implications for eye health in young adults. However, awareness of screen-related ocular conditions and preventive practices in this age group remains underexplored.

**Objective:** To assess awareness regarding the effects of increased screen time on the eyes, including the prevalence of eye problems, among patients aged 20–30 years attending the Outpatient Department (OPD) at the National Hospital of Sri Lanka (NHSL).

**Methods:** A descriptive cross-sectional study was conducted among 320 participants selected using convenience sampling, including participants who were readily available and willing to participate and who attended different services at the OPD of the NHSL. Data were collected through a pre-tested, self-administered questionnaire. Quantitative data were analysed using SPSS version 25.0 with descriptive statistics, Chi-square tests, and Spearman's correlation. Increased screen time was identified based on self-reported daily screen hours.

**Results:** Most participants were aged 21-25 years (61.3%) and female (69.1%). Increased screen time (>4 hours/day) was reported by 56.6% of participants. Overall, 96.3% were aware of screen-related eye effects, 90.3% knew about preventive measures, and 48.8% demonstrated moderate knowledge. Most participants showed a positive attitude toward reducing screen time. Gender ($p$=0.005) and screen illumination ($p$=0.05) were significantly associated with ophthalmic problems. Symptom frequency positively correlated with symptom severity (r=0.643, $p$<0.01) and attitude (r=0.135, $p$=0.016).

**Conclusion:** Although awareness was high, prolonged screen exposure remained common. Promoting healthy screen-use practices, adherence to 20-20-20 rule, and regular eye care may help reduce screen-related ophthalmic problems. Further research is recommended to reduce eye discomfort among Sri Lankan vicenarians.

***Keywords:*** *Attitude, Awareness, Eye health, Screen time, Vicenarians*

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**OP 11**

# Individual and Interpersonal Barriers to Access Reproductive Health Care Services among Teenage Mothers in Galle District

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**Background:** Pregnant teenagers face significant barriers to accessing Reproductive Healthcare Services (RHCS), especially in low- and middle-income countries. In Sri Lanka, 9% of births occur among mothers aged 15-19 years, with a 4.3% rate in the Galle District. Despite available services, utilisation remains low due to limited awareness, stigma, and structural barriers, highlighting the need to explore barriers to accessing RHCS across urban, rural, and estate settings to improve maternal and neonatal outcomes.

**Objective:** To explore the barriers to accessing reproductive healthcare services among teenage mothers in the urban, rural, and estate sectors of the Galle district, Sri Lanka, with a focus on individual and interpersonal factors influencing their access.

**Methods:** A community-based exploratory qualitative study was conducted among 34 teenage mothers who had become pregnant between the ages of 15 and 19 years, including urban (n=11), rural (n=12), and estate (n=11) sectors in Galle District, Sri Lanka. Three MOH areas were purposively selected. Data were collected through seven focus group discussions (FGDs), with two to three FGDs conducted in each sector and six to seven participants per FGD, until data saturation was achieved. The data were analysed manually using thematic analysis, ensuring methodological rigor.

**Results:** Individual and interpersonal barriers to accessing reproductive health care services among teenage mothers were identified. At the individual level**,** themes included "uncertainty and misconceptions about adolescent pregnancy", "stigmatisation and fear", and "economic vulnerability". At the interpersonal level**,** "influence of family and partners" and "socio-cultural and religious norms" were identified.

**Conclusion:** These findings highlighted the individual and interpersonal challenges that restrict teenage mothers' utilisation of reproductive health services. Addressing these issues requires integrated efforts to improve awareness, reduce stigma, and develop supportive reproductive health policies.

***Keywords:*** *Barriers, Reproductive healthcare services, Teenage mothers*

# Pharmacy and Pharmaceutical Sciences

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**OP 12**

# In vitro Antimicrobial, Antioxidant and Antidiabetic Activities of Different Parts of Hellenia speciosa (Thebu)

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**Background:** *Hellenia speciosa* (Thebu) is widely consumed in Sri Lanka and used in traditional medicine. However, its pharmacological properties remain poorly understood. This study evaluated the pharmacological potential of five plant parts.

**Objective:** To evaluate the *in vitro* antimicrobial, antioxidant, and antidiabetic properties of methanolic extracts of *H. speciosa*.

**Methods:** Methanolic extracts of Thebu leaves, stem, roots, flowers, and rhizome were prepared by maceration. Antimicrobial activity was evaluated using the well-diffusion method against selected bacterial and fungal reference strains including *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Enterococcus faecalis*, *Candida albicans*, *C. glabrata* and *C. tropicalis* and clinical strains; Vancomycin-resistant *Enterococcus* sp. (VRE), Multidrug-resistant (MDR) *Acinetobacter baumannii*, Methicillin-resistant *S. aureus* (MRSA), *Streptococcus agalactiae*, *Proteus* sp. and *Serratia marcescens*. Gentamicin (10 mg/mL) and fluconazole (600 µg/mL) were used as positive controls, while 5% DMSO served as the negative control. MIC and MBC assays were performed, along with anti-swarming and antibiofilm assays (crystal violet assay). Antioxidant activity was assessed by DPPH radical scavenging assay, and antidiabetic activity by α-amylase inhibition assay. One-way ANOVA with Tukey's post hoc test was used for statistical analysis, and all assays were performed in triplicate.

**Results:** VRE showed the highest antibacterial susceptibility to Thebu extracts, with leaf, root, stem, and flower extracts producing inhibition zones of 30±2.5, 18±1.9, 15±0.2, and 12±0.6 mm, respectively ($p<0.001$), followed by *S. agalactiae*, MRSA, and *E. faecalis*. Tested *Candida* spp. were resistant to all extracts. The flower extract showed the lowest MIC against *P. aeruginosa* (12.5 mg/mL), while the leaf extract showed the lowest MBC against MRSA (6.25 mg/mL). The Stem extract demonstrated biofilm inhibition against *P. aeruginosa* (62.1%) and MRSA (52.9%), while the root extract showed the highest swarming inhibition (66.67%). The root extract exhibited the highest antioxidant activity (99.8% free radical neutralisation at 500 ppm), and stem extract showed the highest α-amylase inhibition (92.3% at 2000 ppm).

**Conclusion:** Methanolic extracts of *Hellenia speciosa* exhibited multiple bioactivities, supporting its traditional use and further phytochemical investigation.

***Keywords:*** *Antidiabetic activity, Antimicrobial activity, Antioxidant activity, Biofilm, Hellenia speciosa*

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**OP 13**

# In Silico Evaluation of Oryza sativa Leaf Flavonoids as Potential Inhibitors of MRSA PBP2a

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**Background:** Antimicrobial Resistance (AMR) in methicillin-resistant *Staphylococcus aureus* (MRSA) poses a severe global health threat. Penicillin-binding protein 2a (PBP2a), encoded by the *mecA* gene, confers resistance to β-lactam antibiotics by maintaining cell wall synthesis despite the presence of the drug. *Oryza sativa* leaves, often regarded as agricultural waste, are a sustainable source of bioactive flavonoids with documented antibacterial properties. However, their specific molecular interactions with MRSA PBP2a remain unexplored.

**Objective:** To evaluate the binding affinities of orientin, luteolin, and isoquercitrin from *Oryza sativa* leaves against MRSA PBP2a using blind docking, with ceftaroline as a positive control.

**Methods:** Blind molecular docking was performed using CB-Dock2 integrated with AutoDock Vina. Binding poses in the largest cavity (CurPocket C1) were analysed for hydrogen bonds, π-interactions, and hydrophobic contacts. Ceftaroline was docked identically as a positive control to validate pocket relevance.

**Results:** Ceftaroline yielded a Vina score of -8.9 kcal/mol, confirming CurPocket C1 as a biologically relevant binding site. The flavonoids preferentially bound to the same pocket, with scores of orientin (-8.6 kcal/mol), luteolin (-8.2 kcal/mol), and isoquercitrin (-7.3 kcal/mol) comparable to the positive control and to literature-reported values for active flavonoids (-7.0 to -9.0 kcal/mol). Stable hydrogen bond networks (2.2-3.1 Å) and key hydrophobic/π-interactions were observed with critical pocket residues.

**Conclusion:** Orientin and luteolin exhibited binding affinities comparable to ceftaroline, suggesting potential inhibitory interactions with PBP2a. *Oryza sativa* leaves represent a sustainable AMR-adjuvant resource; *in vitro* validation and molecular dynamics studies are warranted to confirm biological efficacy.

***Keywords:** Antimicrobial resistance, Ceftaroline, Flavonoids, MRSA, PBP2a, Oryza sativa*

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**OP 14**

# Antimicrobial Consumption Patterns in Two Tertiary Care Hospitals in Southern Sri Lanka: A WHO AWaRe Classification and ATC/DDD Based Analysis

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**Background:** The AWaRe classification of antimicrobial was introduced by the World Health Organisation (WHO) in 2017 to emphasise the importance of appropriate selection of antimicrobials. This system categorises antimicrobials into three groups namely Access, Watch, and Reserve, based on their spectrum of activity, potential for resistance, and stewardship priority.

**Objective:** To evaluate antimicrobial prescribing and consumption patterns using the WHO AWaRe classification in inpatient and Outpatient Department (OPD) settings at the National Hospital Galle (NHG), and the German-Sri Lanka Friendship Hospital for Women, Karapitiya (GSLFH).

**Methods:** A six-month retrospective analysis (January-June 2025) was conducted. OPD antimicrobial data such as; the date of dispensing, antimicrobial characteristics, and consumption data were collected and entered into pre-designed Excel sheets, while inpatient antimicrobial data were entered into a newly developed antimicrobial surveillance software system (MediQ). Outpatient data from NHG were extracted from the Hospital Health Information Management System (HHIMS), whereas all other data were obtained from pharmacy records. A total of 151 antimicrobial data records were collected from the hospital settings. Antimicrobial consumption was calculated using the WHO standardised Defined Daily Dose (DDD) methodology.

**Results:** At the NHG OPD, Watch group antimicrobials accounted for 53.6% of total consumption, compared with 46.4% for the Access group, with no Reserve antimicrobials recorded. Access antimicrobials contributed more than 60% of inpatient consumption at NHG. At GSLFH, Access antimicrobials predominated in both the OPD (89.5%) and in patient settings (86%), while Watch antimicrobials accounted for 10.4% and 13%, respectively. Reserve antimicrobial use was minimal.

**Conclusion:** Access group antimicrobials predominated in most settings, indicating general alignment with first-line antimicrobial use. However, the higher Watch group consumption in the NHG OPD highlights the need for targeted antimicrobial stewardship and routine surveillance to promote rational antimicrobial use.

***Keywords:*** *Antimicrobial stewardship*, *AwaRe, Antimicrobial consumption, Sri Lanka*

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**OP 15**

# Gas Chromatography-Mass Spectrometry (GC-MS) Analysis of Hexane Fraction Obtained from 70% Isopropyl Alcohol Extract of Vernonia cinerea

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**Background:** Hexane fraction of *Vernonia cinerea* has demonstrated promising hepatoprotective potential in previous studies.

**Objective:** To identify bioactive compounds in the hexane fraction of *Vernonia cinerea* using GC–MS analysis.

**Methods:** Aerial parts of *V. cinerea* were collected from southern Sri Lanka and authenticated (Accession No: 3211). Dried material was extracted with 70% isopropyl alcohol and fractionated using n-hexane and subjected to GC-MS analysis. 250 ppm solution of the dried hexane fraction was prepared, and residual moisture was removed using anhydrous sodium sulfate. The mixture was filtered using a 0.22 µm PTFE syringe filter and collected in a GC-MS sample via. The GC-MS analysis was conducted using an Agilent 7890A GC instrument and Agilent 5975C inlet XL EI/CI MSD with a triple axis MS detector equipped with an auto liquid sampler (Agilent 7693) for sample introduction. The system utilised an Agilent 33 1909-433HP-5MS capillary column coated with 5% Phenyl Methyl Silox as the stationary phase. The column was operated at a maximum temperature of 325 ºC. The flow rate inside the column was 0.5 mL/min. The oven program began at 50 ºC and ramped at 5 ºC/min with a 5-minute hold, then increased at 10 ºC/min to 280 ºC with another 5-minute hold, reaching a maximum temperature of 320 ºC over a total run time of 43 minutes. Helium gas served as the carrier gas with a flow rate of 0.5 mL/min.

**Results:** GC-MS analysis of the hexane fraction identified several bioactive compounds, including hydrocarbons, phenolic derivatives, and coumarin-related compounds such as, coumarin (18.4%), pyrimidine (5.6%), hexacosane (3.3%), acetamide (5.5%), eicosane (4.4%), hexadecane (2,16%) and 1-propanol (1.5%) and quinazolin-4(3H)-one (4.3%), etc. which may contribute to the observed hepatoprotective activity.

**Conclusion:** The presence of bioactive compounds identified by GC-MS analysis supports its potential for the development of therapeutic agents for liver disorders.

***Keywords:*** *GC-MS analysis, Hepatoprotective activity, Bioactive compounds, Vernonia cinerea*

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**OP 16**

# Medication Adherence and Its Socio-demographic Determinants among Cirrhotic Patients in a Tertiary Care Hospital in Sri Lanka

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**Background:** Cirrhosis is a major cause of liver-related morbidity and mortality worldwide, requiring long-term pharmacotherapy. Suboptimal medication adherence reduces treatment effectiveness and disease control. Socio-demographic disparities contribute to avoidable hospitalisations, particularly in low-and-middle-income countries. Evidence on medication adherence among cirrhotic patients in Sri Lanka is limited.

**Objective:** To assess medication adherence and its relationship with the common socio-demographic factors among cirrhotic patients attending the gastroenterology and special liver clinics of Colombo North Centre for Liver Diseases (CNCLD) at Colombo North Teaching Hospital (CNTH).

**Methods:** A descriptive cross-sectional study was conducted among 203 adult cirrhotic patients at CNTH using convenience sampling. Medication adherence was assessed using the Brief Medication Questionnaire (BMQ), validated in Sri Lanka. Socio-demographic data were collected using an interviewer-administered questionnaire. Associations were analysed in Jamovi using Mann-Whitney U and Kruskal-Wallis tests ($\alpha$=0.05).

**Results:** Participants (n=203) had a mean age of 62.1±9.42 years and were predominantly male and married. The total BMQ mean score was 1.32±0.983, indicating poor adherence overall. Only 3.4% (n=7) were adherent, while 32.0% (n=65) were probable adherents, 57.1% (n=116) were probable poor adherents, and 7.4% (n=15) were poor adherents, indicating a high prevalence of suboptimal adherence. The recall screen showed the highest median score (0.667), suggesting difficulty following regimens, while belief-related barriers were minimal (median 0.0). Total BMQ scores were significantly associated with gender ($p$=0.035) and education ($p$=0.003), while marital status was associated with recall screen scores ($p$=0.021).

**Conclusion:** Cirrhotic patients demonstrated suboptimal medication adherence, with most being probable poor adherents and poor adherents. Medication adherence was significantly influenced by gender, education, and marital status. A structured medication improvement programme may optimise patient outcomes, enhance medication safety, reduce hospital readmissions, and associated costs.

***Keywords:*** *Brief Medication Questionnaire, Cirrhosis, Medication adherence, Socio-demographic factors*

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**OP 17**

# Association Between Polypharmacy Levels and Health-related Quality of Life Among Patients with Non-dialysis Chronic Kidney Disease: A Cross-sectional Study at a Tertiary Care Center in Sri Lanka

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**Background:** Polypharmacy is a major challenge in managing Chronic Kidney Disease (CKD) due to its progressive nature, multimorbidity, and complex long-term pharmacotherapy. Impaired renal function increases the risk of adverse drug reactions, drug-drug interactions, treatment burden, and poor medication adherence, compromising Health-related Quality of Life (HRQoL). Despite its clinical importance, evidence on the association between polypharmacy and HRQoL among patients with non-dialysis CKD in Sri Lanka remains limited.

**Objective:** To evaluate the association between polypharmacy levels and HRQoL among patients with non-dialysis CKD attending a tertiary hospital in Sri Lanka.

**Methodology:** A descriptive cross-sectional study was conducted among 388 clinically diagnosed patients with non-dialysis CKD attending the National Hospital Galle, Sri Lanka. Polypharmacy was classified according to the number of concurrently prescribed medication classes using the Anatomical Therapeutic Chemical (ATC) classification system, while HRQoL was assessed using the validated Kidney Disease Quality of Life Short Form (KDQOL-SF™) version 1.3. Domain scores were summarised as median and interquartile range (IQR), and the association between polypharmacy and HRQoL was evaluated using multiple linear regression.

**Results:** Among 388 clinically diagnosed non-dialysis CKD patients (mean age 64.0±11.9 years; 51.4% male; 41.1% CKD stage 3b; 94.1% had no family history of CKD), polypharmacy was observed in 95.1%, including 56.6% with major polypharmacy and 29.7% with hyperpolypharmacy. Median total HRQoL declined progressively across increasing polypharmacy levels; minor polypharmacy: -79.7048; major polypharmacy: -61.8797; hyperpolypharmacy: -42.0219, representing a 37.68-point reduction between minor and hyper polypharmacy. After adjusting for age, gender, CKD stage and comorbidities, polypharmacy levels emerged as a consistent and significant negative predictor of HRQoL across all domains ($p$<0.005), including physical functioning (B=-19.096, CI=95%, $p$<0.001), emotional well-being (B=-6.410, CI=95, $p$<0.001) and social functioning (B=-18.336, CI=95, $p$<0.001).

**Conclusion**: Higher polypharmacy levels were associated with poorer HRQoL among non-dialysis CKD patients. Although polypharmacy may be necessary for managing multiple comorbidities, regular medication review and rational deprescribing, where appropriate, may reduce treatment burden and improve patients' HRQoL.

***Keywords:*** *Chronic kidney disease, Health-related Quality of Life, Polypharmacy*

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**OP 18**

# A Novel Multifunctional Curcumin-Modified Silver Nanoparticle Nanocoating for Foley Catheters: Antimicrobial, Antibiofilm, Cytotoxic, and Antioxidant Performance

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**Background:** Catheter-associated urinary tract infection is one of the most prevalent healthcare-associated infections, contributing to prolonged hospitalisation and increased healthcare costs.

**Objective:** To synthesise curcumin-modified silver nanoparticles (curcumin-AgNPs), to develop them as a multifunctional nanocoating, and to comparatively evaluate antimicrobial, antibiofilm, antioxidant, and cytotoxic activities against silver nanoparticles (AgNPs) and curcumin alone.

**Methods:** Nanoparticles were synthesised using chemical reduction method and characterised using Fourier Transform Infrared Spectroscopy (FTIR), X-ray Diffraction (XRD), X-ray Photoelectron Spectroscopy (XPS), Scanning and Transmission Electron Microscopy (SEM-TEM). Antimicrobial efficacy against *Proteus mirabilis* was assessed using agar well diffusion, minimum inhibitory concentration (MIC), and minimum bactericidal concentration ((MBC), while antibiofilm activity was assessed using Minimum Biofilm Inhibitory Concentration ($MBIC_{50}$). Cytotoxicity and antioxidant activities were evaluated using zebrafish embryos and DPPH radical scavenging assays. Foley catheters were coated with Curcumin-AgNPs and assessed using FTIR, SEM-EDX, and contact angle assays. Reduction of biofilm formation was assessed using 3-(4,5-dimethylthiazol2yl)-2,5diphenyltetrazolium bromide (MTT), Crystal Violet (CV) and Atomic Absorption Spectroscopy (AAS) assays. Statistical comparison was performed using the Friedman test ($p<0.05$).

**Results:** FTIR, XRD, XPS, TEM, and SEM analyses confirmed successful synthesis. Comparative analysis showed that curcumin-AgNPs exhibited enhanced antimicrobial and antibiofilm activity compared to AgNPs and curcumin, with lower MIC, MBC, and $MBIC_{50}$ values. Curcumin-AgNPs showed higher antioxidant efficacy (93.11%) and reduced toxicity ($LC_{50}$-1101.99 µg/mL) relative to curcumin (82.76%, 969.82 µg/mL), and AgNPs (46.00%, 53.92 µg/mL). The release study confirmed controlled silver and curcumin release from coated catheters within non-cytotoxic limits. Curcumin-AgNPs-coated catheters showed a reduction in biofilm formation and delayed catheter blockage. Significant differences were observed in ZOI, MIC and MBC among AgNPs, curcumin, and curcumin-AgNPs ($p<0.05$).

**Conclusion:** Curcumin-AgNPs exhibit significant antibacterial, antibiofilm and antioxidant properties while exhibiting low cytotoxicity, highlighting their potential as a catheter coating to reduce crystalline biofilm formation by *P. mirabilis*.

***Keywords:*** *Antibiofilm, Antimicrobial, Cytotoxicity, Nanoparticles, Proteus mirabilis*

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

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**OP 19**

# Normative Reference Values of Abdominal Aortic Dimensions in Sri Lankan Population: CECT-based Study

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**Background:** Accurate normative reference values for abdominal aortic dimensions are essential for diagnosing vascular pathologies, such as abdominal aortic aneurysm (AAA). Several studies have reported population-specific references, but limited data exist for Sri Lanka. These population-specific references are vital for improvingthe diagnostic accuracy of aortic conditions and facilitating informed clinical decision-making.

**Objective:** To establish normative reference values for abdominal aortic anteroposterior diameter (APD) and transverse diameter (TD) in the Sri Lankan population.

**Methods:** A retrospective descriptive multicentred study was conducted using CECT abdomen images of 216 individuals (aged 21-80 years; mean 53.8±15.4 years) without any significant aortic pathologies such as AAA. The sample size was calculated using G*Power software. The study sample was categorised into two age groups: 21-50 and 51-80 years. Abdominal aortic APD and TD were measured at the aortic hiatus, suprarenal, and infrarenal levels using the RadiAnt DICOM viewer. Data were analysed in Jamovi, and descriptive statistics were calculated for both diameters at each level separately by sex and age groups.

**Results:** The mean±SD (range) for abdominal aortic APD and TD in males at the aortic hiatus, suprarenal level, and infrarenal level were 22.27±2.82 (13.30) mm and 22.17±2.75 (11.80) mm, 19.88±3.02 (12.80) mm and 19.69±2.71 (11.70) mm, and 16.42±2.06 (9.90) mm and 16.19±1.88 (9.10) mm, respectively. In females, the corresponding values were 19.92±2.74 (13.50) mm and 19.66±2.46 (12.90) mm, 17.48±2.64 (13.60) mm and 17.23±2.35 (12.00) mm, and 13.87±2.29 (11.10) mm and 13.76±2.27 (11.44) mm, respectively.

**Conclusions:** Abdominal aortic APD and TD were consistently larger at the aortic hiatus level and progressively decreased towards the infrarenal level in both sexes. Males exhibited larger aortic diameters than females, and diameters increased with age, with higher values observed in the 51-80 age group compared to the 21-50 age group.

***Keywords:*** *Abdominal aorta, Abdominal Aortic Aneurysm, Anteroposterior diameter, CECT, Transverse diameter*

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**OP 20**

# Psychological Distress and Depression Among Older Adults Living Alone in the Galle District, Sri Lanka

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**Background:** Sri Lanka's population ageing is accelerating, and the Galle district has the second-highest proportion of older adults in the country. With increasing numbers of older adultsliving alone, concerns arise regarding their psychological vulnerability, including distress, depression, and emotional instability. Understanding the mental health profile of this group is essential for targeted interventions.

**Objective:** To assess psychological distress and depression among older adults living alone, and to compare findings with those not living alone in the Galle district.

**Methods:** A community-based, cross-sectional study was conducted among 346 older adults (aged ≥60 years), selected through multi-stage cluster sampling. Living alone was defined as residing in a household without family members for more than six months. Psychological status was assessed using the Geriatric Depression Scale (GDS–Long Form) and the Kessler Psychological Distress Scale (K10). Data were analysed using descriptive statistics, independent t-tests, and chi-square tests.

**Results:** The mean age of participants was 73.5±7.7 years, with 16.18% living alone. Among those living alone, only 25.0% were psychologically well, while 26.8% had mild distress, 33.9% had moderate distress, and 14.3% had severe distress. In contrast, among those not living alone, 70.7% were psychologically well, and none experienced severe distress ($p$<0.001). Depressive symptoms were also markedly higher among those living alone. Only 14.3% were classified as normal, while 64.3% had mild and 21.4% had severe depression. Among those not living alone, 69.3% were normal and only 0.68% had severe depression ($p$<0.001). Mean scores confirmed significantly higher distress (23.98±6.55 vs. 16.84±4.14) and depression (15.16±5.42 vs. 6.69±2.88) among those living alone compared to those living in families.

**Conclusion:** Older adults living alone exhibit markedly higher psychological distress and depressive symptoms compared to those living with family. This study highlights the need for community-based mental health supportive programmes for older adults living alone. However, since living alone is not the sole reason for psychological distress, more exploratory studies are required to investigate this aspect in the Galle district.

***Keywords:*** *Depression, Living alone, Older adults, Psychological distress, Sri Lanka.*

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**OP 21**

# Attitudes, Awareness, and Experiences of Perimenopause Among Indian Men: A Qualitative Study

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**Background:** Men's perceptions of perimenopause are shaped by illness perceptions, emotional connotations, relational satisfaction, and psychosocial contexts. Despite its relevance to couple well-being and midlife health, evidence on Indian men's perceptions of perimenopause remains limited. The Common-Sense Model of Self-Regulation (CSM) guided the exploration of these aspects.

**Objectives:** To explore Indian men's perceptions of perimenopause, with an emphasis on illness representations, intimate partner relationships, and the role of healthcare providers.

**Methods:** Using a qualitative design and reflexive thematic analysis, 4 online Focus Group Discussions (FGDs) (mean group size=8; mean duration=71.3 mins) were conducted with Indian men (n=33; mean age=43.2 years) recruited through purposive sampling via social media platforms and professional networks in June 2025. Sample size was determined by thematic saturation. The FGD prompts explored illness perceptions, relational satisfaction, the role of physicians, and support needs.

**Results:** Five themes were developed from the data: (i) *Perceived symptom experiences and meaning-making* with subthemes 'physical, psychological, and emotional burden' and 'changes in identity and self-worth'; (ii) *Male awareness and gendered perceptions*; (iii) *Intimate partner relationships and communication* with subthemes 'relational consequences and intimacy' and 'significance of communication'; (iv) *Socio-cultural context: community perceptions and healthcare support* with subthemes 'cultural and community perceptions' and 'healthcare support'; (v) *Supportive care and unmet needs*.

**Conclusion:** These findings highlight gaps in psychosocial support, women's midlife healthcare, and partner-focused education, underscoring the need for clinician training and couple-based interventions that address gendered health inequalities.

***Keywords*****:** *Common-Sense Model, India, Male perspectives, Perimenopause, Women-centred Healthcare*

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**OP 22**

# Academic Staff Perceptions of Clinical Training of Physiotherapy Undergraduates at University of Colombo, Sri Lanka

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**Background:** Department of Allied Health Sciences, Faculty of Medicine, University of Colombo conducts the Bachelor of Science Honours (BSc Hons) in Physiotherapy degree programme, which consists of a clinical sciences stream designed to enhance practical clinical skills and clinical decision-making abilities of undergraduates in clinical settings.

**Objective:** To explore the perceptions of academic staff of clinical training in the BSc Hons (Physiotherapy) programme at the University of Colombo.

**Methods:** A qualitative phenomenological study was conducted at the Faculty of Medicine, University of Colombo. Nine individual semi-structured interviews were conducted with academic staff members actively involved in the clinical sciences stream. Participants were recruited using the maximum variation sampling method, and recruitment was terminated upon reaching data saturation. Interviews were audiotaped and transcribed. Data analysis was conducted using the framework analysis method.

**Results:** Academic staff perceived those clinical rotations in a variety of specialised units, with ample patient exposure, and training arrangements starting from the first year that facilitate learning through orientation to independent practice as strengths of the current clinical training. They emphasised the importance of aligning the learning outcomes of the current programme with international physiotherapy practice guidelines and the needs of the country. Limited guidance to students and clinical educators on clinical training, limitations in the learning environment, and students' negative attitudes were highlighted as barriers. They suggested the need for improvements in continuous guidance to students and clinical educators, training clinical educators in clinical teaching, regular monitoring with continuous feedback, utilisation of the learning management system for clinical teaching, and interprofessional education to promote multidisciplinary care.

**Conclusion:** While the BSc Hons (Physiotherapy) degree programme at the University of Colombo provides valuable opportunities for undergraduates to enhance their clinical skills, there remains a need for further improvement to optimise the quality and effectiveness of clinical teaching.

***Keywords:*** *Academic staff perception, Clinical training, Physiotherapy education, Undergraduate learning*

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**OP 23**

# Assessment of Knowledge and Dietary Practices of Nutritional Status Among Community-dwelling Older Adults in Galle District

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**Background:** With the rapidly ageing population in Sri Lanka, the health and well-being of elders have become a major public health concern. One main issue is malnutrition, which often goes unnoticed, particularly among elderly individuals living in the community.

**Objective:** To assess nutritional status, nutritional knowledge, and dietary practices, and to evaluate the factors associated with nutritional knowledge and dietary practices with selected demographic factors among community-dwelling older adults in Galle District.

**Methods:** A descriptive cross-sectional study was carried out among 385 older adults residing in Galle District using a multistage cluster sampling technique. Data were collected through an interviewer-administered questionnaire covering demographic details, nutritional knowledge, and dietary practices, while nutritional status was assessed using the Mini Nutritional Assessment (MNA) tool. Data were analysed using SPSS version 26, with descriptive statistics, Pearson's correlation, and chi-square tests. $p<0.05$ was taken as statistically significant.

**Results:** The mean age of the sample was 69.1±8.1 years, and 52.5% were females. Based on MNA scoring, 6.5% were malnourished, 45.2% were at risk, and 48.3% had a normal nutritional status. Regarding nutritional knowledge, 30.6% demonstrated good nutritional knowledge, while 16.4% had poor knowledge, with a mean score of 11.14±3.20. In terms of dietary practices, 34.3% reported good practices while 3.9% had poor practices, with a mean score of 46.67±7.45. Level of education, marital status, monthly income, and dietary practices were significantly associated with nutritional knowledge ($p<0.05$). Individuals with higher knowledge scores were more likely to engage in healthier eating behaviours, including regular intake of protein sources, fruits, and vegetables, and reduced meal skipping.

**Conclusion:** The study highlights that a large number of community-dwelling older adults in the Galle District are at risk of malnutrition. The findings demonstrate clear links between nutritional knowledge, dietary practices, and overall nutritional health. There is an urgent need for community-based education and dietary support programmes that aim to enhance nutrition and well-being among the elderly population in Sri Lanka.

***Keywords:*** *Community-dwelling, Dietary practices, Older adults, Nutritional knowledge, Nutritional status*

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**OP 24**

# Quality of Life Among Older Adults Living Alone in the Galle District, Sri Lanka: A Comparative Cross-sectional Study

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**Background:** Sri Lanka is experiencing rapid population ageing, with the Galle District having one of the highest proportions of older adults. The ongoing economic crisis has increased youth migration, leaving more older adults living alone and at greater risk of social isolation, limited support, and poor health. Assessing their Quality of Life (QoL) is essential for planning appropriate interventions.

**Objective:** To assess and compare the QoL of community-dwelling older adults living alone and those not living alone in the Galle District.

**Methods:** A community-based, cross-sectional study was conducted among 346 older adults selected using multi-stage cluster sampling in the Galle District. Living alone was defined as residing independently for more than six months without family members. QoL was measured using the validated Older People's Quality of Life (OPQoL) questionnaire. Data were analysed using descriptive statistics and chi-square tests.

**Results:** The mean age of participants was 73.5±7.7 years, and 16.18% were living alone. Overall, QoL among those living alone was moderate to low across all domains. The highest mean score was observed in leisure and activities (3.55±0.47), while the lowest was in the health domain (2.36 ± 0.80). Compared to those living with family, older adults living alone had significantly lower QoL scores across all domains, including life overall, health, social relationships, independence, psychological well-being, financial circumstances, and leisure activities ($p$<0.001). Among those living alone, 92.9% had OPQoL scores at or below the mean, suggesting poorer QoL, while only 7.1% scored above the mean. In contrast, a majority of those not living alone (70.3%) had scores above the mean, indicating a better perceived QoL ($p$<0.001).

**Conclusion:** Older adults living alone in the Galle District had significantly lower QoL than those not living alone. These findings support community-based programmes and policies to improve the QoL of older adults living alone.

***Keywords:*** *Quality of life, OPQoL, Older adults, Living alone, Sri Lanka*

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**OP 25**

# Nutritional Management Practices Among Patients with Chronic Kidney Disease in Southern Sri Lanka: A Cross-sectional Study

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**Background:** Undernourishment has been identified as a common phenomenon among patients with Chronic Kidney Disease (CKD), which affects their quality of life. In this context, appropriate nutritional management practices are crucial for better management of CKD, by delaying disease progression and improving kidney functions.

**Objectives:** To assess practices and its associated factors on nutritional management among patients with CKD in Southern Sri Lanka.

**Methods:** A cross-sectional study was carried out among 423 patients with CKD attending the nephrology clinics at National Hospital Galle (NHG) and District Ayurvedic Hospitals (DAH); Galle and Beliatta. Participants who consented and were between 18-85 years of age were included in the study. Data were collected via a pre-tested, interviewer-administered questionnaire, and the level of practices was assessed using a 5-point Likert scale. Chi-square tests were carried out using SPSS software.

**Results:** Of the total (423), the majority attended the nephrology clinics at NHG (n=396), followed by DAH Galle (n=21) and Beliatta (n=06). Most of the participants were males (62.6%) and were in the CKD stage 3 (39.2%). About 71.6% (n=303) patients had a moderate level of practices towards nutritional management of CKD, while 14.7% (n=62) and 13.7% (n=58) had optimum and low levels of practices, respectively. Fluid intake and adjustment of the meal plan based on laboratory findings showed moderate adherence, while weight-controlling practices, controlling of salt intake, having recommended food, reading of labels and avoiding consumption of processed food showed low adherence. Age ($\chi^2$=13.90), gender ($\chi^2$=10.9) marital status ($\chi^2$=17.9), occupation ($\chi^2$=8.083), smoking ($\chi^2$=18.318), alcohol consumption ($\chi^2$=31.284), CKD stage ($\chi^2$=55.658) and family history of CKD ($\chi^2$=12.1) showed significant associations with the level of practices among the participants ($p$<0.05).

**Conclusion:** The present findings revealed that the nutritional management practices for CKD were below optimal levels among patients with CKD.

***Keywords:*** *Chronic Kidney Disease, Nutritional management, Practices, Southern province*

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**OP 26**

# Prevalence and Associated Factors of Period Poverty and Its Impact Among Adolescent Girls Attending Schools in Galle Education Zone

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**Background:** Period poverty, characterised by inadequate access to menstrual hygiene products, sanitation facilities, and menstrual health education, is a significant public health concern affecting adolescent girls. It contributes to poor menstrual hygiene management, school absenteeism, and reduced participation in daily activities.

**Objective:** To assess the prevalence, associated factors, and impact of period poverty among adolescent girls attending schools inthe Galle education zone.

**Methods:** A school-based, cross-sectional study was conducted among 406 adolescent girls aged 15-17 years using stratified random sampling. Data were collected using a pre-tested, self-administered questionnaire. Period poverty was assessed across four domains: menstrual hygiene awareness and practices, cost and access to menstrual hygiene products, water and sanitation facilities, and social stigma. Participants with at least one affected domain were considered to have period poverty, categorised as low (one domain), moderate (two or three domains), or high (all four domains). Data were analysed using chi-square and independent-samples t-tests.

**Results:** Most participants were Sinhalese (91.9%), resided in urban areas (59.1%), lived in nuclear families (87.4%), and 46.6% belonged to low-income families. The prevalence of period poverty was 94.1%, with 53.0% experiencing a moderate level. Period poverty was significantly associated with age (15 years) ($p$<0.001), rural residence ($p$=0.039), low family income ($p$<0.001), low parental educational status ($p$<0.001), and living in nuclear families ($p$=0.004). A small proportion (1.2%) reported often or always missing school due to lack of menstrual products, while 34.2% experienced impaired concentration, 33.8% reported reduced physical activity, and 24.1% reported reduced productivity during menstruation.

**Conclusions:** Period poverty is highly prevalent among adolescent girls in the Galle education zone and is significantly associated with several sociodemographic factors. It adversely affects educational participation and daily functioning. These findings highlight the urgent need for policy and programme interventions to improve equitable access to menstrual hygiene products, adequate sanitation facilities, and comprehensive menstrual health education among schoolgirls.

***Keywords:*** *Adolescent girls, Galle education zone, Impact, Period poverty*

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**OP 27**

# Nutritional Status and Its Determinants Among Community-dwelling Older Adults in Kurunegala District, Sri Lanka: A Cross-sectional Study

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**Background:** Population ageing is increasing in Sri Lanka, raising concerns about the nutritional well-being of community-dwelling older adults.

**Objectives:** To assess the nutritional status of older adults aged ≥65 years in Kurunegala District characterise their dietary diversity,nutrient intake, assess their functional status, and identify socio-demographic factors associated with malnutrition risk.

**Methods:** A community-based, cross-sectional study was conducted among 150 randomly selected community-dwelling older adults using a pre-tested questionnaire and a validated Semi-Quantitative Food Frequency Questionnaire (SQFFQ) to collect socio-demographic and dietary data. Nutritional status was assessed using the Mini Nutritional Assessment (MNA), anthropometric measurements, and bioelectrical impedance analysis. Functional status was assessed using the Activities of Daily Living (ADL) score and the Timed Up and Go (TUG) test.

**Results:** Mean±SD age of the participants was 72.3±5.1 years. According to the MNA classification, 0.7% of participants were malnourished, 30.6% were at risk, and 68.7% were well-nourished. Nutritional status was significantly associated with living status, with a higher risk among those living alone ($p$=0.050). By BMI classification, 10% were underweight, while 52% were overweight or obese. Functional assessment showed increased fall risk (mean TUG: 12.18±2.9 seconds) and dependence (mean ADL: 15.95±2.2), affecting 30% and 46% of participants, respectively; neither was significantly associated with nutritional status ($p$=0.200; $p$=0.429). Dietary diversity was not significantly associated with nutritional status. Regression analysis identified skeletal muscle percentage, calf circumference, and mid-upper arm circumference, along with living status as significant predictors of nutritional status ($R^2$=0.242, $p$<0.001).

**Conclusions:** Although most community-dwelling older adults in Kurunegala District were well-nourished, nearly one-third were at risk of malnutrition. The increased risk among those living alone highlights the need for targeted nutritional screening, dietary support, and community-based interventions for socially vulnerable older adults. Integrating nutritional assessment with broader geriatric health promotion strategies may help prevent malnutrition and improve healthy ageing among community-dwelling older adults.

***Keywords:*** *Activities of Daily Living Score, Functional Assessment, Malnutrition, Mini Nutritional Assessment, Semi-Quantitative Food Frequency Questionnaire*

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**OP 28**

# Garbage Generation, Disposal Practices, and Impacts in Fisheries Harbour Communities in Galle District, Sri Lanka: A Qualitative Inquiry

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**Introduction:** Improper waste management in the environment of fisheries harbours is an increasing environmental and public health concern in coastal communities. Community perceptions of garbage generation and disposal influence waste management behaviours and directly affect environmental quality and health outcomes. Inadequate waste practices may contribute to water contamination, vector breeding, occupational hazards, and risks to marine ecosystems.
**Objective:** To explore perceptions regarding garbage generation, disposal practices, and their impact on community health among the fisheries harbour community in Galle District, Sri Lanka.

**Methods:** A qualitative inquiry was conducted usingin-depth interviews with 20 purposively selected participants representing four fisheries harbour stakeholder groups: fishermen, fish vendors, fish purchasers, and harbour staff. Participants were recruited to obtain diverse perspectives. Interviews followed a semi-structured guide until data saturation was reached. Interviews were audio-recorded, transcribed verbatim, and analysed using thematic analysis.

**Results:** Three findings were prominent. Participants perceived that garbage generation had increased and waste types had changed over time, while inadequate bins, disposal facilities, cost, and limited awareness encouraged burning, landfilling, selective recycling, and illegal dumping. Health-related perceptions focused on reported illnesses, vector breeding, occupational exposure, and perceived risks from hazardous waste. Environmental concerns centred on water pollution, ecosystem degradation, reduced biodiversity, poor fish health, and threats to fisheries sustainability and livelihoods. Findings were organised into six themes: community awareness and concerns about waste; waste disposal practices and effectiveness; health implications of waste; environmental consequences of waste; waste impact on marine and aquatic ecosystems; and waste and fisheries sustainability.

**Conclusion:** The study highlights community concerns regarding increasing waste generation, inadequate disposal practices, and related health, environmental, and ecological impacts. Limited infrastructure, poor awareness, and illegal dumping were perceived as key gaps. Strengthening waste disposal infrastructure, health education, and community-level waste management strategies is needed to reduce environmental degradation, protect public health, and support fisheries sustainability.

***Keywords:*** *Community health, Environmental health, Fisheries harbour, Garbage disposal, Qualitative research*

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**OP 29**

# Exploring the Use of Complementary and Alternative Therapies in Managing Menopause Among Sri Lankan Women

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**Background:** Menopause remains a neglected public health priority in many low- and middle-income countries, where limited access to hormone replacement therapy and fragmented services leave women managing complex symptoms with minimal support. In this context, Complementary and Alternative Therapies (CATs), including Ayurveda, herbal medicine, and culturally embedded practices, serve as accessible and trusted care pathways. However, their use remains underrepresented in scientific evidence and policy.

**Objective:** To assess the prevalence and patterns of CATs use for menopause among middle-aged women in Sri Lanka.

**Methods:** A cross-sectional design was adopted, focusing on self-reported data relating to the prevalence, type, and source of alternative treatments, alongside demographic and clinical characteristics. The analysis utilised baseline data from 703 Sri Lankan women enrolled in the MARIE project, representing diverse socio-economic and geographic settings. Participants were classified by menopausal stage (pre-, peri-, menopausal, post-menopausal) and type (natural, surgical, medical). Data on CATs use, sources of recommendation, and clinical correlates, including endometriosis and polycystic ovary syndrome, were analysed.

**Results:** The median age was 52 years (IQR 45-61). Overall, 6.5% of women reported current CATs use. Ayurveda and herbal therapies were most common (46.7%), followed by exercise/yoga (21.7%), massage (15.2%), and dietary or spiritual practices (16.4%). CATs use was higher among perimenopausal women (11.1%), those with surgical menopause (12.5%), and those with medically induced menopause (18.8%). Women with endometriosis showed higher uptake (15.6% vs 6.1%). Recommendations were primarily from informal networks (34.8%), with limited healthcare professional involvement. Over half of users reported concurrent use with conventional medications, indicating potential risks of unmonitored herb–drug interactions.

**Conclusions:** CATs function as de facto extensions of the health system in resource-limited settings. These findings highlight a critical gap between lived health practices and formal care, under-recognised role in menopausal care in Sri Lanka. Integrating culturally grounded, evidence-based interventions, supported by clinical trials, pharmacovigilance, and policy alignment, offers a pathway to improve equity, safety, and quality of menopause care globally.

***Keywords****: Alternative therapies, Menopause, Sri Lanka*

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**OP 30**

# Social Media Usage, Emotional Self-regulation and Psychological Well-being Among Undergraduates in Selected Universities in Sri Lanka

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**Background:** Social media usage is increasing among undergraduate students globally. It has become an integral part of undergraduates' daily lives in Sri Lanka, yet its psychological impact has not been adequately studied.

**Objective:** To investigate the impact of social media usage on Emotional Self-Regulation (ESR) and Psychological Wellbeing (PWB) among undergraduates in selected universities in Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among 500 undergraduates in three state universities; Ruhuna, Colombo, and Sri Jayewardenepura, using purposive sampling. Data were collected using a self-administered questionnaire,that assessed social media usage, ESR, and PWB. The questionnaire was assessed for content validity by experts and pretested with a sample of undergraduates before the study. Descriptive statistics and chi-square tests were used for data analysis.

**Results:** The majority of undergraduates (98.9%, n=486) used social media platforms for their academic/official purposes. WhatsApp was the most frequently used social media platform (93.3%, n=458). The most common combination used was WhatsApp and YouTube (85.1%, n=418). Friend groups were the most frequently engaged type (90.2%). Nearly half of the participants (50.5%) cannot control the time they spend on social media. Social media usage was significantly associated with PWB, with depression ($p$=0.016) and stress ($p$=0.004). Further, social media usage was significantly associated with the ESR, including expressing emotions through social media ($p$=0.015), inability to control emotions when using social media ($p$=0.026), and inability to control emotions even when attempting to reframe thoughts ($p$=0.018).

**Conclusion:** The use of social media significantly influences PWB and ESR, highlighting the importance of student counselling and mentorship for promoting healthy, mindful social media use.

***Keywords:*** *Emotional self-regulation, Psychological wellbeing, Social media usage, Undergraduates*

# Poster Presentations

# Medical Laboratory Science

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**PP 01**

# Expression of Virulence Factors of Vancomycin-resistant Enterococci Isolates Among Hospitalised Patients at Colombo South Teaching Hospital, Sri Lanka

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**Background**: Vancomycin-resistant Enterococci (VRE) have emerged as significant nosocomial pathogens worldwide expressing several virulence factors that promote persistent infections and help them evade the host immune response. Despite this, data on phenotypic virulence traits of Sri Lankan clinical VRE isolates remain limited.

**Objective**: To assess selected phenotypic virulence factors in clinical VRE isolates from hospitalised patients at Colombo South Teaching Hospital (CSTH), Sri Lanka.

**Methods**: A cross-sectional descriptive study was conducted at CSTH, Sri Lanka, from September 2025 to January 2026. Enterococcal isolates from urine, blood, wound, pus, sterile body fluids, and tissue samples were identified using biochemical tests and screened for vancomycin resistance by disc diffusion according to CLSI guidelines. Phenotypic virulence factors assessed were gelatinase, hemolysin, biofilm formation, hemagglutination, and caseinase production using standard protocols. VRE prevalence and virulence factors were expressed as percentages with 95% confidence intervals where applicable. Fisher's exact test was used for statistical analysis.

**Results**: From 222 total Enterococci isolates, 60 (27.02%) isolates were identified as VRE by motility, arabinose and pyruvate tests. The majority of isolates (51 of 60, 85%) were non-motile. A significant proportion of the isolates (71.7%, 43 of 60) was positive for arabinose and negative for both pyruvate and motility test. *E. faecium* was predominant (56.7%) followed by *E. faecalis*, *E. gallinarum/E. casseliflavus*. All VRE isolates formed biofilms (55% strong, 28.3% moderate, and 16.7% weak producers). Gelatinase, caseinase, and hemagglutination were detected in 56.7%, 6.7%, and 71.7% of isolates, respectively ($p$>0.05). Among hemagglutinating isolates, 48.3% showed pan-agglutination, while A-, O-, AO-, and BO-specific hemagglutination were observed in 3.3%, 11.7%, 5.0%, and 3.3% of isolates, respectively. Hemolytic activity was absent in 90% of isolates, whereas 10% exhibited β-hemolysis ($p$>0.05). No statistically significant association was found between Enterococcus species and the strength of biofilm formation.

**Conclusion**: Clinical VRE isolates exhibited high virulence potential, underscoring the need for strengthened surveillance and infection prevention measures in Sri Lankan hospitals.

***Keywords:*** *Biofilms, Gelatinase, Hemoagglutination, Vancomycin-resistant Enterococci, Virulence factors*

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**PP 02**

# Correlation of Birth Weight and Period of Gestation on Dried Blood Spot Thyrotrophin Levels in Newborns in the Southern Province, Sri Lanka

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**Background:** Congenital Hypothyroidism (CH) is a preventable cause of intellectual disability, yet it often remains clinically silent in neonates. The development of the central nervous system could get affected by Thyroid Stimulating Hormone can be affected by alterations in thyroid-stimulating hormone (TSH). Despite this importance, the impact of maternal and neonatal factors on TSH levels specifically in the Sri Lankan context remains under-researched.

**Objectives:** To assess the correlation between Birth Weight (BW) and TSH levels in term and preterm neonates, determine the prevalence of TSH screening positivity, analyse the relationship between gestation period and neonatal (n) TSH levels, and evaluate the impact of gender on nTSH values.

**Methods:** Nuclear Medicine Unit (NMU), Faculty of Medicine, University of Ruhuna assesses nTSH levels in Southern Province using the IMMUCHEMTM NEONATAL TSH-MW ELISA technique from dried blood spot samples. Data of 1770 newborns were collected using a convenience sampling method from the NMU. Birth weight, gestation, and gender data were obtained. Statistical analysis was performed using SPSS, utilising chi-square tests, t-tests, and Pearson's correlation to evaluate the effects of these neonatal factors on TSH levels.

**Results:** Out of 1770 newborns, 13.6% were low BW, 10.6% were preterm. Mean BW was 2833.57 g and the mean gestational age was around 38 weeks. The average nTSH value was 4.77 µIU/mL, with 5.2% having nTSH>20.0 µIU/mL. No significant difference in TSH levels was observed between preterm and term babies ($p$=0.47), or male and female babies ($p$=0.81). Pearson's correlation showed no significant relationship between nTSH level and birth weight ($p$=0.06) or gestation period ($p$=0.30).

**Conclusions:** This study results suggest that TSH interpretation should not be based exclusively on factors like birth weight or period of gestation. Further, it underscores the need for further research incorporating broader maternal and perinatal variables to refine CH management in Sri Lanka.

***Keywords:*** *Birth weight, Congenital hypothyroidism, Neonatal TSH screening, Period of gestation*

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**PP 03**

# Association of Anthropometric Indices with Kidney Function Biomarkers Among Young Adults in an Urban Population, Sri Lanka

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**Background:** Anthropometric indices are increasingly associated with markers of subclinical kidney damage, but their utility in screening young, apparently healthy populations remains unclear.

**Objective:** To evaluate the associations between anthropometric indices and kidney function biomarkers among apparently healthy young adults in an urban Sri Lankan population.

**Methods:** A cross-sectional study was conducted among 135 apparently healthy young adults aged 18 to 30 years (mean±SD age 23.74±2.52 years) recruited from Maharagama, Sri Lanka. Apparently healthy status was defined as the absence of diagnosed chronic diseases or active conditions that could cause microalbuminuria. Anthropometric indices including body mass index (BMI), waist circumference (WC), waist-to-hip ratio (WHR), and waist-to-height ratio (WHtR) were assessed. Kidney function was evaluated using serum creatinine, estimated glomerular filtration rate (eGFR; CKD-EPI equation), and urinary albumin-to-creatinine ratio (UACR). Potential confounders for creatinine such as physical activity, dietary intake, and muscle mass were not measured. Spearman correlation and multivariable linear regression were performed after confirming regression assumptions, with variables that were significant in bivariate analyses entered into the model.

**Results:** Anthropometric indices did not show a significant correlation with UACR or eGFR ($p$>0.05). WC (r=0.175, $p$=0.043) and WHR (r=0.247, $p$=0.004) showed weak positive correlations with serum creatinine, whereas BMI and WHtR were not significantly associated ($p$>0.05). After adjustment for age, sex, and blood pressure, neither WC nor WHR remained an independent predictor of serum creatinine ($\Delta R^2$=0.016, $p$=0.194).

**Conclusions:** Anthropometric indices were not independent predictors of kidney function biomarkers in this cohort of apparently healthy young Sri Lankan adults after adjustment for physiological covariates. Longitudinal studies are needed to determine whether anthropometric measures predict kidney dysfunction over time in this population.

***Keywords:*** *Anthropometric indices, Kidney function biomarkers, Sri Lanka, Young adults*

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**PP 04**

# Metabolic Profile-based Vitamin D Status Predictor Model for Adults in Anuradhapura District, Sri Lanka

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**Background:** Serum Vitamin D (VD) plays an important role in regulating metabolic pathways, including those associated with insulin resistance. Prediction of VD status through routine biochemical tests could be beneficial as the serum VD analytical methods are not cost-affordable.

**Objective:** To determine serum insulin, adiponectin, lipid profile and insulin resistance indices to be used in predicting VD status in healthy adults in Anuradhapura District, Sri Lanka.

**Methods:** Fasting blood samples were collected from volunteers (n=54) aged 30–59 years with normal body mass index, waist circumference, and Fasting Plasma Glucose (FPG). Lipid profile and FPG were assessed by colorimetric-enzymatic-assay-kit method. Insulin, VD and adiponectin levels were determined using immunoenzymatic-assay, chemiluminescent-microparticle-immunoassay and enzyme-linked-immunosorbent-assay respectively. Insulin resistance was calculated using TyG, LAP and HOMA-IR indices. VD>30.0 ng/mL, between 20.0-29.9 ng/mL and <20.0 ng/mL were categorised as normal, insufficient, and deficient, respectively. Pearson's correlations, ordinal logistic regression (proportional odds model) were applied to model building with principal component analysis (PCA). Cohen's Kappa was used to evaluate the model. Statistical analyses were performed using R software.

**Results:** HOMA-IR showed a weak negative correlation ($p<0.05$) with adiponectin. TyG, LAP and TAG: HDL indices showed moderately positive significant correlations ($p<0.05$) with fasting insulin. None of the parameters/indices showed significant correlations with VD. The main positive contributors of PCA1 were insulin-related, and of PCA2 were plasma-lipid-related. PCA1 and PCA2 cumulative proportion was 62.4%. Classification model with PCA1 and PCA2 achieved an overall accuracy of 66.7% with fair agreement beyond chance ($\kappa=0.40$).

**Conclusion:** VD status prediction model developed from PCA 1 and 2 achieved 66% accuracy. Although the model performed moderately for two categories (insufficient and deficient), its overall predictive performance remained low due to limited samples. Predicting VD status with ordinal logistic regression from PCA 1 and 2 was more effective than considering individual variables.

***Keywords:*** *Classification model*, *Insulin resistance*, *Metabolic profile*, *Vitamin D*

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**PP 05**

# Antimicrobial Activity of Marine Bacterial Isolates Isolated from Coastal Seawater in Puttalam District, Sri Lanka

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**Background:** The Emergence of antibiotic-resistant bacteria has significantly limited treatment options for bacterial infections. The marine environment has unique microorganisms which are a promising source of producing new antimicrobial compounds against resistant bacteria.

**Objectives:** To isolate marine bacterial isolates from coastal seawater in Puttalam District, Sri Lanka and evaluate their antimicrobial activity against selected pathogenic bacteria.

**Methods:** Eleven surface seawater samples were collected aseptically from different coastal locations in Puttalam District. The samples were serially diluted, plated on Tryptic Soy Agar supplemented with 3% NaCl, and incubated at 28 °C for 3-5 days to isolate marine bacteria. Isolates were phenotypically identified using colony morphology, Gram staining and selected biochemical tests. Antimicrobial activity was screened using the agar well diffusion method against seven pathogenic bacteria: *Escherichia coli* (ATCC 25922), *Staphylococcus* aureus (ATCC 25923), *Pseudomonas aeruginosa* (ATCC 27853), while *Klebsiella pneumoniae, Streptococcus agalactiae, Bacillus* spp., *Vibrio* spp. were field clinical isolates. Selected isolates were genetically characterised by polymerase chain reaction amplification and partial sequence analysis of 16SrRNA gene. Minimum Inhibitory Concentration (MIC) of crude extracts were determined using microbroth dilution method.

**Results:** A total of 55 bacterial strains were isolated, of which three (CB5-4, CB5-7, and EB10-5) showed antimicrobial activity with inhibition zones of 10-17 mm. CB5-4 was presumptively identified as *Bacillus* spp. CB5-7 was identified as *Staphylococcus* spp. (100% DNA similarity), which showed broad-spectrum inhibition against all tested pathogens with inhibition zones of 12-15 mm. EB10-5 was identified as *Bacillus* spp. (99.53% DNA similarity) and showed potent activity with the largest inhibition zone of 17 mm against *Vibrio* spp. and also effectively inhibited *S. agalactiae.* Partial solubility of the crude extracts limited the reliable interpretation of the MIC values.

**Conclusion:** These findings confirm the potential antimicrobial effects in marine bacteria from Sri Lankan coastal seawater and indicate their potential as a source of antimicrobial agents.

***Keywords****: Antibiotic resistance, Antimicrobial activity, Coastal seawater, Marine bacteria*

# Nursing and Midwifery

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**PP 06**

# Attitudes Towards Artificial Intelligence and Their Relationship with Innovative Behaviour Among Diploma Nursing Students in Selected State Schools of Nursing in Sri Lanka: A Descriptive Cross-sectional Study

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**Background:** Artificial Intelligence (AI) is rapidly transforming healthcare and higher education. Nursing students, as future healthcare professionals, must adapt to AI-driven environments while demonstrating innovative behaviour. In Sri Lanka, evidence on AI attitudes among diploma nursing students remains limited despite the growing relevance of technology-enabled health education.

**Objectives:** To assess AI attitudes and examine their relationship with innovative behaviour among diploma nursing students in selected state schools of nursing in Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among 282 diploma nursing students from the Schools of Nursing, Kandana and Kalutara, using systematic random sampling. Data were collected using an expert-reviewed, pretested, self-administered questionnaire containing sociodemographic items, the 13-item Artificial Intelligence Attitude Scale, and the 10-item Innovative Work Behaviour Scale. Scores were calculated using a 5-point Likert scale. SPSS version 27 was used to compute descriptive statistics and Spearman's rank-order correlation, with statistical significance set at $p<0.05$.

**Results:** The questionnaire achieved a 100% response rate. Most participants were female (n=228, 80.9%), third-year students (n=260, 92.2%), and from Kalutara Nursing Training School (n=192, 68.1%). The mean AI attitude score was 44.32 (SD=4.65), while the mean innovative behaviour score was 35.73 (SD=4.79). Most participants showed a high AI usage tendency (n=234, 83.0%) and high innovative behaviour (n=258, 91.5%). AI attitudes had a weak but statistically significant positive correlation with innovative behaviour (Spearman's $\rho=0.203$, $p<0.001$), indicating that more favourable AI attitudes were associated with slightly higher innovative behaviour.

**Conclusions:** Attitudes toward AI were positively associated with innovative behaviour among diploma nursing students; however, the association was modest. The findings suggest that positive AI attitudes may be linked with innovative behaviour and highlight the potential value of integrating structured AI literacy in nursing curriculum. These results can be used to design practical AI literacy sessions, classroom activities and innovation-focused assignments for diploma nursing students.

***Keywords:*** *Artificial intelligence attitudes, Innovative behaviour, Nursing students*

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**PP 07**

# Association Between Screen Time and Selected Visual Defects Among Nursing Undergraduates at the University of Ruhuna

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**Background:** With the rapid expansion of digital technology, screen use among nursing undergraduates has markedly increased. Prolonged screen exposure might be implicated in visual disturbances potentially resulting in barriers to delivering high-quality patient care.

**Objective:** To assess the association between prolonged screen time and the selected visual defects (myopia, hyperopia, and color vision deficiency) among nursing undergraduates at the University of Ruhuna.

**Methods:** A descriptive cross-sectional study was conducted among nursing undergraduates using the stratified random sampling method excluding those who already diagnosed with visual defects (n=289). Data were collected by a self-administered questionnaire, and visual defects were assessed by using standard visual function screening tools. Data were analysed using SPSS 25 version.

**Results:** The overall prevalence of refractive errors and color vision deficiency was 13.84% (n=40) among the 289 participants. Myopia was observed in 13.1% (n=38) of participants, while hyperopia was not reported. Color vision deficiency was identified in 0.69% of participants, exclusively among males (2.5% among the male participants). The mean screen time of participants was 6.63 hours per day. Among diagnosed cases, 87.5% reported prolonged screen exposer (using screens more for than 4 hours per day) currently. Of those with myopia, 86.5% had prolonged screen time, demonstrating a statistically significant association with current prolonged screen exposure ($p$=0.020). Furthermore, 86.8% of myopia cases reported prolonged screen exposure (more than 4 hours per day) during the Covid-19 period ($p$<0.001). prolonged daily screen time ($p$=0.046, OR:0.965), prolonged daily screen time in covid 19 period ($p$=0.013, OR:0.171) are identified as significant predictors of myopia by binary logistic regression.

**Conclusion:** Prolonged screen time (more than four hours per day) is significantly associated with myopia among nursing undergraduates. These findings underscore the importance of regular visual screening and strategies to moderate screen exposure of nursing undergraduates.

***Keywords*****:** *Colour vision deficiency, Hyperopia, Myopia, Nursing undergraduates, Prolonged screen time*

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**PP 08**

# Perceived Familiarity and Use of Curriculum-recommended Teaching Methods Among Nursing Academics in Government Colleges of Nursing in Sri Lanka: A Cross-sectional Study

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**Background:** Teaching methods are essential for developing competent nursing professionals. While the Sri Lankan Diploma in Nursing curriculum recommends diverse teaching methods, evidence regarding nursing academics' perceived familiarity (self-reported awareness and understanding of curriculum-recommended teaching methods) and actual use of these methods remains limited.

**Objective:** To assess perceived familiarity and the frequency of use of curriculum-recommended teaching methods among nursing academics delivering the Diploma Nursing programme in Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted using census sampling among 243 nursing academics (97% response rate) across all government Colleges of Nursing. Data were collected using a structured, self-administered questionnaire developed by the researchers based on the Sri Lankan Diploma in Nursing curriculum, relevant literature, and expert input. The questionnaire consisted of sections assessing socio-demographic characteristics, perceived familiarity with teaching methods (not at all, slightly, moderately, well), and frequency of use (not at all, rarely, sometimes, frequently) using four-point Likert scales. Data were analysed using SPSS version 26.

**Results:** Most participants were female (96.0%), aged 41-50 years (68.7%), and had more than two years of teaching experience (76.5%). High familiarity and frequent use were reported for traditional teaching methods: lectures (90.9% familiar; 90.9% frequently used), demonstrations (90.9%; 87.2%), and didactic teaching (83.1% moderately/well familiar; 68.7% frequently used). Case studies showed high familiarity (93.0%) but moderate frequency of use (42.4%). Conversely, student-centred methods showed lower familiarity and use: Socratic questioning (65.0% slightly familiar; 66.5% rarely used), Clinical rotations (57.6% moderately familiar 34.0% frequently used), role-play/simulation (39.9% well familiar; 6.8% frequently used), and seminars/workshops (22.6% well familiar; 3.8% frequently used). Group discussions had moderate familiarity (74.9%) but low frequency of use (6.0%).

**Conclusions:** Nursing academics predominantly reported greater familiarity with and more frequent use of traditional, teacher-centred teaching methods than with student-centred methods. Future research should explore the individual, institutional, and contextual barriers and facilitators influencing the implementation of curriculum-recommended teaching methods.

***Keywords:*** *Curriculum-recommended teaching methods, Diploma nursing program, Familiarity and use, Nursing academics*

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**PP 09**

# Perceptions of Online Learning Among Nursing Students in Three Government Nursing Schools in Sri Lanka

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**Background:** The rapid transition from traditional teaching to digitally mediated online learning has emerged as an innovative approach in nursing education. In Sri Lanka, where digital infrastructure and prior exposure to online learning remain limited, this shift has introduced significant academic and operational challenges. Despite the growing integration of online learning into nursing curricula, empirical evidence on nursing students' perceptions, perceived benefits, and barriers to online learning in Sri Lanka remains scarce.

**Objective:** To examine nursing students' perceptions, perceived benefits, and barriers to online learning in three government nursing schools in Sri Lanka.

**Methods:** A quantitative, non-experimental, descriptive cross-sectional study was conducted. A sample of 300 nursing students was selected from a total population of 1,157 across Hambantota, Kalutara, and Ratnapura nursing schools using simple random sampling. Data were collected using a self-administered questionnaire incorporating a five-point Likert scale, which underwent expert content validation and pilot testing. Data were analysed using descriptive statistics.

**Results:** Participants were predominantly female (93%), aged 21-25 years (81%), and 91% reported no prior online learning experience. Perceived benefits included flexibility in scheduling (51%), location-independent access (52%), and the utility of recorded sessions for future academic use (80.6%). Key challenges included insufficient information and communication technology competency (70.7%), difficulty sustaining screen-based concentration (81%), reduced student–teacher interaction (77.3%), and barriers to practical skill development (69.2%). Overall, 56.2% of participants expressed a negative perception of online learning, while 93.9% affirmed that self-discipline is essential for online study success.

**Conclusion:** These findings demonstrate negative perception of online learning among nursing students in Sri Lanka, attributable to infrastructural limitations, inadequate digital competency, and reduced interactive engagement. Strengthening digital infrastructure and adopting blended learning approaches are recommended to improve the online learning experience and inform curriculum development and policy in nursing education.

***Keywords:*** *Nursing education, Nursing student, Online learning, Perceptions, Sri Lanka*

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**PP 10**

# Factors Associated with Post-stroke Quality of Life Among Stroke Survivors Attending Follow-up Clinics at the National Hospital Galle

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**Background**: Stroke is a leading cause of death worldwide and a major contributor to long-term disability. Post-stroke Quality of Life (QoL) has emerged as an essential outcome indicator for evaluating the effectiveness of recovery and rehabilitation. Identifying these associated factors is crucial for developing targeted interventions to improve overall well-being among stroke survivors in the Sri Lankan context.

**Objective**: To determine the factors associated with post-stroke QoL among stroke survivors attending follow-up clinics at the National Hospital Galle.

**Methods**: A descriptive cross-sectional study was conducted among 200 stroke survivors attending follow-up clinics three months after stroke onset using convenience sampling. Data were collected using the validated Sinhala version of the Post-Stroke Quality of Life Index (PQOLI) and an interviewer-administered questionnaire. The PQOLI consists of four domains: physical and social functioning, environment, financial independence, and pain and emotional well-being. Data were analysed using descriptive statistics, independent-samples t-test, one-way ANOVA, and Pearson's correlation in SPSS version 26.

**Results**: The mean±SD age of the participants was 59.61±11.54 years, and 57% (n=114) were males, and 43% (n=86) were females. The mean±SD total PQOLI score was 63.65±14, with scores ranging from 30 to 101. The highest median domain score was observed in the physical and social functioning domain (30, IQR=11), while the lowest was observed in the pain and emotional well-being domain (10, IQR=3). The sociodemographic factors that had a significant association with PQOLI were: gender, marital status, employment status, and educational level ($p$<0.05). The clinical factors that had significant associations with PQOLI were: time since stroke, level of disability, Activities of Daily Living (ADLs), rehabilitation and follow-up care, and leisure activity engagement ($p$<0.05).

**Conclusions**: Higher post-stroke QoL was associated with male gender, stroke duration of more than seven months, better level of education, employment, absence of significant disabilities, greater independence in the ADLs, and greater engagement in leisure activities. Improving functional independence and strengthening rehabilitation are essential to enhance the QoL among stroke survivors.

***Keywords****: Associated factors, Post-stroke quality of life, PQOLI, Stroke, Stroke survivors*

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**PP 11**

# Pre-examination Anxiety Levels and Coping Mechanisms Among Nursing Students at a Selected Private University in Sri Lanka

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**Background:** Examinations are a common source of anxiety among university students, affecting concentration, well-being, and academic performance. Nursing students may experience greater pressure because of demanding academic workloads and clinical responsibilities. Sri Lankan studies have reported distress among nursing undergraduates and identified coping strategies such as time management, peer support, and emotional regulation. However, limited evidence exists on pre-examination anxiety among nursing students private universities.

**Objectives:** To assess the levels of pre-examination anxiety and coping mechanisms among nursing students at a selected private university in Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among nursing undergraduates aged 18 years or above at the International Institute of Health Sciences (IIHS), Gampaha District, Sri Lanka. Students preparing for examinations were recruited using convenience sampling, while students with identified mental health conditions were excluded. Informed consent was obtained. Data were collected using a pilot-tested, locally validated, structured self-administered questionnaire incorporating the Brief COPE scale. Anxiety levels were categorised according to the scoring criteria, and coping strategies were classified as adaptive or maladaptive. Data were analysed using SPSS version 25 using with descriptive statistics and the chi-square test. Statistical significance was set at $p<0.05$.

**Results:** A total of 217 nursing students participated (100% response rate). Moderate (60.8%) and high (26.3%) anxiety levels were reported, while 12.9% had low anxiety. The mean anxiety score was 47.9±9.8 (95% CI: 46.6-49.2). Regarding coping mechanisms assessed using the Brief COPE scale, 66.8% of students demonstrated adaptive coping strategies, whereas 33.2% relied on maladaptive strategies. A significant association was found between anxiety levels and coping strategies ($p<0.05$), with a strong association observed (Cramer's V=0.50). Students using adaptive coping strategies showed lower anxiety levels compared to those using maladaptive strategies.

**Conclusions:** Pre-examination anxiety is prevalent among nursing students. Adaptive coping strategies may help reduce stress and support academic performance. There was limitation of related causes that raise the anxiety level apart from the examination.

***Keywords:*** *Coping strategies, Nursing students, Pre-examination anxiety, Private university*

# Pharmacy and Pharmaceutical Sciences

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**PP 12**

# Development of a High-performance Liquid Chromatographic Method for the Assay of Pyrimethamine Tablets

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**Background:** Pyrimethamine (PYR) is a potent antiparasitic agent and limited high-performance liquid chromatographic (HPLC) methods are available for the assay of PYR tablets.

**Objective:** To develop an HPLC method for the assay of PYR tablets.

**Methods:** Solvents used for the mobile phase were degassed using a sonicator. At each new mobile phase application purging steps (4.0 mL/min, 5 min) were followed and solvents were to passed through the ReproSil 100 C18, 5 µm, 125×4.6 mm column for 5 to 10 minutes at a 1.0 mL/min flow rate. The samples were filtered into autosampler vials through 0.45 µm membrane filters. The samples were analysed at a flow rate of 1.0 mL/min for 12 minutes, under ultraviolet (UV) detection at 280 nm. The injection volume was 20 µL. Different methanol: phosphate buffer pH 4.0 ratios (100:0, 90:10, 70:30, 60:40, and 50:50 %v/v), and two acetonitrile: phosphate buffer ratios (80:20 and 70:30 %v/v) were used to optimise the chromatographic separation.

**Results:** The chromatograms resulting from the mobile phase of methanol: phosphate buffer pH 4.0 (60:40 %v/v) were more similar to the reference chromatogram. The finalised HPLC method utilised a C18 column, a mobile phase of methanol: phosphate buffer pH 4.0 (60:40 %v/v), a flow rate of 1.0 mL/min, and UV detection at 280 nm, yielding a retention time of 2.583 minutes for PYR within a 12-minute run time.

**Conclusion:** Further validation according to the International Council for Harmonisation (ICH) guidelines is recommended to assess precision, accuracy, linearity, specificity, and robustness.

***Keywords:*** *Assay, HPLC, Method development, Mobile phase, Pyrimethamine*

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**PP 13**

# Determinants of Readmission in Paediatric Asthma Patients on Inhaler Therapy in a Tertiary Care Center in Sri Lanka

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**Background:** Asthma is a common chronic respiratory disease in the paediatric population, imposing a significant burden on the quality of life of patients and healthcare systems worldwide. Despite the widespread use of inhaler therapy, a considerable proportion of paediatric patients experience recurrent hospital readmissions due to acute exacerbations. This highlights potential gaps in disease control, treatment adherence, and healthcare delivery.

**Objective:** This study aims to identify the key factors contributing to hospital readmissions in paediatric asthma patients currently on inhaler therapy.

**Methods:** A descriptive cross-sectional study was conducted at the Teaching Hospital Ratnapura, involving 125 readmitted paediatric asthma patients on inhaler therapy and their caregivers. Data were collected through structured questionnaires and direct observation of inhaler techniques. Variables assessed included socio-demographic factors, environmental triggers, medication adherence, caregiver knowledge, and healthcare accessibility.

**Results:** The majority of readmitted patients were male (60.8%). Socioeconomic status had a notable impact, with 10.4% of families in the lowest income bracket, and 67.2% of caregivers were unemployed. Suboptimal living conditions, such as the use of wood-based cooking fuels (78%) and urban living (59%), were linked to increased readmissions. Common environmental triggers included exposure to cold (40%), dust (38.4%), and respiratory infections (16.8%). Despite practising both proper inhaler techniques and cleaning methods (96%), medication non-adherence with missing doses was reported in 59.2% of cases, primarily due to forgetfulness (56%).

**Conclusion:** The findings highlight the multifactorial nature of paediatric asthma exacerbations resulting in hospital readmissions. Key contributing factors include socioeconomic challenges, environmental exposures, and poor adherence to prescribed medications. These results emphasise the need for structured caregiver education programs, optimised asthma management strategies, and improved access to healthcare services to enhance clinical outcomes among paediatric asthma patients.

***Keywords:*** *Hospital readmission, Inhaler therapy, Paediatric asthma, Triggers*

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**PP 14**

# Total Phenolic Content and Antioxidant Activities of Commercially Available Sri Lankan Vegetables

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**Background:** Phenolic compounds are ubiquitous in vegetables and may help reduce oxidative stress, a key factor in the development of non-communicable diseases (NCDs).

**Objective:** To determine the phenolic content and antioxidant activities of selected commercially available Sri Lankan vegetables and to evaluate the effect of steaming on these properties.

**Methods:** Twenty-six commonly consumed fresh vegetables purchased from the vegetable stall in Makandura were washed, and the edible parts were cut into uniform pieces, and steamed at 100 °C for 10 minutes using a laboratory steam cooker to simulate typical cooking. Soluble phenolic compounds of raw and steamed vegetables were extracted using 70% aqueous methanol. The phenolic extracts were analysed for their total phenolic content (TPC) and total flavonoid content (TFC). The antioxidant activities were measured using 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activity (DRSA), reducing power (RP), and ferrous ion chelating activity (FICA). The Wilcoxon Signed-Rank Test was used to compare the phenolic content and antioxidant activities between raw and steamed vegetables, as the measurements were obtained from the same vegetable samples before and after steaming, to determine whether steaming caused significant changes in these variables.

**Results:** Among the vegetables, raw tomatoes showed the highest TPC and RP at 8.11±0.18 mg GAE/g, and 18.46±3.04 mg AAE/g, respectively. Steamed turkey berry had the highest TFC (10.56±0.66 mg CE/g), whereas raw turkey berry exhibited the highest DRSA (136.35±2.08 mg TE/g). Furthermore, raw cucumber showed the highest FICA (59.35±3.35 mg EE/g) among all vegetables. A significant positive correlation was observed between TPC, DRSA, and RP in raw vegetables ($p<0.05$). In cooked vegetables, TFC was significantly correlated with DRSA ($p<0.001$) and RP ($p<0.05$). No significant correlations were found between FICA and either TPC or TFC.

**Conclusions:** The findings suggest that steaming preserved the phenolic content and metal chelating activity of the selected vegetables, although it significantly influenced their radical scavenging activity. Among the vegetables, steamed counterparts remained as valuable dietary sources of phenolic compounds with considerable antioxidant activities

***Keywords:*** *Antioxidant activity, Oxidative stress, Phenolic compound, Steamed vegetables*

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**PP 15**

# Evaluation of Antioxidant Activity of Madhuca var. Longifolia (J.Koenig ex L.) J.F.Macbr. and Garcinia mangostana L. Extracts: Insights into Their Combined Effects

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**Background:** Oxidative stress plays a significant role in the development and progression of inflammatory skin disorders. Combining plant extracts may enhance or diminish therapeutic efficacy. *Madhuca var. Longifolia* (J. Koenig ex L.) (ML) and *Garcinia mangostana* L. (GM) possess phytoconstituents with potent antioxidant activity.

**Objective:** To evaluate the *in vitro* antioxidant activity of ML and GM extracts and their combinations.

**Methods:** All four plant materials were prepared as dried powders and extracted with 70% ethanol using an ultrasound sonicator at 40 °C for 3 hours. Preliminary phytochemical screening was conducted, followed by evaluation of the antioxidant activity using the 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging assay. Individual plant extracts and the combinations of GM pericarp extract with the seed, leaves, and bark of ML were tested in triplicate, and ascorbic acid served as the positive control.

**Results:** Phytochemical screening substantiated the presence of phenols, flavonoids, alkaloids, tannins, terpenoids, steroids, and saponins in all plant extracts. According to the DPPH assay results, $IC_{50}$ values of 3.85±0.02, 9.09±0.18, 13.17±0.10, 18.87±0.01, and 5.33±0.02 µg/mL were given for ML seed, leaf, bark, GM pericarp, and ascorbic acid, respectively. ML seed had the strongest antioxidant activity compared with ascorbic acid and other extracts. In the GM-ML seed combination, the percentage inhibition decreased towards the ML seed extract (100% GM: 47.54±0.03% and 100% ML seed: 17.29±0.03%), while the GM-ML bark (100% GM-40.75± 1.62% and 100% ML bark: 76.59±0.78%) and GM-ML leaf (100% GM: 40.75±1.62 and 100% ML leave: 66.25±0.95%) combinations showed increased inhibition towards the ML extracts.

**Conclusion:** These findings demonstrate that these plant resources possess considerable *in vitro* antioxidant potency and warrant investigation into their potential development as natural products. Future studies should evaluate their synergistic and anti-inflammatory activities to determine skin inflammatory conditions.

***Keywords****: Antioxidant activity, Garcinia mangostana L., Inflammation, Madhuca var. Longifolia, Phytochemicals*

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**PP 16**

# Validation and Application of a UV Spectrophotometric Method for Post-marketing Quality Evaluation of Empagliflozin 10 mg Tablets Marketed in Sri Lanka

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**Background:** Empagliflozin is increasingly utilised for managing type 2 diabetes mellitus in Sri Lanka. With the growing availability of multi-source generic formulations, accessible, validated, and cost-effective analytical tools are crucial for post-marketing quality surveillance to ensure therapeutic equivalence and patient safety.

**Objective:** To validate a routine UV spectrophotometric method and apply it to evaluate the pharmaceutical quality of six commercially available brands of immediate-release empagliflozin tablets (10 mg strength).

**Methods:** The UV spectrophotometric method utilised for quantification (content assay and dissolution testing) was validated at 223 nm for linearity, accuracy, precision, specificity, stability, and sensitivity. Separately, *in vitro* quality control tests, including weight variation (n=20), mechanical hardness (n=20), disintegration (n=6), content assay (n=20), and dissolution (n=6), were conducted on six randomly selected brands in accordance with the British Pharmacopeia (BP) and United States Pharmacopeia (USP) specifications. Data were expressed as mean±SD.

**Results:** The validated method showed excellent linearity over 2-20 µg/mL ($R^2$=0.9994), recovery accuracy of 97.8-100.1%, and high precision (RSD<2%). Analytical limits of detection and quantification were 0.34 µg/mL and 1.03 µg/mL, respectively. All six brands complied with pharmacopeial specifications for weight variation. Mean hardness ranged from 26.28±3.89 N to 76.91±7.38 N, indicating adequate mechanical strength. Disintegration times were within acceptable limits (35 to 216 seconds). Assay results demonstrated active ingredient content ranging from 9.55±0.05 mg to 10.45±0.02 mg, falling within the pharmacopeial acceptance range of ±5%. Dissolution testing showed rapid, complete drug release (98.11±0.11 to 100.78±0.06%) within 30 minutes, fully complying with compendial standards.

**Conclusion:** The validated UV spectrophotometric method is simple, reliable, and highly suitable for routine quality control quantification, specifically for content assay and dissolution testing. All evaluated commercial brands of empagliflozin tablets met the official USP standards, indicating consistent post-marketing quality across the sampled brands.

***Keywords:*** *Empagliflozin, Post-Marketing Surveillance, Quality Control, UV Spectrophotometry*

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**PP 17**

# Evaluation of Total Phenolic and Flavonoid Content of Ceylon Cinnamon-enriched Herbal Tea Formulation under Household Brewing Conditions

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**Background:** Herbal tea formulations are widely consumed due to their health benefits. Phenolic and flavonoid compounds are important secondary metabolites with various therapeutic properties. Ceylon Cinnamon (CC), Green Tea (GT), and Black Tea (BT) are commonly consumed in Sri Lanka. Incorporating these ingredients into herbal tea formulations may enhance their therapeutic value.

**Objectives:** To formulate Ceylon cinnamon-enriched GT and BT blends and evaluate their Total Phenolic Content (TPC) and Total Flavonoid Content (TFC) under household brewing conditions.

**Methods:** Six formulations (F) were prepared by blending Ceylon cinnamon with green or black tea at different ratios (F1= CC 1.5 g: GT 0.5 g, F2= CC 1.0 g: GT 1.0 g, F3= CC 0.5 g: GT 1.5 g, F4= CC 1.5 g: BT 0.5 g, F5= CC 1.0 g: BT 1.0 g, F6= CC 0.5 g: BT 1.5 g). Extracts were prepared by brewing 2 g of each formulation in 125 mL of boiling water for 3 minutes, followed by rotary evaporation. TPC was determined using the Folin-Ciocalteu assay and TFC by the aluminium chloride assay. Pure CC, GT, and BT extracts served as controls.

**Results:** Pure green tea exhibited the highest TPC (456.00±2.73 mg GAE/g DW) and TFC (142.39±3.42 mg QUE/g DW), while Ceylon cinnamon had the lowest values (112.36±3.28 mg GAE/g DW and 33.5±2.72 mg QUE/g DW). Among formulations, F3 showed the highest TPC and TFC (415.70±1.39 mg GAE/g DW and 112.39±4.16 mg QUE/g DW). Among black tea blends, F6 had the highest values. Phenolic and flavonoid contents increased with increasing green tea proportion of green tea.

**Conclusions:** Ceylon cinnamon-enriched green tea formulations contained higher phenolic and flavonoid contents than black tea formulations. Green tea exhibited the highest phytochemical levels, indicating that TPC and TFC of the formulations were mainly influenced by the proportion of green tea rather than Ceylon cinnamon addition.

***Keywords:*** *Ceylon cinnamon, Flavonoid content, Herbal tea, House-hold brewing, Phenolic content*

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**PP 18**

# Preliminary Evaluation of Aqueous Extracts of Selected Medicinal Plants for the Development of a Polyherbal Toothpaste with Antibacterial Potential

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**Background**: Oral hygiene is important for overall human health. Rising concerns about antimicrobial resistance and the adverse effects of some synthetic oral care products have increased interest in safer, more sustainable alternatives. Thus, plant-based formulations have gained attention and are being investigated more frequently in dental care.

**Objectives:** To evaluate the antibacterial activity of aqueous extracts of *Moringa oleifera*, *Ocimum tenuiflorum* and *Camellia sinensis*, individually and in combination, to identify a suitable formulation for polyherbal toothpaste.

**Methods:** Aqueous extracts of each plant were prepared by sonication-assisted maceration and tested against *Staphylococcus aureus* (MSSA: ATCC 25923; MRSA: ATCC BAA-977) and *Escherichia coli* (ATCC 25922) by the agar well diffusion method at 100, 50, and 25 mg/mL. For combination studies, extracts prepared at 100 mg/mL were mixed in a 1:1 ratio to form *C. sinensis* + *M. oleifera*, *C. sinensis* + *O. tenuiflorum*, and *O. tenuiflorum* + *M. oleifera*, while a three-extract combination of *C. sinensis*, *M. oleifera*, and *O. tenuiflorum* was formulated in a 2:1:1 ratio. All combinations were tested at 100, 50, and 25 mg/mL.

**Results:** Among the individual extracts, only *C. sinensis* showed a measurable inhibitory effect against MRSA (21.8±0.04, 18.3±0.04 and 10.3±0.04 mm at 100, 50 and 25 mg/mL, respectively). Notably, the combinations showed enhanced activity against MRSA, particularly the three-plant combination at higher concentrations (mean zone of inhibition 28.22 mm; 95% credible interval 25.86-30.59 mm), suggesting synergistic interactions. The negative control (distilled water) showed no activity, while ciprofloxacin (positive control) showed the highest activity (42.0±0.89 mm). No activity was observed against MSSA or *E. coli*.

**Conclusions:** The three-extract combination showed an increased inhibition zone against MRSA, which might be due to the synergistic antibacterial activity of the combination. Thus, further investigations are warranted to identify the underlying mechanisms and to develop a polyherbal oral care formulation.

***Keywords:*** *Antibacterial, Polyherbal, Synergistic, Toothpaste*

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# Explainable AI and PLS-SEM for Determinants of Long-term Glycaemic Control in Type 2 Diabetes: An Institutional Study in a Tertiary Care Hospital, Sri Lanka

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**Background:** Type 2 diabetes mellitus (T2DM) is a chronic metabolic disease characterised by hyperglycaemia. Glycated haemoglobin (HbA1c) is the standard marker of long-term glycaemic control. In Sri Lanka, T2DM prevalence is high among adults, yet evidence on institutional-level determinants of glycaemic control remains limited.

**Objective:** To identify factors affecting long-term glycaemic control among patients with T2DM attending a tertiary care Endocrine Clinic in Sri Lanka and explore patients' perceptions through in-person interviews.

**Methods:** A mixed-methods cross-sectional study was conducted among 200 patients with T2DM at the Endocrine Clinic, National Hospital, Kandy. Data were collected using a structured questionnaire and clinical records. HbA1c (%) value was assessed over a 3-month interval; baseline values were obtained from records approximately three months prior to the most recent measurement. Poor glycaemic control was defined as HbA1c ≥7%. ΔHbA1c refers to the change between baseline and follow-up HbA1c. Quantitative analyses included Elastic Net, Random Forest, Double Machine Learning, SHAP, and Partial Least Squares Structural Equation Modelling. Qualitative data from open-ended responses were analysed using content analysis to identify recurring themes regarding patients' perceptions of their glycaemic control.

**Results:** Mean baseline and follow-up HbA1c were 9.02% and 8.96%, respectively, and 86.5% had poor glycaemic control. Mean±SD ΔHbA1c was -0.06±2.34. Random Forest outperformed Elastic Net, indicating presence non-linear associations. PLS-SEM explained 7.2% of the variance, with medication adherence as the only significant factor (β=0.838, $p$=0.029) significantly associated with HbA1c. SHAP analysis was used for predictor interpretability and identified chronic disease, medication cost, and income as key predictors, and revealed interaction effects between medication adherence and fasting blood glucose on model outputs.

**Conclusion:** Glycaemic control remains suboptimal. Medication adherence alone is insufficient, highlighting multifactorial influences on glycemic control. Patients rely predominantly on medications, neglecting other lifestyle modifications. Integrated behavioural, psychosocial, and institutional interventions are required to improve long-term outcomes.

***Keywords:*** *Glycated haemoglobin, Machine learning, Medication adherence, Tertiary care, Type 2 diabetes mellitus*

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# Prevalence of Menstrual Abnormalities and Their Association with Physical Activity, Dietary Habits, and Stress Levels Among Female Undergraduates in University of Ruhuna

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**Background:** Menstrual abnormalities (irregular cycles, menorrhagia, dysmenorrhea, premenstrual syndrome (PMS), oligomenorrhea, amenorrhea) are common among Sri Lankan university students and impact academics, mental health, and well-being. This represents the first local study on this.

**Objective:** To assess the prevalence of menstrual abnormalities and their association with physical activity, dietary habits, and stress levels among female undergraduates at the University of Ruhuna.

**Methods:** A descriptive cross-sectional study of 320 undergraduates from 4 faculties (Faculty of Allied Health Sciences, Faculty of Engineering, Faculty of Humanities and Social Sciences, Faculty of Management and Finance) selected using lottery (100% response rate). Data were collected via self-administered questionnaires on socio-demographics, the RHINESSA WOMEN'S Questionnaire for menstruation, International Physical Activity Questionnaire Short Form, Mini Nutritional Assessment, the Perceived Stress Scale, and the validated Academic Stress Scale. Data analysed using SPSS version 25.0 with Chi-square tests; $p<0.05$ was considered significant.

**Results:** The mean±SD age was 23.31±1.86 years; the mean menarche age was 13 years. At least one menstrual abnormality was observed in 296 of the participants. Therefore, the prevalence of menstrual abnormalities was 92.5%. Dysmenorrhea 74.4% and PMS 71.6% were the most common. Amenorrhea 6.9%, menorrhagia 20%, oligomenorrhea 18.8%. Nutritional status was significantly associated with amenorrhea ($p=0.041$), menorrhagia ($p=0.016$), and dysmenorrhea ($p=0.008$), but not with PMS or oligomenorrhea. Perceived stress was significantly associated with amenorrhea ($p=0.001$) and dysmenorrhea ($p=0.011$). Academic was PMS ($p=0.041$). Physical activity showed no association ($p>0.05$).

**Conclusion:** Menstrual abnormalities were highly prevalent among female undergraduates. Diet and stress, not physical activity, were significantly associated. Targeted education and lifestyle interventions are recommended.

***Keywords:*** *Abnormalities, Dietary habits, Menstrual cycle, Physical activity, Stress level*

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# The Caregiver Perceived Competence and Associated Factors Among the Informal Family Caregivers of Older Adults with Disabilities in Gampaha District

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**Background:** Family caregivers play a vital role in supporting older adults with disabilities at home but often encounter challenges that affect the quality of care. Assessing family caregivers' perceived competence and its associated factors is important, as it influences the health, safety, and quality of life of care recipients.

**Objective:** To identify the perceived caregiving competence and associated factors among informal family caregivers of older adults with disabilities in the Gampaha district.

**Methods:** A community-based descriptive cross-sectional study was conducted among 270 informal family caregivers of older adults with disabilities in the Gampaha District. Participants were selected using consecutive sampling and included caregivers of chronically ill, disabled, or bed-bound older adults (Barthel Index ≤60). Data were collected using a pre-tested, validated interviewer-administered questionnaire comprising demographic information and the validated Caregiver Task Inventory-25 (CTI-25). Descriptive statistics, independent samples t-tests, one-way ANOVA, and Chi-square tests were used for data analysis. Statistical significance was set at $p<0.05$.

**Results:** The mean±SD age of participants was 51.57±12.09 years, and the overall CTI-25 score was 19.59±6.05/50, indicating that most caregivers had moderate perceived competence (80.0%), while 17.8% had high competence and 2.2% had low competence. The greatest difficulty was reported in balancing caregiving needs their and own needs (5.25±1.82), followed by appraising supportive resources (3.89±1.75), learning to cope with a new role (3.79±1.77), providing care according to care-receiver's needs (3.47±1.55), and managing their own emotional needs (3.18±1.52). Mean CTI-25 scores were significantly associated with the age of the care recipient ($p=0.007$) and caregiver employment status ($p<0.001$), with higher scores observed among caregivers of older adults aged 75-84 years and among unemployed and part-time employed caregivers.

**Conclusion:** Most informal family caregivers of older adults with disabilities reported moderate perceived caregiving competence. Perceived caregiving competence varied significantly according to the age of the care recipient and the caregiver's employment status, highlighting the need for targeted interventions to strengthen caregiver support.

***Keywords:*** *Competence, Disabled, Informal caregiver, Older adult*

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# Age and Gender Specific Prevalence of Major Depressive Disorder Among Patients with Diabetes in Sri Lanka: A Secondary Data Analysis

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**Background:** Major Depressive Disorder (MDD) is a prevalent comorbid condition found in diabetic patients. Data on age and gender specific risk of MDD within the diabetic population is imperative to develop control strategies, but such evidences are limited in Sri Lanka.

**Objective:** To determine the age and gender specific prevalence of MDD among adults with diabetes in Sri Lanka.

**Methods:** Data from the Sri Lanka Health and Ageing Study (SLHAS) was used. Weighted data were analysed using the SPSS statistical package. A binary logistic regression model was fitted with the presence of MDD as the dependent variable and age category and gender as independent covariates.

**Results:** In this sample, 46.6% were men, and the mean±SD age was 56.7±13.4 years. The prevalence of MDD in men and women were 4.38% (95% CI: 4.33-4.42%) and 9.51% (95% CI: 9.46-9.56%), respectively. Prevalence of MDD in age groups 18-29, 30-49, 50-69, and ≥70 years were 6.30% (95% CI: 6.1-6.5%), 4.55% (95% CI: 4.50-4.59%), 8.66% (95% CI: 8.61-8.71%) and 13.0% (95% CI: 12.8-13.1%), respectively. Binary logistic regression indicated that age and gender were significantly associated with the prevalence of MDD in patients with diabetes ($p$<0.01). Being a woman (AOR=2.32; 95% CI: 2.29-2.34) demonstrated higher odds of developing MDD relative to men. Adults with diabetes in the age categories ≥70 years (AOR=1.95; 95% CI: 1.89-2.01), and 50-69 years (AOR=1.24; 95% CI: 1.21-1.28) were having higher odds of developing MDD, while those in the 30-49 years age category (AOR=0.62; 95% CI: 0.60-0.63) was having lower odds of developing MDD compared to those in the 18-29 years age category.

**Conclusion:** Among patients with diabetes, the risk of developing MDD is higher in women, particularly among those in younger (18-29 years), upper-middle (50-69 years), and older age groups (≥70 years). Further research is needed to identify other contributing factors.

***Keywords:*** *Major depressive disorders, Patients with diabetes, PHQ-9, Sri Lanka*

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# Attitudes and Acceptability of Long-acting Reversible Contraceptive Methods Among Women of Reproductive Age in Selected Areas in Ampara District, Sri Lanka

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**Background:** Long-acting reversible contraception (LARC) methods include the copper IUD, hormonal IUDs (eg- Mirena), and hormonal implants (eg- Jadelle). These are some of the most effective methods of contraception available; however, there is limited use of these methods due to lack of awareness, myths, and side effects.

**Objective**: To assess the attitudes and acceptability of LARCs among women of reproductive age in Ampara District, Sri Lanka.

**Methodology:** Descriptive cross-sectional study involving 423 married women at six randomly selected MOH clinics in Kalmunai RDHS, Ampara District with the help of convenience sampling method and using a pretested self-administered questionnaire. Data analysis was done using SPSS version 26 with the significance level set as $p \leq 0.05$. Attitudes were assessed with the help of six questions on five-point Likert scale with scores as poor (6-14), moderate (15-22), and good (23-30). Acceptability was assessed based on seven questions on six-point scale and scores were as poorly acceptable (0-11), generally acceptable (12-23), and highly acceptable (24-35).

**Results**: Participants' mean (SD) age was 31 (7) years. The majority of the participants were aged 29-39 years (43.7%), Muslim (76.6%), and housewives (70.2%). Overall, 78.3% demonstrated a moderate attitude towards LARCs, 16.3% and 5.4% showed good and poor attitudes towards them, respectively. Although 65.5% of the participants considered LARCs very effective for preventing unwanted pregnancies, 45.7% thought that Jadelle, Mirena, and Copper IUDs caused more harm than good. The majority (51.5%) had poor acceptability towards LARCs and unwillingness to use Copper IUD (65.2%), Mirena (70.4%), and Jadelle (67.1%). Multiple linear regression indicated that having more children was positively associated with attitude ($\beta$=0.372, $p$=0.040), and religion was significantly negatively associated with acceptability ($\beta$=-3.140, $p$=0.002).

**Conclusion:** Although participants demonstrated an overall moderate attitude towards LARCs and recognised their effectiveness, they were not willing to use them. Health education and counselling could be helpful in improving acceptability towards them.

***Keywords:*** *Acceptability, Attitudes, Long-acting reversible contraceptives, Women, Reproductive age*

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# Functional Capacity Levels and Associated Factors Among Institutionalised Elderly Population in Galle District: A Cross-sectional Study

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**Background**: Ageing is a natural process experienced by all human beings. However, the decline of functional abilities among older adults has emerged as a growing concern as it deteriorates independence and quality of life. The institutionalised elderly population is a socially neglected group. Maintaining functional capacity is essential for independence and self-dignity.

**Objective:** To identify the functional capacity levels and associated factors among the institutionalised elderly population in Galle District.

**Methods:** A cross-sectional study was conducted among 185 randomly selected older adults residing in registered residential care homes in Galle District. Functional capacity was assessed using the 30-second chair stand test, which measures lower-body strength and endurance; participants were classified as having low or normal functional capacity based on scores below age- and gender-specific normative thresholds. Older adults with severe physical disabilities, critical illness, or limited mobility were excluded from the study. Data were analysed using SPSS version 25.0 ($p$<0.05). Descriptive statistics were presented, and chi-square tests and correlation tests were used to find relationships.

**Results:** The mean age of participants was 71.24 years (SD±5.40). The majority were female (72.4%), Sinhalese (92.4%), and Buddhist (72.4%). Nearly half (48.6%) were married. The highest proportion (51.4%) had an educational level above Grade 6. The majority (93%) had no current income, and 51.9% (n=96) had an institutional stay of less than five years. The majority had a current medical condition, with hypertension being the most common (27.6%). The mean 30-second chair stand score was 6.69 (SD±5.29), and 74.6% of participants were categorised as having low functional capacity. Low functional capacity was significantly more common among older participants ($p$<0.001), those with current medical conditions ($p$<0.001), and those with longer duration of institutional stay ($p$=0.025).

**Conclusion:** A high prevalence of functional decline was observed among the majority of participants. Regular physical activities, including mobility exercises, are recommended to improve functional capacity.

***Keywords****: Ageing, Functional capacity, Galle, Institutionalised older adults, Lower body strength*

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# Knowledge on Urinary Tract Infections Among Undergraduates in a Private University in Sri Lanka: A Descriptive Cross-sectional Study

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**Background:** Urinary tract infections (UTIs) are one of the most common bacterial infections worldwide. Millions experience UTIs annually, resulting in frequent doctor visits and antibiotic treatments. Preventing UTIs is vital as it reduces the risk of recurrent infections, limits antimicrobial resistance, and prevents severe complications. Therefore, understanding UTIs is essential for early diagnosis, prevention, and treatment planning.

**Objectives:** To assess knowledge about UTIs among undergraduates who were studying at KIU Campus, Sri Lanka.

**Methods:** A cross-sectional study was conducted at KIU Campus among 401 randomly selected volunteer participants recruited from different study programmes. Data were collected using a pre-tested, self-administered questionnaire Collected data were analysed using SPSS version 28.0. Descriptive data were summarised using frequencies and percentages. Each correct response was assigned one mark, while incorrect responses were assigned zero marks. Based on the total knowledge score, participants were categorised as having poor (0-5), moderate (6-10), or satisfactory (11-15) levels of knowledge.

**Results:** Most participants were female (60.6%), followed by students from the Biomedical Science program (41.1%), with the highest proportion being third-year students (35.9%). According to the classification, 69.82%, 17.45% and 17.45% of the students were classified as having satisfactory, moderate and poor levels of knowledge about UTIs, respectively. The majority correctly identified the bladder as the most commonly affected organ during UTIs (n=58.6%, $p$=0.004). 61.61% ($x^2$=108.54) recognised UTIs as infectious diseases, and 74.6% ($x^2$=110.58) identified bacteria as the main causative agents. Overall, 50.12% of participants reported having knowledge about the antibiotics use for UTIs. Most participants identified female sex (64.8%), catheterisation (62.6%), sexual activity (60.3%), and infrequent urination (62.8%) as key risk factors for UTIs.

**Conclusion:** Overall, the study revealed that most undergraduates possess a satisfactory understanding of UTIs, including their causes, affected organs, and risk factors. However, knowledge regarding the rational use of antibiotics is low, indicating a need for educational initiatives to enhance students' knowledge on UTI prevention and management.

***Keywords:*** *Knowledge, Urinary Tract Infections (UTI), Undergraduates*

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# Perception towards Future Artificial Intelligence Powered Healthcare Among Allied Health Sciences Undergraduates in State Universities in Sri Lanka

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**Background:** The increasing use of Artificial Intelligence (AI) in healthcare underscores the need for a deeper understanding of stakeholder perspectives on this subject. These perceptions are crucial for identifying potential opportunities, challenges, and readiness for AI adoption.

**Objective:** To explore the perceptions of Allied Health Sciences (AHS) undergraduates in Sri Lanka regarding the integration of AI into health care systems.

**Methods:** A descriptive cross-sectional study was conducted among 524 undergraduates from Ruhuna, Peradeniya, Sri Jayewardenepura, and Colombo universities. Data were collected using quota sampling and the Shinners Artificial Intelligence Perception (SHAIP) tool. Face validation pilot test was conducted with 30 alumni students of University of Ruhuna. It includes 10 Likert scale-type questions. ANOVA and independent-samples t-tests were used to assess associations between perceptions and demographic variables.

**Results:** The mean (34.11) for the total score for the SHAIP tool indicated moderate to positive perception regarding AI in healthcare among participants. Participants could score between 10 and 50 points. Based on the overall score, participants were divided into three categories: low (<30), moderate (30-40), and high (>40). The highest mean (3.67) was observed in items related to AI improving patient care and population health. Lower mean (2.98) in training highlighted a critical need for specialised training programs in AI tools and applications for healthcare, and perceived preparedness (3.18) suggested significant concerns about readiness for AI integration. Despite AI involvement, respondents felt ethically responsible for outcomes (3.46), highlighting a need for clear accountability guidelines. AI-trained individuals showed slightly less agreement on "AI will change my job role" than untrained individuals.

**Conclusion:** There is a moderate perception of professional impact and a slightly negative perception of preparedness for AI in future healthcare settings. Therefore, higher education and healthcare authorities must prioritise the integration of AI-related healthcare education into curriculum updates.

***Keywords:*** *Allied Health Sciences, Artificial Intelligence, Perception, SHINNERS tool*

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# Nutritional Status among Community-dwelling Older Adults Living Alone in Galle District, Sri Lanka

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**Background:** Sri Lanka is undergoing rapid population ageing, and the Galle District has a relatively high proportion of older adults, making it a priority setting for geriatric health assessment. With a growing number of older adults living alone, concerns have emerged regarding their nutritional vulnerability and overall well-being.

**Objective:** To assess the nutritional status of older adults living alone in the Galle District and compare it with those living with family members.

**Methods:** A community-based cross-sectional study was conducted among 346 older adults selected through multi-stage cluster sampling. An older adult is defined as a person aged 60 years and above, while living alone is defined as residing in a household without family members for more than six months. Nutritional status was assessed using the Mini Nutritional Assessment (MNA) scale. Data were analysed using descriptive statistics and chi-square tests.

**Results:** The mean age of participants was 73.5±7.7 years, with 16.18% living alone. Among those living alone, 58.9% reported no decrease in food intake, while 39.3% and 1.8% experienced moderate and severe reductions, respectively. Weight loss was reported by 28.6% (1-3 kg) and 1.8% (>3 kg), while 39.3% were unaware of weight changes. Nutritional indicators revealed that 14.3% had a BMI below 19 and 26.8% between 19 and 21, indicating undernutrition risk, while only 8.9% had a BMI ≥23. Reduced muscle mass was evident in 10.7% with calf circumference below 31 cm. According to MNA classification, only 12.5% of older adults living alone had normal nutritional status, while 64.3% were at risk of malnutrition and 23.2% were malnourished. In contrast, among those living with family, 32.1% had normal nutritional status, 61.0% were at risk of malnutrition, and 6.9% were malnourished. There was a significant association between living alone and nutritional status ($p$<0.001).

**Conclusion:** Older adults living alone are significantly more vulnerable to malnutrition, highlighting the need for targeted community-based nutritional and social support interventions.

***Keywords:*** *Living alone, Malnutrition, Nutritional status, Older adults, Sri Lanka*

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# Abdominal Aortic Cross-sectional Area: Comparison of Geometric Method and ROI Analysis on CECT

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**Background:** Precise evaluation of the abdominal aorta is essential for assessing vascular morphology and detecting abnormalities. Cross-sectional Area (CSA) measurement provides valuable information about aortic dimensions on CT images, CSA can be estimated by geometric formula-based calculations derived from aortic diameters such as Anteroposterior diameter (APD) and Transverse Diameteror (TD) measured directly using ROI analysis. However, differences between these two methods have not been reported.

**Objective:** To compare the CSA of the abdominal aorta obatained by geometric formula-based method and ROI analysis using CECT images.

**Methods:** A retrospective descriptive study was conducted using CECT images of 216 adults (108 males, 108 females; mean±SD age was 53.8±15.4 year, with the sample size determined using G*Power software. APD and TD of the abdominal aorta were measured at three anatomical levels: aortic hiatus, suprarenal, and infrarenal. CSA was calculated with geometric formula, $A=\pi(APD/2\times TD/2)$ and the ROI analysis was performed with RadiAnt DICOM viewer. Inter-observer variability was considered. Values from both methods were statistically analysed with Jamovi software.

**Results:** The mean±SD ($mm^2$) CSA obtained by geometric formula-based calculations at the aortic hiatus, suprarenal, and infrarenal levels were 393.63±95.84, 313.47±87.05, and 211.70±49.62 in males, and 312.33±78.31, 240.78±66.16, and 153.5±48.22 in females. The mean±SD ($mm^2$) CSA obtained by ROI analysis at the aortic hiatus, suprarenal, and infrarenal levels were 402.18±94.80, 319.84±86.46, and 215.8±51.33 in males, and 313.25±83.61, 237.91±60.92, and 151.6±49.64 in females. Paired sample testing between geometric and ROI method measurements yielded p-values of 0.036, 0.355, and 0.441 at the aortic hiatus, suprarenal, and infrarenal levels, respectively.

**Conclusion:** Geometric formula-based method demostrated comparable CSA values with ROI analysis at the suprarenal level and infrarenal level. However, significant differences were observed at the aortic hiatus, possibly due to the irregular morphology of the proximal abdominal aorta. These findings suggest that ROI analysis may provide a more accurate method for assessing CSA at proximal abdominal aortic levels for both sexes.

***Keywords:*** *Abdominal aorta, Anteroposterior diameter, Cross-sectional area, ROI, Transverse diameter*

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# Relationship between Perceived Social Support and Academic Motivation Among Allied Health Undergraduates: A Cross-Sectional Study in a Selected Private University in Sri Lanka

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**Background:** Social support and academic motivation are important determinants of students' academic success and well-being. Allied health undergraduates often experience demanding academic workloads, clinical training requirements, financial pressures, and challenges related to professional preparation, which may influence their motivation and need for supportive environments.

**Objective**: To assess the relationship between perceived social support and academic motivation among allied health undergraduates in a selected private university in Sri Lanka

**Methods:** A descriptive cross-sectional study was conducted among undergraduate allied health students at the International Institute of Health Sciences (IIHS), Gampaha District, Sri Lanka. A sample of 217 students was determined using Morgan's table and selected through simple random sampling. Data were collected using a self-administered questionnaire incorporating the validated Multidimensional Scale of Perceived Social Support (MSPSS) and General School Motivation Scale (SchMOT). Data were analysed using SPSS version 25. Descriptive statistics summarised participant characteristics, and Pearson's correlation test assessed the relationship between perceived social support and academic motivation. Statistical significance was set at $p<0.05$.

**Results:** A total of 216 undergraduate allied health students participated in the study out of the calculated sample size of 217, yielding a 99.5% response rate. The majority of participants were female (68.1%), and nearly half were aged 21-22 years (49.6%). Nursing students represented the largest proportion of participants (50%), followed by Biomedical Science (25.5%) and Physiotherapy (24.5%). Students reported high levels of perceived social support and academic motivation. A significant positive association was observed between perceived social support and academic motivation ($r=0.45$, $p=0.001$), suggesting that students with higher perceived social support tended to report higher academic motivation.

**Conclusions:** The study highlights a positive relationship between social support and student motivation. Strong support systems contribute to improved engagement, well-being, and academic performance. These findings emphasise the importance of enhancing support structures within universities to foster student motivation and overall success.

***Keywords:*** *Motivation, Private Universities, Social Support, Sri Lanka, Undergraduates*

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# Perception on Mental Illness and Its Associated Factors Among Non-Healthcare Undergraduates at University of Jaffna

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**Background:** Mental illness is a major public health concern. Despite increasing awareness, misconceptions, stigma, and negative attitudes remain widespread. As future community leaders, undergraduates can influence mental health awareness. Investigating their perceptions and associated factors is essential to inform strategies that improve mental health literacy and reduce stigma.

**Objective:** To determine the perceptions on mental illness and its associated factors among non-healthcare undergraduates at the University of Jaffna.

**Methods:** This descriptive cross-sectional study was conducted among 430 prospective participants at the University of Jaffna, with a response rate of 94.19% (n=405). Participants were selected using stratified random sampling. All the faculties except the Faculty of Medicine and other health–related faculties participated. Data were collected using a two-part structured Questionnaire. The first part included socio-demographic and lifestyle information. The second part used the standardised 51-item Opinions about Mental Illness (OMI) questionnaire, scored on a 6-point Likert scale (1=strongly agree, 6=strongly disagree); scores >3 indicated positive attitudes. Data were analysed using SPSS 27. Descriptive statistics, independent sample t-tests, and ANOVA were used.

**Results:** The majority were female (57.5%), Sinhalese (40.7%), and from non-STEM faculties (64.4%). The mean±SD age was 23.10±1.56 years. Most had no family history of mental illness (94.1%). Prior contact with a person with mental illness was reported by 28.9%, while 24.4% had a family member in the healthcare sector. Social media was the main information source (70.9%). Mean subscale scores were below three, indicating negative perceptions. There was a significant association with family history ($p$=0.006), prior contact with a mentally ill person ($p$=0.032), and a family member working in the healthcare sector ($p$=0.002).

**Conclusions:** Non-healthcare undergraduates showed a negative perception towards mental illness. Family history, prior contact, and having a relative in the healthcare sector were significantly associated factors. Targeted interventions are needed to improve perceptions. These interventions should address the identified associated factors.

***Keywords:*** *Mental Illness, Non-Healthcare Undergraduates, Opinion on Mental Illness, Perception*

# Publication Excellence Awards 2026

| Name of the Awardee | Number of Publications in SCIE/SSCI Journals |
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### Poster Sessions

| Poster Theme | PP number | Title | Presenter | Authors |
|---|---|---|---|---|
| Pharmacy and Pharmaceutical Sciences | PP 09 | Adherence to Good Dispensing Practices by Hospital Pharmacists and the Patients' Perception on the Dispensing Services Provided: A Cross-sectional Observational Study | Krishnananthalingam D. | Liyanaarachchie L.C.P.T.[1], Krishnananthalingam D.[2], Bagyawantha N.M.Y.K.[1#]. |
| Nursing and Midwifery | PP 20 | Application of Artificial Intelligence on Neurodegenerative Disorder Care: A Scoping Review | De Silva D.K.M | De Silva D.K.M.[#1], Herath H.M.C.M.[1], Chathurika S.N.[1], Lewliyadda L.M.U.L.[2], Ranasinghe W.M.D.D.S.[1], Bandara D.M.O.T.K.[2] |
| Public health and Health promotion | PP 42 | An Assessment of Knowledge and Practices of Mothers on Early Childhood Developmental Milestones in Selected MOH Areas of Galle District | Yamada K.D.P.Y.[1#], | Yamada K.D.P.Y.[1#], Sundarapperuma S.M.T.D.[1], Samaraweera N.Y.[2] |
| Medical Laboratory Sciences | PP 36 | Molecular Detection and Antibiotic Sensitivity Patterns in Methicillin Resistance *Staphylococcus aureus* Colonizing Pregnant Women in Eastern Province, Sri Lanka | Mafras F.S.S. | Mafras F.S.S.[1,2#], Francis V.R.[3], Kudagammana H.S.W.S.[1], Dissanayake R.[1], Handapangoda H.M.N.P.[1], Siyaanujan P.[1], Liyanapathirana V.[1] |
| Physiotherapy | PP 56 | Relationship between Thoracic Mobility and Core Stability among Male School Swimmers Aged 11-17 Years from Selected Schools in Colombo Educational Division | Herath G.K. | Herath G.K.[1#], Senanayaka S.P. [2], Perera K.B.[1], Ranasinghe T.S.[1] Fernando S.P.[1] |

## Oral Sessions

| Oral Theme | OP number | Title | Presenter | Authors |
|---|---|---|---|---|
| Pharmacy and Pharmaceutical Sciences | OP 03 | In-vitro Antimicrobial, Antioxidant, and Anticancer Activity of *Canarium zeylanicum*, *Pterocarpus marsupium*, and *Dipterocarpus zeylanicus* Resins | Gangodawila G.K.N.P. | Nadeshkumar A., Herath H.M.D., Jayasuriya W.J.A.B.N., Dissanayake R.K. |
| Nursing and Midwifery | OP 10 | Psychological Distress among Patients with Peripheral Vascular Disease: A Cross-sectional Study in Sri Lanka | Sriyani K.A. | Weerasena A.H.I.U., Wathsala M.K.M. |
| Public health and Health promotion | OP 32 | Prevalence of Musculoskeletal Disorders and Associated Occupational Risk Factors among Chefs in Five-star Hotels in Colombo Municipal Council Area, Sri Lanka | Amaradisi W.D.G.K. | Samarasinghe Y.M.K., Rathnayake T.M.K.G., Perera G.A.D., Chandrathilaka K.R.M. |
| Medical Laboratory Sciences | OP 21 | Expression of Biofilm Forming Virulence Genes in *Proteus mirabilis*: Insights from an in-vitro Bladder Model | Nissanka N.M.C. | Dilhari K.A.A., Priyadarshana G., Bandara K.R.V., Munaweera I., Weerasekera M.M. |

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