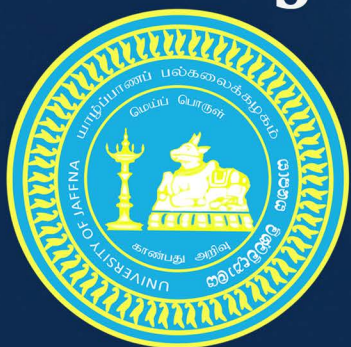
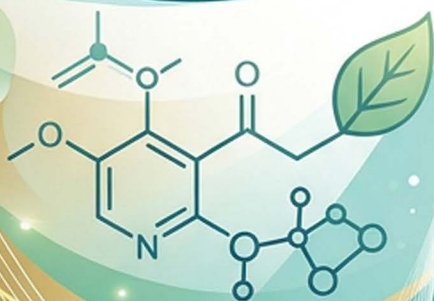




3rd International Research Conference on Healthy Delights - ஆரோக்கியம் ICHHD - 2026

8th September 2026



Conference Proceedings



**FACULTY OF ALLIED HEALTH SCIENCES
UNIVERSITY OF JAFFNA
SRI LANKA**

“Advancing Allied Health Sciences for Sustainable Health Systems”

CONFERENCE PROCEEDINGS

**3rd INTERNATIONAL RESEARCH CONFERENCE ON HEALTHY
DELIGHTS - ஆரோக்கியம் - 2026**

ICHD 2026

08th SEPTEMBER 2026

**Organized by the Faculty of Allied Health Sciences
UNIVERSITY OF JAFFNA**

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Table of Contents

Message from the Vice Chancellor, University of Jaffna	V
Message from the Dean, Faculty of Allied Health Sciences	VI
Message from the Convener, 3 rd ICHD 2026	VII
Message from the Editors, 3 rd ICHD 2026	VIII
Abstract of the Keynote Speech: Leading Sustainable Health Systems in the Age of AI	IX
Abstract of the Keynote Speech: Multidisciplinary Allied Health Approaches to Alcohol Use Disorders in Jaffna within Sustainable Health Systems	XI
Abstract of the Plenary Speech: The Gut–Kidney Axis: A Bi-Directional Bridge Shaping Renal Destiny	XIV
Abstract of the Plenary Speech: Gestational Weight Gain and Its Impact on Maternal and Child Health	XV
Abstract of the Plenary Speech: Perspective Types and Their Impact on Health Economic Research in Sri Lanka: A Systematic Review	XVII
Abstract of the Plenary Speech: The Mind Behind Movement: Emotion Regulation in Sports	XX
List of Abstracts	XXII
Serum malondialdehyde as a biomarker for predicting disease progression across different stages of chronic kidney disease in patients attending Teaching Hospital Jaffna	1
Diagnostic performance of direct microscopy compared with fungal culture for otomycosis	2
Serum vitamin C as a potential biomarker of disease progression in chronic kidney disease	3
Prevalence of biofilm-forming bacteria among patients with suspected catheter-associated urinary tract infections at the Teaching Hospital Jaffna, Sri Lanka	4
Prevalence of Carbapenem-resistant <i>Acinetobacter</i> spp. in ventilated Intensive care unit patients at Teaching Hospital Jaffna, Sri Lanka	5
Detection of Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA) nasal colonization among Allied Health Sciences students at the University of Jaffna	6
Determination of Cefotaxime minimum inhibitory concentrations among blood culture isolates of <i>Escherichia coli</i> and <i>Klebsiella pneumoniae</i> at Teaching Hospital Jaffna	7
Prevalence of aerobic bacterial pathogens in wound infections among patients admitted to surgical wards at Teaching Hospital Jaffna, Sri Lanka	8
Time-to-event analysis of erythropoietin response duration in non-dialysis CKD patients: A sex-stratified Kaplan–Meier study	9
Prevalence of bacterial isolates among patients with bronchiectasis admitted to the medical wards at Teaching Hospital Jaffna	10

Complete blood count-derived biomarkers as predictors of oxidative stress in chronic kidney disease patients with proteinuria	11
Clinical demographic and virological markers of dengue and dengue hemorrhagic fever patients attending to teaching hospital Jaffna	12
Evaluation of complete blood count derived markers as predictors of oxidative stress in hypothyroidism: A cross-sectional study	13
Drinking water quality and associated risk factors among chronic kidney disease of unknown etiology patients at Nephrology clinic, Divisional hospital, Padavi Sripura	14
Pre-analytical errors and sample rejection: A one-year retrospective study at District General Hospital, Vavuniya, Sri Lanka	15
Perception on mental illness and its associated factors among non-healthcare undergraduates at University of Jaffna	16
Associated lifestyle factors for knee pain among patients attending the orthopedic clinic at Teaching Hospital Jaffna	17
Health-related factors associated with knee pain among patients attending the orthopedic clinic in Teaching Hospital Jaffna	18
Maternal factors associated with obtaining exclusive breastfeeding information through social media among mothers of infants in the Nallur Medical Officer of Health Area	19
Navigating an early transition: the perceptions of primigravida women during their first trimester in Tellipalai MOH area, Jaffna	20
Physical health issues faced by the working mothers after return to work following maternity leave at Nallur and Jaffna MOH	21
Prevalence of behavioral related risk factors among the patients with chronic liver disease attending Gastroenterology clinic, Teaching Hospital Jaffna	22
Knowledge on asthma and selected factors associated with asthma control among parents of children under 11 years, attending the Paediatric clinic at Teaching Hospital Jaffna	23
Level of loneliness and its associated factors among undergraduates at the University of Jaffna	24
Assessment of handgrip strength and influencing factors among older adults in Kaithady Elders' Home	25
Level of knowledge of complementary feeding and its associated factors among mothers of children aged 6–24 Months	26
Level of knowledge and factors affecting postpartum family planning use in mothers in Nallur MOH	27
Skin disease prevention practices among sanitary workers in Jaffna Municipality	28
Anaesthesia knowledge and associated factors among preoperative patients at Teaching Hospital Jaffna	29
Knowledge on ectopic pregnancy and associated factors among eligible mothers who attend family planning clinics in Nallur MOH area	30

Quantification of Sulfate in therapeutically important native <i>Sargassum Fucoïdan</i> Extract by BaCl ₂ –Gelatin Turbidimetric Assay	31
Treatment remedies used by patients attending a selected Ayurveda hospital and the general public in the vicinity of a selected university in Colombo District for common cold	32
Self-care practices and associated factors among Type 2 diabetic patients at a Tertiary care hospital in Northern Sri Lanka	33
In-vitro antioxidant activity of the methanolic leaf extract of <i>Jeffreyia zeylanica</i>	34
In vitro evaluation of antidiabetic activity of the methanolic extract of the seed of <i>Vateria copallifera</i>	35
Hot-aqueous extraction and preliminary phytochemical screening of post-distillation Ceylon cinnamon residues for sustainable value addition	36
Molecular design of functional enhancers for high-sensitivity luminol chemiluminescent detection	37
Antibacterial activity of leaf and bark extracts of <i>Bhesa ceylanica</i> against <i>Staphylococcus aureus</i> and <i>Escherichia coli</i>	38
Mixed hydrotropy technique employing combined hydrotropic agents for solubility enhancement of Aceclofenac	39
Heavy metals contamination in dried <i>Sardinella longiceps</i> and <i>Stolephorus indicus</i> from coastal area of Jaffna, Sri Lanka: Implications of food safety	40
Prevalence of leftover medicines and associated factors among patients attending different clinics at Teaching Hospital Jaffna, Northern Province	41
Development of SRIHER knee pain screening tool for musculoskeletal knee pain individual: A modified international e-Delphi study	42
SRIHER EXercise app and non-app-guided exercise program to improve clinical outcomes in musculoskeletal disorder patients: A randomized controlled crossover trial	43
Enhanced bilateral hand activity training improves the amount of use and quality of movement of the paretic upper limb in community-dwelling stroke survivors: A secondary pre-post analysis	44
Correlation between sit-to-stand performance and dynamic walking ability in individuals with subacute ischemic stroke: An observational study	45
Development of a digital health intervention for evaluating functional movement using deep learning technology: A Feasibility study	46
Not all VAR reviews are equal: A cluster analysis of video assistant referee intervention profiles in the 2026 FIFA world cup	47
List of Track chairs and Evaluators	48
List of Reviewers	49

Message from the Vice Chancellor



Snr. Professor T. Velnampy
The Vice Chancellor,
University of Jaffna.

It is my privilege to extend a warm welcome to all participants of the International Conference on Healthy Delights (ICHHD 2026) and to congratulate the Faculty of Allied Health Sciences at the University of Jaffna on this significant occasion.

Allied Health Sciences courses at the University of Jaffna began in 1998 as diploma and certificate programmes and were subsequently developed into an independent faculty in 2019, following an early-stage disruption beyond the University's control. The establishment of undergraduate degree programmes in Medical Laboratory Sciences, Nursing, Pharmacy, and Sports Science marked a significant milestone in the faculty's development. This journey has been shaped by the vision and dedication of academic and administrative staff, students, and supporters, who have enabled the faculty to overcome challenges and contribute meaningfully to national and regional health priorities.

Looking ahead, significant growth is anticipated through the construction of a state-of-the-art facility and the recruitment of twelve new academic staff members. These developments will provide advanced laboratories, modern classrooms, and collaborative spaces to support teaching and research. The expansion of faculty expertise will also facilitate the introduction of new academic programmes and research initiatives in emerging areas of allied health sciences, further strengthening the Faculty's position in Sri Lanka and the wider region.

These advancements bring a responsibility to remain responsive to evolving societal needs. The Faculty prioritises interdisciplinary research that informs health policy and upholds professional standards. By engaging with diverse communities and embracing innovative teaching methods, the Faculty aims to cultivate ethical leadership and social responsibility among its graduates, strengthen its capacity to meet future health challenges, and make a significant impact on allied health sciences nationally and internationally.

ICHHD 2026 provides a timely platform for dialogue and collaborative solutions to pressing health challenges. I commend the Faculty and Organising Committee for their leadership in convening this event, which will stimulate inquiry and advance allied health sciences. I extend my best wishes to all participants for a rewarding and impactful experience.

Message from the Dean



Dr. (Mrs.) Sivasinthujah Srikokulan
Conference Chair, ICHD-2026
The Dean,
Faculty of Allied Health Sciences,
University of Jaffna.

It is my great pleasure and privilege to extend my warm greetings to all contributors, researchers, academics, clinicians, and students whose valuable scholarly work is presented in the Proceedings of the 3rd International Research Conference on Healthy Delights (ICHHD 2026), organized by the Faculty of Allied Health Sciences, University of Jaffna. The theme of this year's conference, "Advancing Allied Health Sciences for Sustainable Health Systems," reflects the growing importance of multidisciplinary research and innovation in addressing the complex health challenges faced by communities locally and globally. Allied health professionals play a vital role in strengthening healthcare systems through evidence-based practice, research, innovation, prevention, and patient-centred care. The conference proceedings represent the intellectual contributions of researchers from diverse disciplines, Medical Laboratory Sciences, Nursing, Pharmacy, and Sports science, and provide an important platform for sharing new knowledge, research findings, innovative practices, and emerging perspectives. The peer-review process and scholarly discussions associated with ICHHD 2026 further strengthen the academic value and quality of these contributions. I particularly appreciate the commitment of all authors who have contributed their research to these proceedings. I believe that the knowledge generated through their work will stimulate further research, encourage interdisciplinary collaboration, and contribute towards the development of sustainable and resilient health systems. I take this opportunity to express my sincere appreciation to the keynote and plenary speakers, reviewers, organizing committee, and all faculty members who contributed to the successful organization of ICHHD 2026. I wish ICHHD 2026 every success and extend my best wishes to all participants and contributors for fruitful academic engagement and continued excellence in research.

Message from the Convener, ICHD 2026



Dr. Pratheesh Maheswaran
Convener – ICHD 2026
Faculty of Allied Health Sciences,
University of Jaffna.

It is my pleasure to welcome you to the 3rd International Conference on Healthy Delights (ICHHD 2026), organised by the Faculty of Allied Health Sciences, University of Jaffna, under the theme “Advancing Allied Health Sciences for Sustainable Health Systems.”

Sustainable health systems require strong evidence-based practice, a competent multidisciplinary workforce, meaningful research, and the translation of knowledge into education, practice, and policy. Allied Health Sciences have an increasingly important role in responding to changing population health needs and strengthening the quality, accessibility, and sustainability of healthcare.

ICHHD 2026 builds on the progress of its previous editions and marks a further expansion in both participation and research contribution. For the first time, the conference welcomes international presenters from India who have travelled to Jaffna to share their findings. The number of accepted abstracts has also nearly doubled compared with previous editions. The participation of distinguished speakers with international academic and professional experience further enriches the programme.

The scientific programme encompasses four broad tracks: Clinical Laboratory Sciences; Nursing and Global Public Health; Pharmacy and Therapeutics; and Sports Science and Nutrition. Through keynote and plenary sessions, technical presentations, and discussion, the conference provides a forum to examine emerging evidence, exchange perspectives across disciplines, and consider how research can inform professional practice and health policy.

As a developing Faculty, we see ICHHD as an opportunity to strengthen connections within the Allied Health Sciences community, encourage emerging researchers, and build sustained academic engagement nationally and internationally. We hope the conference will contribute to the continued advancement of Allied Health Sciences in Sri Lanka and beyond.

I extend my sincere appreciation to our keynote and plenary speakers, presenters, reviewers, collaborators, sponsors, and the organising committee for their valuable contributions. I warmly welcome all participants to ICHHD 2026 and wish you a stimulating and academically rewarding conference.

Message from the Editors, ICHD 2026



Dr. Rasaratnam Karunaithas
Chief Editor – ICHD 2026
Faculty of Allied Health Sciences,
University of Jaffna.



Mrs. F. S. Shamil Mafras
Associate Editor – ICHD 2026
Faculty of Allied Health Sciences,
University of Jaffna.

It is our privilege, as the Chief Editor and Associate Editor, to present the proceedings of the 3rd International Conference on Healthy Delights (ICHHD 2026), organized by the Faculty of Allied Health Sciences, University of Jaffna.

This volume of proceedings brings together scholarly contributions that reflect the breadth and diversity of contemporary research in Allied Health Sciences. The research presented spans the four major areas of the conference: Clinical Laboratory Sciences; Nursing and Global Public Health; Pharmacy and Therapeutics; and Sports Science and Nutrition. Together, these contributions highlight the importance of multidisciplinary research in addressing evolving health needs and strengthening evidence-based healthcare.

This volume comprises 47 accepted abstracts, representing research conducted by academics, researchers, healthcare professionals, and students. The contributions provide insights into current health challenges, emerging evidence, and innovative approaches across the four major areas, while creating opportunities for knowledge exchange and interdisciplinary engagement.

As editors, we sincerely thank all authors for their valuable scholarly contributions to ICHHD 2026. We extend our appreciation to the reviewers for their expertise, thoughtful evaluations, and commitment to maintaining the academic quality of the proceedings. We also gratefully acknowledge the support of the Organizing Committee, and all those who contributed to bringing this publication to fruition.

Abstract of the Keynote Speech



Sustainable Health Systems in the Age of AI

Professor Abi Sriharan,
Associate Professor, Technology, Systems and Future
of Work, Ontario Tech University and Professor
(Status), Institute for Health Policy, Management and
Evaluation, University of Toronto.

A familiar patient journey reveals both the promise and danger of artificial intelligence in health care. A patient develops headaches, fatigue or tingling but has no regular preventive check-up or continuing primary-care relationship. When symptoms worsen, she channels a specialist, receives medication and perhaps keeps a paper or notebook. Months later, another physician may not know what was diagnosed, prescribed or discontinued. She may also obtain medication from a pharmacy without a complete clinical record. Each encounter may contain expertise and care, yet the encounters do not necessarily become continuity of care. Too often, the patient becomes fully visible only after disease has progressed.

This is not a failure of individual patients or clinicians. It is a system-design problem. Sri Lanka has achieved impressive health outcomes, particularly in maternal and child health and infectious-disease control. Its contemporary challenge, however, is increasingly defined by noncommunicable diseases that require prevention, early detection, repeated measurement, medication review and follow-up over many years. A system organized around episodic treatment cannot fully meet the needs of chronic care.

AI can help, but intelligence added to a fragmented pathway does not automatically create an intelligent health system. A fragmented system with AI may simply become a faster and less visible form of fragmentation.

Used responsibly, AI could help identify patients who have missed screening or follow-up, summarize longitudinal information for the next clinician, flag medication interactions, support referral decisions, extend specialist expertise and reveal population-level gaps in access. Its most important contribution may not be replacing professional judgment, but connecting information to timely action so that fewer people disappear between visits.

These benefits depend on the surrounding system. An accurate risk prediction creates little value if no one is responsible for responding. A medication alert may be unsafe if the underlying list is incomplete. A model trained elsewhere may perform differently across Sri Lankan populations and languages. If

people who can afford regular testing generate better data, those facing the greatest barriers may become least visible to the algorithm. AI can also create new work through alerts, documentation, data correction, consent and oversight, adding burdens to already stretched health professionals.

Sri Lanka should therefore build continuity before complexity. A modest, interoperable longitudinal record containing reliable patient identity, active conditions, medications, allergies, essential results, referrals and follow-up plans may generate more value than an advanced predictive system built on disconnected data. The objective is not to digitize every piece of paper. It is to preserve the information needed for the next safe decision.

Implementation should begin with the patient journey rather than the product. For every proposed use, leaders should ask: What problem are we solving? Who receives the output? What decision will it inform? Who can question or override it? Who follows up? What happens when the recommendation is wrong? Physicians, nurses, pharmacists, administrators and patients must participate in answering these questions because participation is not merely consultation; it is a condition of safe design.

Jaffna is well positioned to lead locally grounded innovation. Its university, health institutions, communities and diaspora can connect health, technology, management and the social sciences. A practical starting point would be one bounded challenge, such as diabetes follow-up, medication reconciliation for older adults or referral continuity. Partners could map the pathway, establish the minimum reliable dataset, co-design and simulate the workflow, pilot it at small scale, and evaluate outcomes alongside access, workload, patient understanding, safety and equity.

The question is not whether AI will enter health care. It already has. The choice is whether it arrives as isolated tools or helps build a connected, preventive, learning and humane system. AI may be the catalyst, but leadership is the operating system. Sri Lanka should use this moment to make earlier, safer and more continuous care possible.

Abstract of the Keynote Speech



Multidisciplinary Allied Health Approaches to Alcohol Use Disorders in Jaffna within Sustainable Health Systems

Emeritus Professor Daya Somasundaram
Consultant Psychiatrist, Former Senior Professor of
Psychiatry, University of Jaffna, Clinical Associate
Professor, University of Adelaide.

Background - Three decades of armed conflict in Northern and Eastern Sri Lanka have left enduring psychological, social and economic consequences for individuals, families and communities. Displacement, injury, detention, torture, bereavement and the loss of homes, employment and livelihoods have contributed to persistent mental health problems, family dysfunction, substance misuse, suicide, gender-based violence, child abuse, indebtedness and weakened community structures. The erosion of social capital, collective efficacy and institutional trust has contributed to what has been conceptualised as **collective trauma**. The COVID-19 pandemic and the national economic crisis subsequently compounded these vulnerabilities.

Method - Qualitative methods used participant observation, focus group discussions, key informant interviews, case studies, triangulation, literature and data surveys in a severely conflict-affected coastal community in Jaffna District compared to other parts in northern Sri Lanka.

Results - Within the context of the post-conflict, pandemic and economic crisis context, alcohol misuse has become both a consequence and a perpetuating factor of psychosocial adversity. The majority of adult males (from 70 to 90%) in rural areas (less in cities and towns) consume alcohol. Alcohol Rates are higher in some strata (lower socioeconomic), religions and occupations (daily labour, fishing) than others. Some use alcohol as a form of self-medication to reduce the impact of past war trauma, daily stresses, family problems, marital incompatibility, pain, physical diseases, personal and social inhibitions and then become dependent. In those who consume alcohol, many drink heavily on a daily basis, have problem or harmful drinking to a level of dependence or addiction. On the average the daily amount/ quota is approximately 565 ml of distilled spirits (3/4 bottle arrack), with an estimated daily expenditure of Rs 3,000; taken towards evening or night but some start by 10 am or earlier. Those facing economic difficulties take toddy (usually 4 bottles, sometimes adulterated with *Koda* or Yeast for enhanced intoxicant effect) or *Kassippu*; take loans, get into debt from lenders, sellers or are helped by colleagues. Yearly costs can range from Rs. 300,000 if taking only Toddy up to Rs. 7-10, 000,000 for arrack and other forms. Some abstain for about a month during the year for religious purposes. About 15- 20% of those who consume alcohol take it occasionally for functions (funerals, birthdays, weddings etc.), on weekends, when supplies are available or when friends give them. Transitions between drinking

categories were observed (occasional to heavy and vice versa) periodically. Chronic or long-term use leads to physical damage to the brain (alcohol being neurotoxic), liver, gastrointestinal tract, heart, kidney, nerves, other vital organs, premature death, road traffic accidents and suicides. In adult male medical wards in Teaching and Base Hospitals in Jaffna, about 30-50% of admissions have alcohol drinking problems of whom 10-25% are for alcohol related medical diseases. 10,949,173 litres of alcoholic beverages (excluding kassippu for which figures were not available) were consumed in the Jaffna District in 2025 (30,000 litres a day). This is per capita consumption of 178 units¹ per year (or .49 units per day); in adult males 453 units per year (1.24 units per day or 1.35 units per day if we take into consideration one month of religious abstinence). Total cost for purchasing alcohol was Rs. 15,626,024,201 per year (Rs 42,811,025 per day) with a per capita cost of Rs. 24,679 per year (Rs. 62,864 for adult males). Alcohol cost for Sri Lanka as a whole was 335 billion (in health costs, road traffic accidents, absenteeism, presenteeism, remature deaths etc.), while the government earned Rs.254 billion from sales. Alcohol-attributable deaths in Sri Lanka amount to approximately 20,000, resulting in an estimated 637,000 years of life lost (YLLs), 109,000 years lived with disability (YLDs), and 746,000 Disability-Adjusted Life Years (DALYs) lost. Younger males and youth use and abuse drugs. There has been a marked rise of suicides in the Jaffna district in the eight months of 2026 (a projected rate of 41 per 100,000; while Sri Lanka has a suicide rate of 15 per 100,000); with increases in females and younger ages, including children Rates for domestic violence ranged around 50% of families. Suicides, domestic violence and child abuse are strongly associated with male alcoholism.

The effects extend beyond the individual. Children growing up in dysfunctional families in homes are shaped by alcohol and drug abuse—where fear, confusion, conflict, violence, abuse, poverty, hunger and disrupted emotional development become part of everyday life, grow up thinking and feeling this is normal life. Harmful patterns of coping and family interaction can be transmitted across generations, creating a **cycle of trauma, substance misuse, family dysfunction and social disadvantage**.

This presentation proposes a multidisciplinary and community-oriented approach to alcohol-related harm within sustainable health systems. Effective responses should extend beyond the treatment of alcohol dependence to incorporate prevention, early identification, psychological and psychosocial interventions, family-based support, rehabilitation, nutritional care, occupational recovery, social reintegration, and community participation. Allied health professionals can provide complementary expertise across the continuum of prevention, treatment, rehabilitation, and recovery while strengthening linkages between health services, families, schools, and communities. Unfortunately, relapse rates after alcohol rehabilitation was over 70%.

¹ One unit of alcohol equals 10 milliliters or 8 grams of pure alcohol; in Sri Lanka this would be 1 unit= 30 ml of spirits (arrack, whisky, brandy); 2 units= 1 bottle of malts (toddy, beer, wine); 5 units = 100 ml of Kassipu. There is variation in strength between brands, types and production (e.g.time in toddy)

Particular emphasis is placed on child-centred and community-based preventive strategies that create safe and nurturing environments for children living in vulnerable circumstances. Creative activities, physical exercise, traditional games, mindfulness practices, life-skills development, social interaction, and nutritional support may strengthen emotional regulation, self-confidence, social connectedness, resilience, and adaptive coping. Such a child enrichment programme called Thapovanam in a severely war-affected Allaipiddy village with preliminary evidence of effectiveness is described. The children learn meaningful healthy lifestyles in ways to positively cope in their adult life without maladaptive coping. Such interventions represent more than recreational activities. They constitute early psychosocial prevention and resilience-building, creating protective enriching environments that impact on early child development, particularly neurodevelopment, on neural pathways and circuits that would determine later adolescent, youth and adult behaviour, attitudes, values and decision-making interrupting the intergenerational transmission of trauma and harmful coping behaviours.

Conclusion - A sustainable response to alcohol-related harm in post-conflict communities therefore requires simultaneous attention to clinical care, prevention, family resilience, child development, community capacity, and social determinants of health. Integrating multidisciplinary allied health services with culturally responsive community interventions may provide a child-centred, preventive, and scalable model for strengthening mental health and reducing intergenerational vulnerability in Jaffna and other post-conflict settings.

Keywords: Alcohol Use Disorders, Psychosocial Health, Multidisciplinary Care, Post-Conflict Settings, Community Mental Health, Health Systems Sustainability

Abstract of the Plenary Speech



The Gut–Kidney Axis: A Bi-Directional Bridge Shaping Renal Destiny

Dr. Sumana Saseevan
Senior Lecturer in Medical Laboratory Sciences,
Faculty of Allied Health Sciences,
University of Jaffna.

The gut microbiome has been recognized as an important determinant of host physiology. Beyond the gastrointestinal tract, its influences are extended to the distal organs, particularly kidneys, brain and lungs. The composition and diversity of the human gut microbiota undergo dynamic changes across different stages of life from newborn to older age. These microbial shifts are influenced by various factors, including dietary habits, environmental exposures and host immune status. In healthy individuals, the gut microbiota is composed of a diverse and balanced community of microorganisms that contribute to immune regulation, maintenance of the intestinal barrier, and metabolic functions. Gut dysbiosis, known as a shift or alteration of microbial profile in gut causes systemic inflammation, accumulation of microbial metabolites, and causing progressive renal dysfunction.

The bidirectional communication between the gut and kidneys, referred as "Gut - Kidney axis" which represents a complex network through which microbial communities and their metabolites, immune mediators, and host-derived signals influence renal health and disease. Certain microbes including *Bifidobacterium* and *Lactobacillus* have a renoprotective effect on kidney. Conversely, some *Fusobacterium* sp. and *Bacteroides* which produce harmful metabolites could cause kidney injury. Conversely, declining kidney function alters the intestinal environment through the accumulation of uremic toxins, changes in nutrient availability and bile acid metabolism, and disruption of the intestinal barrier, thereby further promoting microbial dysbiosis. Advances in high-throughput sequencing technologies have enhanced our understanding of microbial alterations within the gut - kidney axis.

Advances in metagenomic and multi-omics technologies have provided unprecedented insights into the composition and functional potential of the gut microbiome particularly in chronic kidney disease. These developments have also opened new possibilities for microbiome-targeted interventions, including dietary modulation, prebiotics, probiotics, and fecal microbiota transplantation. Nevertheless, translating these emerging findings into effective clinical strategies requires comprehensive understanding of host - microbiome interactions within the context of gut-kidney axis.

Abstract of the Plenary Speech



Gestational Weight Gain and Its Impact on Maternal and Child Health

Mrs. P. Nivetha
Lecturer in Nursing,
Faculty of Allied Health Sciences,
University of Jaffna.

Gestational weight gain (GWG) is an important and modifiable determinant of maternal and child health. Both inadequate and excessive weight gain during pregnancy are associated with adverse maternal, fetal and neonatal outcomes. Inadequate GWG may increase the risk of low birth weight, intrauterine growth restriction and preterm delivery, while excessive GWG may contribute to gestational diabetes mellitus, hypertensive disorders of pregnancy, macrosomia, complicated delivery and postpartum weight retention. Therefore, achieving appropriate GWG is an important component of quality maternal and antenatal care. The 2009 Institute of Medicine (IOM) recommendations have been widely used to guide BMI-specific GWG. However, their applicability across diverse populations, particularly in low- and middle-income countries, remains an important consideration. In response to the global need for more contextually relevant evidence, the World Health Organization (WHO) established the Technical Advisory Group on Gestational Weight Gain (TAG-GWG) in 2023 to support the development of global GWG standards and optimal ranges.

The amount and pattern of weight gained during pregnancy are strongly influenced by maternal nutritional status before conception, particularly pre-pregnancy body mass index (BMI). Evidence from an analytical cross-sectional study among 420 mothers who delivered term singleton babies at Teaching Hospital Jaffna provides important insight into GWG within the Sri Lankan context. The mean total GWG was 11.57 kg (SD 3.63). According to the IOM 2009 recommendations, 36.2% of mothers had inadequate GWG, 39.8% had adequate GWG and 23.0% had excessive GWG. Pre-pregnancy BMI emerged as an important factor associated with GWG. Underweight and normal-weight women were more likely to have inadequate GWG, while overweight and obese women were more likely to have adequate or excessive GWG, highlighting the need for individualized maternal nutritional care. These findings emphasize that GWG should not be viewed simply as the amount of weight gained during pregnancy, but as an important maternal health indicator that begins before conception. Preconception care provides an opportunity to identify women who are underweight, overweight or obese and to promote

healthy nutritional status before pregnancy. During pregnancy, early assessment of BMI, nutritional assessment, regular monitoring of maternal weight, appropriate physical activity and individualized counselling can support women to achieve healthy GWG. This is particularly important in settings experiencing the dual burden of undernutrition and overweight or obesity.

The implications of GWG extend beyond pregnancy and childbirth. Maternal weight gain influences fetal growth and birth outcomes, while excessive postpartum weight retention may contribute to longer-term maternal health risks. Consequently, postpartum care provides an additional opportunity to support healthy weight management, nutrition and lifestyle behaviors. GWG should therefore be considered as a continuum extending from preconception through pregnancy and into the postpartum period, rather than as an isolated antenatal measurement. Optimizing gestational weight gain requires a continuum of care from preconception to pregnancy and the postpartum period. Nurses, midwives and other healthcare professionals have an important role in providing regular assessment, education, nutritional counselling and individualized support to help women achieve healthy weight gain and improve maternal and child health outcomes.

Abstract of the Plenary Speech



Perspective Types and Their Impact on Health Economic Research in Sri Lanka: A Systematic Review

Mr. P. Kalki

Senior Lecturer in Pharmacy,
Faculty of Allied Health Sciences,
University of Jaffna.

Pharmacoeconomics is a branch of health economics that evaluates the costs and health outcomes associated with disease treatment, prevention, diagnosis, and other healthcare interventions. It supports the assessment of healthcare value and the efficient allocation of limited resources. Health economic research therefore asks not only, “How much does an intervention cost?” but also, “What are its costs and benefits, and for whom?” The answer depends on the perspective adopted.

Perspective determines which costs and outcomes are included in an economic evaluation or valuation. A healthcare provider may focus on the resources required to deliver a service, while a patient may be concerned with out-of-pocket expenses, travel costs, and time spent seeking care. A government or healthcare system may consider healthcare expenditure and budgetary impact, whereas a societal perspective may additionally include productivity losses, informal caregiving, and broader benefits of improved health. Consequently, different perspectives may produce different conclusions about the value and cost-effectiveness of the same intervention.

This issue is particularly relevant to Sri Lanka, where limited resources, increasing healthcare needs, and the growing burden of chronic diseases require evidence-informed decision-making. Health economic research can support the identification of interventions that provide greater health benefits for available resources, assess financial consequences for patients and families, and promote efficiency, equity, financial protection, and sustainability.

However, differences in perspective may influence the identification, measurement, and valuation of costs and outcomes, affecting the comparability and policy relevance of research findings. Therefore, this systematic review aims to examine the perspective types used in health economic research in Sri Lanka and their impact on the identification, measurement, and interpretation of costs and outcomes. By synthesizing the available evidence, the review seeks to identify methodological patterns, highlight research gaps, and provide insights to strengthen the relevance and

quality of health economic research for healthcare decision-making in Sri Lanka.

A comprehensive literature search will be conducted in PubMed/MEDLINE, Embase, Scopus, Web of Science, EconLit, and Global Index Medicus to identify relevant studies on health economic research and perspective types in Sri Lanka. Additional searches will be performed in relevant health technology assessment databases, Google Scholar, and Sri Lankan institutional repositories to identify supplementary and grey literature.

The literature search will use keywords and Boolean operators such as AND and OR and NOT and punctuation (*). Search terms will include “health economic research,” “pharmacoeconomics,” “economic evaluation,” “perspective” and “Sri Lanka.” At least two subject-matter experts with relevant expertise in health economics will be involved in the review process to ensure the methodological quality and validity of the study.

A systematic review was conducted using the PubMed database to identify health economic research published between 2000 and August 2026. A search strategy incorporating relevant keywords, Boolean operators, and truncation symbols was used, yielding approximately 300 records. Following title and abstract screening, approximately 100 articles were identified as potentially eligible for inclusion. The review aims to examine whether the reported costs in health economic studies conducted in Sri Lanka reflect the actual economic burden of healthcare interventions. Particular attention will be given to whether the perspective of the analysis was explicitly stated or could be clearly inferred from the methodology or results. When the perspective is not explicitly stated or cannot be clearly inferred from the methodology or results, the reported out come (costs) may overestimate or underestimate the actual economic burden (Cost) of the intervention.

Approximately 25 articles explicitly mentioned the perspective in the title or abstract, while the perspective in the remaining articles was assessed by subject-matter experts based on the methodology and results. Among these, the perspective was clearly inferred in approximately 55 articles. Therefore, the review identified 80 articles that reported or clearly indicated the perspective used in the health economic analysis. In the 25 articles that explicitly stated the perspective, the reported costs were generally consistent with the actual economic burden when interpreted by healthcare professionals and other non-health-economist readers. In contrast, in articles where the perspective was not explicitly stated, the reported costs may not accurately reflect the actual economic burden. This lack of clarity may lead to the overestimation or underestimation of costs and may mislead readers when interpreting the economic outcomes of the research. The societal perspective

and patient perspective were the most frequently reported and inferred perspectives, respectively.

Most Sri Lankan health economic articles did not explicitly report the perspective, while the societal perspective was the most frequently reported perspective among the studies that did.

Abstract of the Plenary Speech



The Mind Behind Movement: Emotion Regulation in Sports

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Sport is often viewed primarily as a demonstration of physical ability, technical skill, and tactical intelligence. However, behind every movement, decision, and performance lies a psychological process that can significantly influence sporting outcomes. Athletes experience a wide range of emotions before, during, and after competition, including anger, anxiety, stress, excitement, and heightened arousal. The ability to recognise, understand, and regulate these emotional states is therefore an important component of effective sports performance. This preliminary speech, titled “The Mind Behind Movement: Emotion Regulation in Sports,” explores the relationship between athletes’ emotional experiences and their physical and psychological performance.

The presentation will focus particularly on anger, anxiety, arousal, and stress, examining how these emotional states can either facilitate or interfere with performance. Anger, when poorly regulated, may result in impulsive decisions, aggression, loss of concentration, and breakdowns in tactical discipline, while appropriately managed anger may sometimes increase determination and competitive intensity. Similarly, anxiety can influence an athlete’s confidence, attention, decision-making, and ability to execute well-practised skills under pressure. Arousal is also important because both insufficient and excessive levels of activation may negatively affect performance, with the optimal level varying according to the athlete, sport, and task. Furthermore, excessive or prolonged stress can contribute to mental fatigue, reduced concentration, physical tension, burnout, and declining performance.

The speech will also examine the importance of emotion regulation and coping mechanisms in helping athletes manage these psychological demands. Practical strategies such as controlled breathing, relaxation techniques, positive self-talk, cognitive reframing, mindfulness, imagery, pre-performance routines, goal setting, and appropriate social support will be discussed as potential approaches to maintaining emotional control and performance readiness. The importance of developing individualised coping

strategies rather than assuming that one technique is equally effective for every athlete will also be emphasised.

Ultimately, the presentation aims to highlight that successful sporting performance is not determined by physical preparation alone. The ability to understand and regulate emotions can influence how effectively athletes use their physical skills when it matters most. By recognising the mind behind movement, athletes, coaches, and sports professionals can develop more holistic approaches to performance preparation, psychological well-being, and long-term sporting development.

Keywords: Emotion regulation, sports performance, anger, anxiety, arousal, stress, coping mechanisms, athletes.

List of Abstracts

Technical Session I: Clinical Laboratory Sciences		Page No.
OP-ID 1	Serum malondialdehyde as a biomarker for predicting disease progression across different stages of chronic kidney disease in patients attending Teaching Hospital Jaffna	1
OP-ID 2	Diagnostic performance of direct microscopy compared with fungal culture for otomycosis	2
OP-ID 3	Serum vitamin C as a potential biomarker of disease progression in chronic kidney disease	3
OP-ID 4	Prevalence of biofilm-forming bacteria among patients with suspected catheter-associated urinary tract infections at the Teaching Hospital Jaffna, Sri Lanka	4
OP-ID 5	Prevalence of Carbapenem-resistant <i>Acinetobacter</i> spp. in ventilated Intensive care unit patients at Teaching Hospital Jaffna, Sri Lanka	5
OP-ID 6	Detection of Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA) nasal colonization among Allied Health Sciences students at the University of Jaffna	6
OP-ID 7	Determination of Cefotaxime minimum inhibitory concentrations among blood culture isolates of <i>Escherichia coli</i> and <i>Klebsiella pneumoniae</i> at Teaching Hospital Jaffna	7
OP-ID 8	Prevalence of aerobic bacterial pathogens in wound infections among patients admitted to surgical wards at Teaching Hospital Jaffna, Sri Lanka	8
OP-ID 9	Time-to-event analysis of erythropoietin response duration in non-dialysis CKD patients: A sex-stratified Kaplan-Meier study	9
OP-ID 10	Prevalence of bacterial isolates among patients with bronchiectasis admitted to the medical wards at Teaching Hospital Jaffna	10

OP-ID 11	Complete blood count-derived biomarkers as predictors of oxidative stress in chronic kidney disease patients with proteinuria	11
OP-ID 12	Clinical demographic and virological markers of dengue and dengue hemorrhagic fever patients attending to teaching hospital Jaffna	12
OP-ID 13	Evaluation of complete blood count derived markers as predictors of oxidative stress in hypothyroidism: A cross-sectional study	13
OP-ID 14	Drinking water quality and associated risk factors among chronic kidney disease of unknown etiology patients at Nephrology clinic, Divisional hospital, Padavi Sripura	14
OP-ID 15	Pre-analytical errors and sample rejection: A one-year retrospective study at District General Hospital, Vavuniya, Sri Lanka	15

Technical Session 2: Nursing and Global Public Health

OP-ID 16	Perception on mental illness and its associated factors among non-healthcare undergraduates at University of Jaffna	16
OP-ID 17	Associated lifestyle factors for knee pain among patients attending the orthopedic clinic at Teaching Hospital Jaffna	17
OP-ID 18	Health-related factors associated with knee pain among patients attending the orthopedic clinic in Teaching Hospital Jaffna	18
OP-ID 19	Maternal factors associated with obtaining exclusive breastfeeding information through social media among mothers of infants in the Nallur Medical Officer of Health Area	19
OP-ID 20	Navigating an early transition: the perceptions of primigravida women during their first trimester in Tellipalai MOH area, Jaffna	20
OP-ID 21	Physical health issues faced by the working mothers after return to work following maternity leave at Nallur and Jaffna MOH	21
OP-ID 22	Prevalence of behavioral related risk factors among the patients with chronic liver disease attending Gastroenterology clinic, Teaching Hospital Jaffna	22

OP-ID 23	Knowledge on asthma and selected factors associated with asthma control among parents of children under 11 years, attending the Paediatric clinic at Teaching Hospital Jaffna	23
OP-ID 24	Level of loneliness and its associated factors among undergraduates at the University of Jaffna	24
OP-ID 25	Assessment of handgrip strength and influencing factors among older adults in Kaithady Elders' Home	25
OP-ID 26	Level of knowledge of Complementary Feeding and Its Associated Factors among Mothers of Children Aged 6–24 Months	26
OP-ID 27	Level of knowledge and factors affecting postpartum family planning use in mothers in Nallur MOH	27
OP-ID 28	Skin disease prevention practices among sanitary workers in Jaffna Municipality	28
OP-ID 29	Anaesthesia knowledge and associated factors among preoperative patients at Teaching Hospital Jaffna	29
OP-ID 30	Knowledge on ectopic pregnancy and associated factors among eligible mothers who attend family planning clinics in Nallur MOH area	30

Technical Session 3: Pharmacy and Therapeutics

OP-ID 31	Quantification of Sulfate in therapeutically important native <i>Sargassum Fucoidan</i> Extract by BaCl ₂ –Gelatin Turbidimetric Assay	31
OP-ID 32	Treatment remedies used by patients attending a selected Ayurveda hospital and the general public in the vicinity of a selected university in Colombo District for common cold	32
OP-ID 33	Self-care practices and associated factors among Type 2 diabetic patients at a Tertiary care hospital in Northern Sri Lanka	33
OP-ID 34	In-vitro antioxidant activity of the methanolic leaf extract of <i>Jeffreyia zeylanica</i>	34
OP-ID 35	In vitro evaluation of antidiabetic activity of the methanolic extract of the seed of <i>Vateria copallifera</i>	35

OP-ID 36	Hot-aqueous extraction and preliminary phytochemical screening of post-distillation Ceylon cinnamon residues for sustainable value addition	36
OP-ID 37	Molecular Design of Functional Enhancers for High-Sensitivity Luminol Chemiluminescent Detection	37
OP-ID 38	Antibacterial Activity of Leaf and Bark Extracts of <i>Bhesa ceylanica</i> Against <i>Staphylococcus aureus</i> and <i>Escherichia coli</i>	38
OP-ID 39	Mixed hydrotrophy technique employing combined hydrotropic agents for solubility enhancement of Aceclofenac	39
OP-ID 40	Heavy metals contamination in dried <i>Sardinella longiceps</i> and <i>Stolephorus indicus</i> from coastal area of Jaffna, Sri Lanka: Implications of food safety	40
OP-ID 41	Prevalence of leftover medicines and associated factors among patients attending different clinics at Teaching Hospital Jaffna, Northern Province	41

Technical Session 4: Sports Science and Nutrition

OP-ID 42	Development of SRIHER knee pain screening tool for musculoskeletal knee pain individual: A modified international e-Delphi study	42
OP-ID 43	SRIHER EXercise app and non-app-guided exercise program to improve clinical outcomes in musculoskeletal disorder patients: A randomized controlled crossover trial	43
OP-ID 44	Enhanced bilateral hand activity training improves the amount of use and quality of movement of the paretic upper limb in community-dwelling stroke survivors: A secondary pre-post analysis	44
OP-ID 45	Correlation between sit-to-stand performance and dynamic walking ability in individuals with subacute ischemic stroke: An observational study	45
OP-ID 46	Development of a digital health intervention for evaluating functional movement using deep learning technology: A Feasibility study	46

OP-ID 47	Not all VAR reviews are equal: A cluster analysis of video assistant referee intervention profiles in the 2026 FIFA world cup	47
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OP-ID 1

Serum malondialdehyde as a biomarker for predicting disease progression across different stages of chronic kidney disease in patients attending Teaching Hospital Jaffna**Araby J^{1*}, Kalaiyarasan A¹, Arasaratnam V², Brammah R³, Thuvarakan M²**¹*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*²*Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka.*³*Teaching Hospital Jaffna, Sri Lanka***arabyjeyaruban2000@gmail.com*

Introduction & Objectives: Chronic Kidney Disease (CKD) is associated with progressive renal dysfunction and increased oxidative stress. Malondialdehyde (MDA), a major product of lipid peroxidation, is a recognized biomarker of oxidative damage. CKD staging is currently based on estimated glomerular filtration rate (eGFR) and albuminuria/proteinuria, which reflect functional and structural damage but not oxidative burden. This study aimed to determine serum MDA levels across CKD stages and evaluate its potential as a complementary biomarker of disease progression.

Materials & Methods: A laboratory-based cross-sectional study was carried out among 135 CKD patients attending the Nephrology Unit, Teaching Hospital Jaffna. Participants were categorized into CKD stages 1, 2, 3a, 3b, and 4 based on the eGFR. Inclusion criteria were age >18 years, diagnosed CKD Stage 1-4, and regular follow-up at the clinic; exclusion criteria included recent surgery or hospitalization, kidney transplant, blood transfusion, chronic liver disease, haematologic disorders, cancer, dialysis, and nephrotoxic or immunosuppressive medication use. Blood samples were collected after informed consent, and serum MDA was measured using the Thiobarbituric Acid Reactive Substances assay. Serum creatinine, Urine Protein-to-Creatinine Ratio (UPCR), and eGFR were obtained from clinical records. Data were analysed using the Kolmogorov-Smirnov, Kruskal-Wallis, Mann-Whitney U, and Spearman rank correlation tests in SPSS version 27.

Results: Serum MDA levels increased progressively with CKD severity, from 2.35 (2.1–2.7) $\mu\text{mol/L}$ in stage 1 to 6.50 (5.9–7.3) $\mu\text{mol/L}$ in stage 4 ($p < 0.001$). Higher MDA levels were associated with elevated serum creatinine and increased proteinuria, indicating worsening renal function. These findings support the role of oxidative stress in CKD progression, with elevated MDA in advanced stages reflecting enhanced lipid peroxidation and oxidative product accumulation.

Conclusions: Serum MDA levels increased significantly with advancing CKD stages and correlated with renal function deterioration, supporting its use as a biomarker for disease progression and a tool for early risk stratification in CKD management.

Keywords: Chronic Kidney Disease, Disease Progression, Lipid Peroxidation, Malondialdehyde, Oxidative Stress.

OP-ID 2

Diagnostic performance of direct microscopy compared with fungal culture for otomycosis**Seeha HMF^{1*}, Abinaya N¹, Reluxzy S¹, Indranath N², Gnanakarunyan TJ¹**¹*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*²*Teaching Hospital Jaffna, Sri Lanka***seehafathi16@gmail.com*

Introduction & Objectives: Otomycosis, a fungal infection of the external auditory canal, contributes significantly to otological morbidity in tropical climates. Fungal culture, the gold standard, is unavailable in most peripheral Sri Lankan laboratories; specimens are referred to centralized reference labs, with results delayed beyond two weeks. This study evaluated the diagnostic performance of direct gram staining and wet mount microscopy compared with fungal culture for rapid diagnosis of otomycosis.

Materials & Methods: A cross-sectional study was conducted at Teaching Hospital Jaffna, over 12 months. Ear swabs from 108 patients with clinical suspicion of otomycosis underwent wet mount examination, gram staining, and fungal culture on Sabouraud Dextrose Agar. Microscopic findings were compared with macroscopic culture observation and Lactophenol Cotton Blue staining. Pearson's Chi-square test assessed association between microscopic findings and culture positivity. Diagnostic performance was evaluated using sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV).

Results: Of 108 specimens, 86 (79.6%) were culture positive for fungal pathogens. Direct wet mount and gram staining detected fungal elements in 81 and 85 specimens respectively. Both methods demonstrated a highly significant association with fungal culture ($p < 0.001$). Wet mount microscopy showed 94.2% sensitivity, 100% specificity, 100% PPV, and 81.5% NPV, while Gram staining showed 98.8% sensitivity, 100% specificity, 100% PPV, and 95.7% NPV.

Conclusions: Direct gram staining of specimen showed high sensitivity and specificity with strong concordance with fungal culture, supporting its use as a rapid, low-cost adjunctive diagnostic tool for otomycosis. Incorporating gram staining into routine workup may enable earlier presumptive diagnosis and timelier antifungal therapy. Further prospective studies are warranted to validate its broader clinical utility.

Keywords: *Diagnostic performance, Direct gram staining, Fungal culture, Otomycosis, Wet mount microscopy.*

OP-ID 3

Serum vitamin C as a potential biomarker of disease progression in chronic kidney disease**Sutharsana V^{1*}, Vasanthy A², Brammah R T³, Madhurahini R²**¹*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*²*Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka.*³*Department of Medicine, Faculty of Medicine, University of Jaffna, Sri Lanka.*

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Introduction & Objectives: Chronic Kidney Disease (CKD) is a progressive condition characterized by declining renal function. non-enzymatic antioxidant, Vitamin C level often depletes as renal impairment worsens. However, CKD stage-wise serum Vitamin C data among Sri Lankan patients and relating to Vitamin C level is limited. This study aimed to evaluate serum Vitamin C levels across CKD different stages patients to evaluate its potential as a biomarker for the disease progression among patients attending Teaching Hospital, Jaffna.

Materials & Methods: A laboratory-based institutional cross-sectional study was conducted with 135 CKD patients at stages 1 to 4. Serum Vitamin C level was quantified with 2,6-dichlorophenolindophenol method. Renal function was assessed through serum creatinine, estimated Glomerular Filtration Rate (eGFR) calculated (MDRD equation), and the Urine Protein-Creatinine Ratio (UPCR). Statistical tests such as the Kruskal-Wallis test, Spearman's rank correlation, and the Receiver Operating Characteristic curves (ROC) were employed.

Results: The median serum Vitamin C level was 0.59 mg/dL. Levels significantly declined as the disease advanced (Stages 1, 2, 3a, 3b and 4 were 1.00, 0.76, 0.36, 0.40 and 0.35 mg/dL respectively, $p < 0.001$). Vitamin C showed a strong positive correlation with eGFR ($\rho = 0.736$, $p < 0.001$) and significant negative correlations with serum creatinine ($\rho = -0.676$, $p < 0.001$) and UPCR ($\rho = -0.392$, $p < 0.001$). ROC analysis yielded an Area Under the Curve of 0.942 (95% CI: 0.902–0.981) with an optimal cut-off of 0.625 mg/dL, 89.7% sensitivity and 86.6% specificity, demonstrating an excellent ability to distinguish early-stage from late-stage CKD.

Conclusions: Serum Vitamin C level significantly decreased with CKD progression, reflecting a profound effect on antioxidant defense. Strong correlation with filtration rates and proteinuria identifies Vitamin C as a useful biomarker to monitor the disease severity under clinical settings.

Keywords: Biomarker, Chronic Kidney Disease, Disease Progression, Vitamin C.

OP-ID 4

Prevalence of biofilm-forming bacteria among patients with suspected catheter-associated urinary tract infections at the Teaching Hospital Jaffna, Sri Lanka

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Introduction & Objectives: Catheter-associated urinary tract infection (CAUTI) is one of the most common healthcare-associated infections worldwide. Catheter insertion facilitates microbial entry and colonization, with biofilm formation being a major virulence factor driving CAUTI persistence, severity. However, local evidence on this topic remains limited. This study aimed to determine the prevalence of biofilm-forming bacteria among suspected CAUTI patients at the Teaching Hospital Jaffna, Sri Lanka.

Materials & Methods: An institution-based, descriptive, cross-sectional study was conducted on 85 catheterized patients (Catheterized ≥ 2 days with urinary tract infection symptoms) randomly recruited at Teaching Hospital, Jaffna. Following the informed consent, 5 mL catheter urine samples were aseptically collected and processed at the Laboratory, Department of MLS, FAHS, University of Jaffna. Samples were inoculated on CLED agar and incubated at 37°C overnight. Significant bacterial growth was defined as $\geq 10^5$ CFU/ μ L or a pure growth of 10^4 - 10^5 CFU/ μ L. Isolates were identified by colony morphology, Gram staining, and standard biochemical tests. Biofilm production was assessed using the Congo red agar and tube test methods, with isolates categorized as biofilm producers if positive by either of the above two qualitative methods.

Results: The prevalence of CAUTI was 34.1% (29 isolates). *Klebsiella* spp. were the predominant (41.38%), followed by *Enterococcus* spp. (27.58%). Overall, 48.27% (14 out of 29) of isolates were biofilm producers, with *Enterococcus* spp. showing the highest (rate 35.71%), followed by *Klebsiella* spp. and Coagulase-negative staphylococci (CoNS) (21.43% each). Biofilm production was strongly positive in 10.3% of isolates, moderately positive in 34.5% of isolates, and weakly positive in 3.4% of isolates.

Conclusions: Nearly half of the isolates were biofilm producers, underscoring the need for early detection and stronger infection control measures.

Keywords: Biofilm, Catheter-associated urinary tract infection, Uropathogens.

OP-ID 5

Prevalence of Carbapenem-resistant *Acinetobacter* spp. in ventilated Intensive care unit patients at Teaching Hospital Jaffna, Sri Lanka**Supatha M^{1*}, Thiviya M¹, Hasnath Hima MN¹, Gnanakarunyan TJ¹, Saseevan S¹**¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

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Introduction & Objectives: *Acinetobacter* spp. are major pathogens causing nosocomial infections including ventilator-associated pneumonia, bacteraemia, and infections in urinary tract. Infections caused by Carbapenem-resistant *Acinetobacter* spp. strains are difficult to treat in critically ill patients due to multidrug resistance. This study aims to determine the prevalence of Carbapenem-resistant *Acinetobacter* spp. among mechanically ventilated patients.

Materials & Methods: An institution-based cross-sectional study was conducted among mechanically ventilated patients at the Intensive Care Unit (ICU) at Teaching Hospital Jaffna (THJ), Sri Lanka, after obtaining ethical clearance from Ethics Review Committee of the Faculty of Medicine, University of Jaffna. A total of 105 leftover endotracheal (ET) samples from mechanically ventilated patients were collected from Microbiology Laboratory, THJ. Bacteria were identified using microscopic and biochemical studies according to the Laboratory Manual in Microbiology by the Sri Lanka College of Microbiologists. Antibiotic sensitivity tests were carried out by disc diffusion method for all positive *Acinetobacter* spp. and Carbapenem-resistant *Acinetobacter* spp. (CRA) were detected using Meropenem and Imipenem discs.

Results: Among 105 ET samples, 79.05% (isolates $n = 83$) yielded positive growth after the incubation for 18-24 hours at 35°C aerobically on MacConkey agar plates. Of these, 80.72% ($n = 67$) were Gram-negative bacilli, 13.25% ($n = 11$) were Gram-positive cocci and 6.02% ($n = 5$) were fungi (yeast). Among the Gram-negative bacilli, *Acinetobacter* spp. were detected predominantly (65.67%; 44/67). Of the *Acinetobacter* spp. 93.19% were resistant to Meropenem while 88.64% to Imipenem. Majority of *Acinetobacter* spp. (88.63%) showed resistance to both drugs.

Conclusions: The current study reveals that, the prevalence of CRA among mechanically ventilated patients at ICU of Teaching Hospital Jaffna is high. There is an urgent need to implement antibiotic stewardship programs in healthcare organizations to prevent the development of antimicrobial resistance.

Keywords: *Acinetobacter* spp., Carbapenem-resistant, Intensive Care Unit, prevalence, ventilator-associated pneumonia.

OP-ID 6

Detection of Methicillin-Resistant *Staphylococcus aureus* (MRSA) nasal colonization among Allied Health Sciences students at the University of Jaffna**Weerasinghe WMTD¹, Gnanakarunyan TJ^{1*}, Shamil Mafras FS¹**¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

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Introduction & Objectives: Methicillin-resistant *Staphylococcus aureus* (MRSA) poses a significant health challenge due to multidrug resistance. While Allied Health Sciences (AHS) students undergoing clinical training face a heightened risk of acquiring and transmitting MRSA, local prevalence data in Northern Sri Lanka remains limited. This study aimed to determine the MRSA nasal colonization rate and evaluate carriage across nursing, medical laboratory sciences, and pharmacy students from the University of Jaffna undergoing hospital-based clinical training.

Materials & Methods: A descriptive cross-sectional study was conducted among 122 AHS students. Nasal swabs were collected from anterior nares. The samples were sub cultured into Blood agar and MacConkey agar. Bacterial identification was done using standard biochemical tests. MRSA detection was performed using the Cefoxitin (30µg) disc diffusion method according to CLSI guidelines. Statistical analysis was performed using SPSS version 22. Associations between MRSA colonization and gender, academic discipline, and year of study were analyzed using Pearson's Chi-square and Fisher's Exact tests, $p < 0.05$ considered statistically significant.

Results: Of the 122 AHS students screened, MRSA nasal colonization was detected in 4 participants (3.3%), while 118 (96.7%) tested negative. Colonization was slightly higher among 4th-year students (4.7%) compared to 3rd-year (2.7%) and 2nd-year students (0%), though this trend was not statistically significant (Fisher-Freeman-Halton Exact $p = 0.822$). No significant associations were found between MRSA nasal colonization and gender ($p = 0.316$) or academic discipline ($p = 0.825$).

Conclusions: MRSA nasal colonization among AHS students was low (3.3%), with no statistically significant associations found regarding gender, discipline, or academic year. However, a numerical increase in colonization with advancing study year suggests a potential link to cumulative hospital exposure

Keywords: MRSA, Nasal colonization, Allied Health Sciences students.

OP-ID 7

Determination of Cefotaxime minimum inhibitory concentrations among blood culture isolates of *Escherichia coli* and *Klebsiella pneumoniae* at Teaching Hospital Jaffna**Herath SGMRS¹, Joanna DAE¹, Gnanakarunyan TJ^{1*}, Pratheesh M²**¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.²Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

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Introduction & Objectives: Increasing cephalosporin resistance in *Escherichia coli* and *Klebsiella pneumoniae* bloodstream isolates limits treatment options in low-resource settings. However, local data on Minimum inhibitory concentration (MIC) determination remain limited. This study aimed to determine the MIC of cefotaxime against resistant *E. coli* and *K. pneumoniae* isolates from blood cultures at the Teaching Hospital, Jaffna.

Materials & Methods: A laboratory-based descriptive experimental study was conducted using 24 previously identified, cefotaxime-resistant *E. coli* (n = 12) and *K. pneumoniae* (n = 12) from blood cultures at the microbiology laboratory of Teaching Hospital Jaffna. MIC determination was performed using the agar dilution according to Clinical and Laboratory Standards Institute (CLSI M100, 33rd edition) guidelines. Twofold serial dilutions of cefotaxime ranging from 1-64 µg/ml were prepared on Mueller-Hinton agar plates. Quality control was performed using *E. coli* ATCC25922. The MIC was determined as the lowest concentration completely inhibiting visible bacterial growth. Data were analysed using GraphPad Prism.

Results: All *E. coli* isolates (n = 12, 100%) showed high cefotaxime resistance, MICs ranging from 32 to > 64 µg/ml and a median of > 64 µg/ml. MIC₅₀ and MIC₉₀ were 64 µg/ml and > 64 µg/ml, respectively; these estimates should be interpreted cautiously due to the small number of isolates per species (n = 12). Eleven (91.7%) *K. pneumoniae* isolates showed extreme resistance, with both MIC₅₀ and MIC₉₀ values fixed at > 64µg/ml, while one isolate (8.3%) had an MIC ≤ 1µg/ml. One *K. pneumoniae* isolate reported as resistant by the routine disk diffusion was susceptible by MIC determination. The quality control strain had an MIC ≤ 1µg/ml.

Conclusion: Most isolates showed high cefotaxime MICs, indicating substantial cefotaxime resistance. Continuous antimicrobial resistance surveillance is warranted to support evidence-based antimicrobial therapy.

Keywords: Cephalosporin resistance, Cefotaxime, *Escherichia coli*, *Klebsiella pneumoniae*, Bloodstream infections.

OP-ID 8

Prevalence of aerobic bacterial pathogens in wound infections among patients admitted to surgical wards at Teaching Hospital Jaffna, Sri Lanka

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Introduction & Objectives: Surgical wound infections are common complications following surgical procedures and contribute substantially to patient morbidity and healthcare costs. This study aimed to determine the prevalence of aerobic bacterial pathogens among patients with acute wound infections admitted to surgical wards at Teaching Hospital Jaffna, Sri Lanka.

Materials & Methods: An institution-based descriptive cross-sectional study was conducted using total enumeration sampling. A total of 115 wound swab specimens were collected aseptically from with clinician-confirmed acute post-operative wound infections. Specimens were cultured using appropriate bacteriological culture media, and bacterial pathogens were identified based on Gram staining, colony morphology, and relevant biochemical tests. MRSA and ESBL producing organisms were detected using appropriate antibiotic discs. Descriptive statistics, including frequencies and percentages, were calculated using Microsoft Excel.

Results: Of 115 wound swabs, 54 (47.0%) showed bacterial growth, including 36 monomicrobial and 18 polymicrobial cultures. Fourteen (12.17%) clinically significant aerobic isolates were identified. *Pseudomonas* spp. predominated (4.3%, n=5), followed by coliforms (2.6%, n = 3) and *Staphylococcus aureus* (2.6%, n = 3). MRSA occurred in 1.7% (n=2), while *Proteus* spp, *Acinetobacter* spp, and *Enterococcus* spp. each accounted for 0.9% (n = 1). ESBL production was detected in two isolates (1.7 %).

Conclusions: Bacterial growth was identified in 47.0% of wound specimens, with *Pseudomonas* spp. being the predominant clinically significant isolate. These results offer useful local evidence for antimicrobial management. However, superficial swabs may reflect colonization rather than infection. Deep tissue or pus samples are preferable for accurate microbiological assessment, and these findings should be interpreted accordingly.

Keywords: Wound infection, Bacteria, prevalence, Surgical wards, Jaffna.

OP-ID 9

Time-to-event analysis of erythropoietin response duration in non-dialysis CKD patients: A sex-stratified Kaplan–Meier study**Hansika DPDR^{1*}, Amarakoon AMYN¹, Sathgunarajah JM¹, Kottahachchi DU¹**¹Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University

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Introduction & Objectives: Erythropoiesis-stimulating-agents (ESAs) such as Erythropoietin (EPO) are widely used in the management of anaemia in chronic kidney disease (CKD), yet response rates and survival outcomes vary considerably across patient demographics, with gender recognised as a clinically relevant factor that influencing the therapeutic response. This study evaluated the response duration to EPO therapy and compared sex-specific response curves in non-dialysis CKD patients.

Materials & Method: 205 non-dialysis-dependent CKD patients receiving EPO therapy at the National Institute of Nephrology, Dialysis and Transplantation (NINDT), Sri Lanka, between May and December 2025. Primary treatment failure (event) was defined as a persistent drop in haemoglobin below target (<10 g/dL). Right-censoring was applied at loss to follow-up, initiation of dialysis, or study termination. Statistical Analysis performed using IBM SPSS version 25 using Kaplan–Meier estimations, and sex differences were evaluated using the Log-Rank test.

Results: The overall cohort (N = 205) showed a mean EPO response duration of 29.6 months and a median response duration of 18.0 months. Female patients (n = 77) demonstrated a mean response duration of 28.8 months (SE = 3.48; 95% CI: 21.96–35.60) and a median of 15.0 months (SE = 2.21; 95% CI: 10.67–19.33). Male patients (n=128) demonstrated a mean response duration of 29.5 months (SE = 2.46; 95% CI: 24.69–34.32) and a median of 24.0 months (SE = 3.81; 95% CI: 16.53–31.47). Log-Rank analysis indicated a lower median response duration in females compared to males.

Conclusions: Non-dialysis CKD patients showed a median EPO response duration of 18 months, with males maintaining a longer duration of response than females. These findings highlight potential sex-based variations in ESA treatment maintenance, warranting multivariable survival models to adjust for iron profiles, baseline haemoglobin, and CKD stages.

Keywords: Chronic Kidney Disease, Erythropoietin, Time-to-event analysis, Kaplan–Meier, Sex differences.

OP-ID 10

Prevalence of bacterial isolates among patients with bronchiectasis admitted to the Medical wards at Teaching Hospital Jaffna**Nazma F^{1*}, Saithoon H¹, Aazihfa F¹, Gnanakarunyan TJ¹, Selvaratnam G²**¹*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*²*Teaching Hospital Jaffna, Sri Lanka***nazmamilhan2001@gmail.com*

Introduction & Objectives: Bronchiectasis is a chronic respiratory disease characterized by irreversible bronchial dilatation and recurrent respiratory infections. Bacterial colonization contributes significantly to disease progression and exacerbations. Identification of the Prevalent bacterial pathogens is essential for effective patient management. This study aimed to determine the Prevalence of bacterial isolates among patients with bronchiectasis admitted to the medical wards at Teaching Hospital, Jaffna.

Materials & Methods: An institutional-based descriptive cross-sectional study was conducted among bronchiectasis patients admitted to the medical wards at Teaching Hospital, Jaffna. A total of 102 sputum samples were collected between February and April 2026 using a random sampling technique. Sputum specimens were assessed for quality using Murray and Washington's grading system. Acceptable specimens were identified according to the standard microbiological methods given in the Laboratory manual by Sri Lanka College of Microbiologists. Coliform bacteria were identified as a group and were not further identified to the species level.

Results: Of the 102 sputum samples collected, 83 (81.4%) were acceptable. Among the 83 acceptable specimens, 74 (89.2%) showed significant bacterial growth. Polymicrobial growth was observed in 10 (13.5%) samples. A total of 80 pathogenic bacterial isolates were recovered with the predominant gram-negative isolates. Coliform spp. were the most frequently isolated pathogens, accounting for 48.8% of isolates, followed by *Pseudomonas* spp. (37.5%). Other isolates included *Staphylococcus aureus*, *Acinetobacter* spp., and *Moraxella catarrhalis*.

Conclusion: A high prevalence of bacterial isolates was observed among hospitalized bronchiectasis patients with Gram-negative bacteria, particularly Coliform spp. and *Pseudomonas* spp., predominating. These findings provide baseline data to support future microbiological surveillance.

Keywords: *Bronchiectasis, Culture positivity, Bacterial isolates, Sputum culture, Respiratory infection.*

OP-ID 11

Complete blood count-derived biomarkers as predictors of oxidative stress in chronic kidney disease patients with proteinuria

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Introduction & Objectives: Oxidative stress (OS) is central to chronic kidney disease (CKD), affecting an estimated 10.7% of Sri Lankans. Although serum malondialdehyde (MDA) is a well-established OS biomarker, its measurement requires costly reagents and equipment unavailable in many resource-limited settings. This study aimed to evaluate complete blood count (CBC) derived inflammatory indices as predictors of OS in CKD patients with proteinuria.

Materials & Methods: This cross-sectional study included 89 CKD patients with proteinuria (UACR > 3.5 mg/mmol) attending the Nephrology Clinic, Teaching Hospital Jaffna. CKD was defined according to KDIGO criteria and staged 1-4 based on estimated glomerular filtration rate (eGFR). CBC was analysed using a Sysmex XN-330 automated haematology analyser, and CBC-derived inflammatory indices were calculated. MDA was measured using a colorimetric thiobarbituric acid (TBA)-based assay. Spearman's correlation and Receiver operating characteristic (ROC) curve analyses were performed using SPSS version 23.

Results: MDA showed weak positive correlations with mean corpuscular volume (MCV) ($r_s = 0.283$), mean corpuscular haemoglobin (MCH) ($r_s = 0.259$), monocyte count ($r_s = 0.265$), total leukocyte count (TLC) ($r_s = 0.242$), and aggregate index of systemic inflammation (AISI) ($r_s = 0.238$), all statistically significant ($p < 0.05$). Stage-stratified analysis showed significant correlations in stage 1 for systemic inflammation response index (SIRI) ($r_s = 0.59$, $p = 0.046$) and AISI ($r_s = 0.64$, $p = 0.028$), and in stage 3 for TLC ($r_s = 0.37$, $p = 0.015$) and lymphocyte count ($r_s = 0.34$, $p = 0.026$). ROC analysis showed TLC had the highest discriminatory performance (AUC = 0.67; cutoff ≥ 8390 cells/ μ L; sensitivity 59.1%; specificity 71.1%), followed by MCV, MCH, monocyte count, and AISI (AUC 0.59 - 0.63).

Conclusions: CBC-derived inflammatory indices were significantly associated with OS in a stage-specific manner, especially in stage 1 and stage 3 CKD with proteinuria. These inexpensive markers may serve as surrogate indicators of OS in resource-limited settings; however, larger validation cohorts are needed.

Keywords: Chronic kidney disease, Proteinuria, Oxidative stress, Malondialdehyde, CBC-derived inflammatory markers.

OP-ID 12

Clinical demographic and virological markers of dengue and dengue hemorrhagic fever patients attending to Teaching Hospital Jaffna

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Introduction & Objectives: Dengue fever remains a major public health challenge in Sri Lanka. Despite increasing atypical and severe complications, data on dengue dynamics from the Northern Province remain limited. This study aims to assess the demographic, clinical, and laboratory characteristics of patients at Teaching Hospital Jaffna and to evaluate the diagnostic performance of the SD NS1 antigen detection kit against RT-PCR to support rapid, accurate diagnosis in resource-limited settings.

Materials & Methods: A laboratory-based cross-sectional study was conducted at Teaching Hospital Jaffna and the Molecular Biology Laboratory, University of Jaffna. A total of 169 patients with suspected dengue infection were systematically recruited from medical wards. Demographic, clinical, and laboratory data were collected using a structured questionnaire. Blood samples were tested using the SD NS1 antigen detection kit and RT-PCR. Data were analysed using SPSS version 25. Associations were assessed using the Chi-square test or Fisher's exact test, while sensitivity and specificity were calculated against RT-PCR results.

Results: Of the 169 patients, the NS1 antigen test identified 43 positive and 126 negatives while RT-PCR analysis detected 34 positive and 135 negatives. Overall, 47 (27.8%) were considered as dengue positive. Among them, 39 (83.0%) had dengue fever and 8 (17.0%) had dengue hemorrhagic fever. Age was significantly associated with dengue infection ($p = 0.029$), whereas gender and residential MOH area were not. Fever was the most common presenting symptom. Arthralgia ($p = 0.030$), myalgia ($p = 0.021$), vomiting ($p = 0.027$), retro-orbital pain ($p = 0.012$), and encephalitis ($p = 0.020$) showed significant associations with dengue positivity. Dengue hemorrhagic fever was significantly associated with bleeding manifestations and encephalitis ($p = 0.001$). Common laboratory abnormalities included thrombocytopenia, haemoconcentration, leukopenia, elevated liver enzymes, and altered potassium levels. The SD NS1 antigen detection kit demonstrated a sensitivity of 88.24% and specificity of 90.37%.

Conclusion: Several clinical features, particularly musculoskeletal, neurological, and bleeding manifestations, were significantly associated with dengue infection and severity. The SD NS1 antigen detection kit showed good diagnostic accuracy and may serve as a valuable tool for early dengue diagnosis in resource-limited settings.

Keywords: Dengue fever, severe dengue, NS1 antigen, RT-PCR, clinical characteristics, diagnostic performance.

OP-ID 13

Evaluation of complete blood count derived markers as predictors of oxidative stress in hypothyroidism: A cross-sectional study

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Introduction & Objectives: Hypothyroidism is a common endocrine disorder associated with chronic inflammation and increased oxidative stress, contributing to cellular damage and metabolic complications. However, routine oxidative stress monitoring remains limited because established biomarkers require costly assays and specialized equipment. Therefore, this study aimed to evaluate complete blood count-derived (CBC-derived) markers as predictors of oxidative stress in patients with hypothyroidism.

Materials & Methods: A laboratory-based cross-sectional study was conducted among 95 patients with hypothyroidism attending the Endocrinology Clinic at Teaching Hospital Jaffna. CBC parameters were analyzed using a 5-part automated hematology analyser (Sysmex XN-330), and serum malondialdehyde (MDA) was measured using an Elabsience assay kit. Spearman's correlation, Youden index (YI), and Receiver operating characteristic (ROC) curve analyses were performed using SPSS version 23.

Results: Among 95 patients with hypothyroidism, the median age was 39 years (IQR: 30.5 - 47.0). MDA showed weak but significant positive correlations with hemoglobin ($r_s = 0.236$, $p = 0.021$), mean corpuscular haemoglobin ($r_s = 0.249$, $p = 0.015$), mean corpuscular haemoglobin concentration ($r_s = 0.268$, $p = 0.009$), monocyte count ($r_s = 0.229$, $p = 0.025$), monocyte lymphocyte ratio (MLR) ($r_s = 0.205$, $p = 0.047$), and systemic immune-inflammation index (SIRI) ($r_s = 0.213$, $p = 0.038$). MLR demonstrated the highest YI (0.307) at a cutoff of ≥ 0.029 , with 63.3% sensitivity, 67.4% specificity, and an area under the curve of 0.647 (95% CI: 0.534 - 0.760, $p = 0.014$).

Conclusions: CBC-derived markers showed weak associations with oxidative stress, with MLR demonstrating the best discriminatory performance. Further large-scale studies are needed to determine their clinical utility as adjunctive markers.

Keywords: Hypothyroidism, Oxidative stress, Malondialdehyde, CBC-derived inflammatory markers.

OP-ID 14

Drinking water quality and associated risk factors among chronic kidney disease of unknown etiology patients at Nephrology clinic, Divisional hospital, Padavi Sripura

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Introduction & Objectives: Chronic Kidney Disease of Unknown etiology (CKDu) is a major public health concern in Sri Lanka, particularly in dry zone agricultural areas. Drinking water quality and agrochemical exposure have been reported as potential contributors. This study aimed to evaluate the drinking water quality and the associated risk factors for CKDu among patients at Nephrology clinic of Divisional Hospital Padavi Sripura.

Materials & Methods: Forty-eight CKDu patients were included in this study. Clinical and other related data were obtained from both clinic records and interviewer-administered questionnaire. Drinking water samples were analyzed for pH (pH meter), electrical conductivity (EC) (conductivity meter), total dissolved solids (TDS) (gravimetric analysis), total hardness (TH) (EDTA titrimetric method) and fluoride concentration (ion selective electrode). Data were analyzed using Spearman's rank correlation, Kruskal- Wallis test, and multiple linear regression.

Results: Among 48 participants, 81.25% were males. Farmers accounted for 68.75%. Well water was the primary drinking water source of participants (85.42%). Dug and tube well water showed pH, 7.01 ± 0.17 (SLS: 6.5-8.5), EC, 1007.93 ± 371.23 μ S/cm (SLS: 750), TDS, 752.81 ± 253.14 mg/L (SLS: 500), TH 420.00 ± 137.18 mg/L (SLS: 250), and fluoride 0.68 ± 0.20 mg/L (SLS: 1.0). Filtration significantly reduces EC, TDS, TH, and fluoride ($p < 0.05$), whereas boiling produces minimal reduction in EC, TDS, and TH. Scr was positively correlated with EC ($\rho = 0.624$, $p < 0.001$), TDS ($\rho = 0.602$, $p < 0.001$), TH ($\rho = 0.366$, $p = 0.011$), and fluoride ($\rho = 0.474$, $p = 0.001$). TDS was identified as the only significant predictor of Scr.

Conclusions: The findings suggest poor drinking water quality, particularly high TDS and mineral content are associated with impaired kidney function among CKDu patients in Padavi Sripura. However, it needs further validation with large sample size.

Keywords: Chronic kidney disease of unknown etiology, Water quality, Serum creatinine, Total dissolved solids.

OP-ID 15

Pre-analytical errors and sample rejection: A one-year retrospective study at District General Hospital, Vavuniya, Sri Lanka**Athy K^{1*}, Coonghe PAD², Karunaithas R³**¹*Faculty of Graduate Studies, University of Jaffna, Sri Lanka*²*Department of Community and Family Medicine, Faculty of Medicine, University of Jaffna, Sri Lanka*³*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka***kanthasamyathy@gmail.com*

Introduction & Objectives: Pre-analytical errors are a major source of laboratory inaccuracies, compromising diagnostic reliability and patient safety. Understanding their prevalence and causes is essential for targeted quality improvement. However, evidence from Northern Sri Lanka remains limited. Therefore, this study aimed to evaluate the prevalence, distribution, and causes of pre-analytical errors across major laboratory disciplines at District General Hospital, Vavuniya.

Materials & Methods: A retrospective record-based analysis was conducted from July 2023 to June 2024. All samples rejected due to pre-analytical errors in chemical pathology, hematology, microbiology, and histopathology, along with the total number of test requests during the same one-year period, were retrieved from laboratory records. Data on rejection rates, test types, originating wards, and causes were extracted using a structured data extraction sheet and analyzed using descriptive statistics in SPSS version 20.

Results: The overall sample rejection rate in District General Hospital, Vavuniya, was 6.35% (n = 3021/47,570). Rejection rates were highest in chemical pathology (7.55%), followed by hematology (5.52%), histopathology (3.13%), and microbiology (1.31%). In chemical pathology, renal function tests showed the highest rejection (27.9%), mainly due to sample insufficiency (44.5%) and hemolysis (25.6%). In hematology, samples not received (49.1%) and clotted samples (38.5%) were most frequent, with PT/INR showing the highest test-specific rejection rate of 55.6%. In microbiology and histopathology, mismatched samples were the most frequent cause of rejection, accounting for 57.7% and 66.7%, respectively. Rejection rates varied across wards and units, with no single ward or unit demonstrating a consistently higher frequency of rejections.

Conclusions: Pre-analytical errors remain of notable prevalence at District General Hospital, Vavuniya, particularly in chemical pathology and hematology, with sample handling and identification issues as major contributors. Strengthening staff training, standardizing procedures, and focusing on high-risk units are recommended to improve laboratory quality and patient safety.

Keywords: *Pre-analytical Errors, Sample rejection, Retrospective study, Clinical laboratory, Sri Lanka.*

OP-ID 16

Perception on mental illness and its associated factors among non-healthcare undergraduates at University of Jaffna**Kaushalya KMPD¹, Weerasinghe WPSS^{1*}, Sathees S¹, Jeyakumar S²**¹*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna.*²*College of Nursing, Jaffna.**wpsamadi99@gmail.com*

Introduction & Objectives: Mental illness is a major public health concern, yet misconceptions, stigma, and negative attitudes remain common. Understanding undergraduates' perceptions and associated factors is important for improving mental health literacy and reducing stigma. This study aimed to determine the perceptions on mental illness and its associated factors among non-healthcare undergraduates at the University of Jaffna.

Materials & Methods: This descriptive cross-sectional study was carried out among 430 undergraduates, with 405 responses (Response rate 94.19%). Participants were selected through stratified random sampling from all faculties except health-related faculties. Data were collected using a two-part structured self-administered questionnaire. The first part gathered socio-demographic and lifestyle information. The second part comprised the 51-item OMI questionnaire, assessing perceptions across five subscales on a 6-point Likert scale. Mean scores >3 indicated positive attitudes. Data were analyzed using SPSS version 27. Descriptive statistics, independent sample t-tests, and ANOVA were used.

Results: Most participants were female (57.5%), Sinhalese (40.7%), and from non-STEM faculties (64.4%), with a mean age of 23.10 years (SD = 1.56). Most had no family history of mental illness (94.1%); 28.9% had prior contact with a mentally ill person, 24.4% had a family member in healthcare, and social media was the main information source (70.9%). All OMI subscale means were <3 (maximum = 6), indicating negative perceptions: Authoritarianism (2.78), Sophisticated Benevolence (2.99), Mental Hygiene Ideology (2.93), Social Restrictiveness (2.75), and Interpersonal Etiology (2.80). 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 negative perceptions on mental illness. Family history, prior contact, and having a relative in the healthcare sector were significant associated factors. Mental health education and contact-based interventions should be strengthened to reduce stigma and improve perceptions.

Keywords: *Mental Illness, Non-Healthcare Undergraduates, Perception.*

OP-ID 17

Associated lifestyle factors for knee pain among patients attending the Orthopaedic clinic at Teaching Hospital Jaffna**Illangasinghe T¹, Zakee S M¹, Kamalarupan L¹, Gobyshanger T²**¹*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna.*²*National Hospital, Sri Lanka.***thiliniillangasinghe@gmail.com*

Introduction & Objectives: Knee pain is a common musculoskeletal complaint that affects mobility and daily functioning. Lifestyle-related factors may influence knee pain severity, but evidence from Sri Lankan populations is limited. Therefore, this study aimed to assess the association between lifestyle factors and knee pain severity among patients attending the orthopaedic clinic at Teaching Hospital Jaffna.

Materials & Methods: A cross-sectional study was conducted among 426 patients attending the orthopaedic clinic, Teaching Hospital Jaffna, using systematic random sampling. Ethical clearance was obtained from the Ethics Review Committee, Faculty of Medicine, University of Jaffna (ERC/151/4.2.1/NUR/09). Data were collected using an interviewer-administered questionnaire. Knee pain severity was assessed using a Visual Analogue Scale (VAS). Logistic regression adjusted for age and sex was performed to identify lifestyle factors associated with knee pain severity.

Results: The patients' ages ranged from 19 to 93 years, with a mean age of 58.47 years (SD = 14.832). The majority were females (59.4%). Nearly half of the patients (48.8%) reported a monthly income of 5,000–10,000 Sri Lankan Rupees. 53.3% of patients suffered from severe knee pain. Severity of knee pain was significantly associated with work (adjusted OR 2.25, 95% CI 1.50 - 3.37, $p = 0.0005$) and walk/run or exercise (adjusted OR 3.22, 95% CI 2.14 - 4.84, $p = 0.0005$). Severity of knee pain was not significantly associated with climbing more than one floor a day (adjusted OR 0.61, 95% CI 0.27 – 1.39, $p = 0.2$), footwear (adjusted OR 1.55, 95% CI 0.69 – 3.35, $p = 0.2$), smoking (adjusted OR 1.38, 95% CI 0.74 - 2.56, $p = 0.3$) and alcohol (adjusted OR 1.46, 95% CI 0.78 - 2.70, $p = 0.2$).

Conclusions: Work-related activities and physical exercise were significantly associated with knee pain severity. These findings highlight the importance of considering occupational and physical activity-related factors in knee pain management. Further research is needed to guide lifestyle-based interventions.

Keywords: Knee pain, Lifestyle factors, Orthopaedic, Physical activity.

OP-ID 18

Health-related factors associated with knee pain among patients attending the Orthopaedic clinic in Teaching Hospital Jaffna**Illangasinghe T¹*, Zakee S M¹, Kamalarupan L¹, Gobysanger T²**¹Faculty of Allied Health Sciences, University of Jaffna²National Hospital, Sri Lanka

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Introduction & Objectives: Knee pain is associated with disability, reduced mobility, impaired daily functioning, and poorer quality of life. Identifying factors associated with pain severity is essential for improving clinical outcomes. Therefore, this study aimed to assess health-related factors associated with knee pain severity among patients attending the orthopaedic clinic at Teaching Hospital Jaffna.

Materials & Methods: A cross-sectional study was conducted among 426 patients attending the orthopaedic clinic at Teaching Hospital Jaffna, recruited using systematic random sampling. Data were collected using interviewer-administered questionnaires. Knee pain severity was assessed using the Visual Analogue Scale (VAS). Logistic regression was used to adjust for age and sex and identify factors associated with knee pain severity. Ethical approval was obtained from the Ethics Review Committee, Faculty of Medicine, University of Jaffna (ERC/151/4.2.1/NUR/09).

Results: A total of 426 patients were included in this study. Among them, 41.3% (n = 176) were male. The mean age was 58.47 ± 14.83 years. The highest level of education for most participants was up to the Ordinary level (48.6%). The majority (91.8%) reported moderate or severe pain, with around half of them experiencing knee pain bilaterally (50.2%). Family history of knee pain (adjusted OR 2.18, 95% CI 1.24 - 3.82, $p = 0.006$), previous injection treatment in the knee joint (adjusted OR 1.97, 95% CI 1.19 - 3.27, $p = 0.008$), Instability in knee joint (adjusted OR 2.11, 95% CI 1.34 - 3.31, $p = 0.001$), having pain on both knees (adjusted OR 1.76, 95% CI 1.06-2.92, $p = 0.02$) and history of fractures in the affected leg knee (adjusted OR 1.73, 95% CI 1.08 - 2.75, $p = 0.02$) were significantly associated with severity of knee pain.

Conclusions: Several health-related and knee-specific factors were associated with knee pain severity. Considering these factors during clinical assessment may support appropriate pain management and help reduce disability.

Keywords: Knee pain, Health-related factors, Orthopaedic.

OP- ID 19

Maternal factors associated with obtaining exclusive breastfeeding information through social media among mothers of infants in the Nallur Medical Officer of Health Area**Coonghe PAD ^{1*}, Meshigan P², Bavuna S², Sasrubi S¹, Vithushany S¹**¹*Department of Community and Family Medicine, Faculty of Medicine, University of Jaffna, Sri Lanka.*²*Teaching Hospital Jaffna, Sri Lanka.*

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Introduction & Objectives: Exclusive breastfeeding is important for the growth and development of infants. Social media platforms play a crucial role in disseminating information regarding breastfeeding. A study was carried out to assess the use of social media for obtaining exclusive breastfeeding information and determine its association with selected maternal factors among mothers of infants in the Nallur Medical Officer of Health Area.

Materials & Methods: A community-based descriptive cross-sectional study was carried out among mothers of infants aged between 1-12 months, attending poly clinics at Nallur Medical Officer of Health between January and April 2025. Current breastfeeding practices were assessed among mothers. Mothers of infants aged more than 6 months were asked retrospectively about exclusive breastfeeding during the first six months. An interviewer-administered questionnaire was used to collect the data, which were analysed with SPSS (v26). Chi square test was applied to assess associations between maternal factors and exclusive breastfeeding information obtained through social media.

Results: Among 344 mothers, mean age was 30.4 (± 5.2) years. Majority were with G.C.E A/L qualifications (n = 249, 72.4%), employed (n = 109, 31.7%), and first parity (n = 157, 45.6%). Nearly half of the mothers (n = 169, 49.1%) reported that they were currently practicing breastfeeding or had previously practiced exclusive breastfeeding. The mean age of the infants was 6.2 (± 3.7) months. Most mothers reported using social media (n = 291, 84.6%), with WhatsApp (n = 329, 95.6%), Facebook (n = 276, 80.2%), and YouTube (n = 256, 74.4%) being the most commonly used platforms. The majority (n = 179, 52.0%) reported obtaining information on exclusive breastfeeding through social media rather than from friends or family. Most mothers reported that social media encouraged exclusive breastfeeding (n = 236, 68.6%) and discouraged formula feeding (n = 316, 91.9%). Obtaining exclusive breastfeeding information through social media was significantly associated with maternal education (p < 0.001) and employment status (p = 0.004).

Conclusions: Social media is a useful platform for sharing evidence-based information to support exclusive breastfeeding.

Keywords: social media, exclusive breastfeeding, mothers, infants, Jaffna.

OP-ID 20

Navigating an early transition: the perceptions of primigravida women during their first trimester in Tellipalai MOH area, Jaffna**Yasotha G^{1*}, Mathanki S^{1*}, Sivayokan S¹,**¹*Department of Psychiatry, Faculty of Medicine, University of Jaffna, Sri Lanka.*

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Introduction & Objectives: Pregnancy involves significant physical, psychological, and social changes, which may be particularly challenging for first-time mothers. However, qualitative evidence on first-trimester experiences of primigravida women in Sri Lanka, particularly the Northern Province, remains limited. This study aimed to explore the lived experiences, psychosocial challenges, coping strategies, and healthcare needs of primigravida women.

Materials & Methods: This longitudinal qualitative study employed an interpretive phenomenological approach. Thirty primigravida women aged 18–32 years from the Tellipalai MOH area, Jaffna, were recruited through criterion sampling and participated in semi-structured in-depth interviews. Tamil interviews were audio-recorded, transcribed, translated into English, and thematically analysed using a structured data extraction framework.

Results: Five major themes emerged: embracing pregnancy and emerging maternal identity; navigating uncertainty and vulnerability; adapting to physical challenges; receiving support for positive adaptation and utilizing antenatal care as a meaningful resource. Most women experienced the first trimester as a positive and meaningful transition, characterized by excitement, joy, and relief, regardless of whether conception was accidental, planned, or medically assisted. However, women with previous fertility-related difficulties reported uncertainty, fear, and anxiety. Their main concerns at the first trimester were around adapting the morning sickness. Spouses were identified as primary sources of physical and emotional support, while mothers, other family members, friends, and co-workers contributed to emotional well-being. Antenatal services were perceived as accessible, supportive, and informative, while expectations regarding fetal sex varied.

Conclusions: Most participants described pregnancy as a joyful transition with positive emotions and adequate support. However, those with previous fertility issues experienced mixed emotions and anticipatory anxiety. Being pregnant itself boosted their self-esteem and enhanced the way of seeing things in life. These findings highlight the need for psychosocial support, particularly for primigravida women with previous fertility challenges or pregnancy loss.

Keywords: *Being pregnant, Lived experiences, Primigravida, Transition of life, Tellipalai MOH.*

OP-ID 21

Physical health issues faced by the working mothers after return to work following maternity leave at Nallur and Jaffna MOH**Fathima Afna A^{1*}, Swarna S¹, Kamalarupan L¹, Umashankar N²**¹Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.²Teaching Hospital Jaffna, Sri Lanka.

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Introduction & Objectives: Postpartum health issues are often prolonged, and some physical issues arise after mothers return to work. These can negatively impact mothers' well-being and work-life balance. Hence, it is necessary to provide support for mothers to help them overcome these issues and enhance their quality of life. This study aimed to describe the self-reported physical health-issues faced by working mothers after return to work from maternity-leave.

Materials & Methods: A descriptive cross-sectional study was conducted among 157 working mothers in Nallur, Jaffna MOH. Data was collected using pretreated self-administered questionnaire. Data analysis was performed using IBM-SPSS 26. Descriptive statistics were used to describe physical health issues. Ethical clearance was obtained from Ethics Review Committee, Faculty of Medicine, University of Jaffna.

Results: Among the 170 eligible working mothers, 157 mothers participated in the study, yielding a response rate of 92.2%. The participants' ages ranged from 24 to 42 years. The majority (73.9%) had received 84 days of maternity-leave, and 66.2% were in their mid-extended postpartum-period at the time of the study. Breast engorgement (27.4%) and difficulties with breastfeeding (25.5%) were the most reported physical health issues during the first month after returning to work. Fatigue (32.5%), abdominal pain (32.5%), back-pain (21.0%), tingling or burning sensations in the breasts (13.4%), and dizziness (11.5%) were reported from the time of delivery and remained prominent during the first month after returning to work. Persistent postpartum problems included; pelvic-pain (33.2%), inadequate or irregular sleep (39.5%), and changes in physical appearance, such as hair loss and weight gain (48.4%), which continued beyond the initial postpartum-period.

Conclusions: The findings indicate that working-mothers commonly experience persistent physical-health challenges after returning to work following maternity-leave and highlight the need for extended-postpartum support, workplace adjustment, counselling to promote maternal wellbeing.

Keywords: Physical health issues, Extended-postpartum period, Maternity-leave, Working mothers.

OP-ID 22

Prevalence of behavioral related risk factors among the patients with chronic liver disease attending Gastroenterology clinic, Teaching Hospital Jaffna**Sujeewan A^{*1}, Epsiba L¹, Jegapragash V¹, Anuradha A²**¹*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*²*Teaching Hospital Jaffna, Sri Lanka.***sujeewanarumugam98@gmail.com*

Introduction & Objectives: Chronic liver disease (CLD) is the end stage of various chronic, progressive liver diseases. Non-alcoholic fatty liver disease (NAFLD), alcohol-associated fatty liver disease (ALFD), and hepatitis can lead to CLD. Inadequate physical activity, fast-food consumption, beverage consumption, alcohol consumption, and intravenous (IV) drug use are important behavioural risk factors associated with CLD. CLD is a major cause of morbidity and mortality worldwide. In Sri Lanka, nearly one-quarter of the population is affected by CLD, yet studies investigating behavioural risk factors associated with liver disease remain limited. This study aimed to assess the prevalence of behavioural risk factors associated with chronic liver disease among patients attending the gastroenterology clinic at Teaching Hospital Jaffna.

Materials & Methods: A descriptive cross-sectional study was conducted among chronic liver disease patients attending gastroenterology clinic at the Teaching Hospital Jaffna. A total of 99 patients who consented to participate were enrolled. Ethical approval was obtained from the Ethics Review Committee of the Faculty of Medicine, University of Jaffna. Data were collected using a structured questionnaire, and variables such as physical activity, fast food consumption alcohol and beverage consumption and IV drug use were analyzed by univariate analysis using SPSS 27.

Results: The mean age of the participants was 49.86 years (range: 12–78 years), and the majority (52.5%) were male. The results indicated a high prevalence of beverage consumption (83.8%), while inadequate physical activity was reported by 75.8% of participants. Fast-food consumption was reported by 18.2%, while a history of hepatitis and intravenous drug use was reported by 4%. Tattoos were reported by 5.1% of participants, and a history of alcohol consumption was reported by 26.3% of those with alcohol-associated liver disease (ALFD).

Conclusions: Several behavioural risk factors were associated with CLD among participants attending the Gastroenterology clinic in Jaffna. Inadequate physical activity, fast food and beverage consumption, and alcohol consumption were identified as important contributing factors. To improve patient outcomes, early diagnosis through liver function testing and risk-based management protocols should be implemented.

Keywords: *chronic liver disease, Behavioral related risk factor, non-alcoholic fatty liver disease, Teaching Hospital Jaffna.*

OP-ID 23

Knowledge on asthma and selected factors associated with asthma control among parents of children under 11 years, attending the Paediatric clinic at Teaching Hospital Jaffna**Pavishanth V^{1*}, Pravin A¹, Kamalarupan L¹, Pratheesh M²**¹*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*²*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*

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Introduction & Objectives: Bronchial asthma is a leading chronic respiratory disease in children globally. Effective management of asthma depends largely on adequate parental knowledge. This study aims to assess the level of knowledge on asthma among parents and selected factors associated with asthma control among children under 11 years attending the Paediatric Clinic at Teaching Hospital Jaffna.

Materials & Methods: A hospital-based descriptive cross-sectional study was conducted among 422 parents of children under 11 years attending the Paediatric Clinic at Teaching Hospital Jaffna. Participants were selected using systematic random sampling. Data were collected using a validated interviewer-administered questionnaire consisting of selected factors, the Asthma Knowledge Questionnaire (AKQ), and the GINA Asthma Symptom Control Tool. IBM SPSS version 27 software was used to analyze the data and the chi-square test was used to find the association between the selected factors and asthma control. Ethical clearance was obtained from the Ethics Review Committee, Faculty of Medicine, University of Jaffna.

Results: Only 28% of them had good knowledge, while 63% had moderate knowledge. Nearly half of the children (45%) had partly controlled asthma, while 36% had uncontrolled asthma and 19% had well-controlled asthma. Selected factors, including child age ($x^2 = 7.041$, $p = 0.030$), parent age ($x^2 = 29.499$, $p = 0.001$), educational qualification ($x^2 = 22.875$, $p = 0.011$), home ventilation ($x^2 = 18.710$, $p = 0.005$), passive smoking exposure ($x^2 = 10.337$, $p = 0.006$), dust exposure ($x^2 = 14.070$, $p = 0.007$), exposure to heavy traffic or air pollution ($x^2 = 31.692$, $p = 0.001$), and cooking fuel ($x^2 = 28.349$, $p = 0.029$), had significant associations with asthma control.

Conclusions: Most parents had moderate level of asthma knowledge. Enhancing parental education on environmental triggers will improve asthma control among children.

Keywords: Asthma, children, environmental factors, parental knowledge, socioeconomic factors.

OP-ID 24**Level of loneliness and its associated factors among undergraduates at the University of Jaffna****Dilakshini S^{1*}, Athulasiri TK¹, Sathees S¹, Kajavinthan K²**¹*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*²*Department of Philosophy and Psychology, Faculty of Arts, University of Jaffna, Sri Lanka*
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Introduction & Objectives: Loneliness is a growing public health concern among university students and is associated with adverse mental, physical, academic, and social outcomes. Undergraduate students may experience loneliness due to academic pressures, changes in social relationships, and personal or environmental factors. However, limited evidence is available regarding loneliness and its associated factors among undergraduates in Sri Lankan universities. Therefore, this study aimed to assess the level of loneliness and to identify its associated sociodemographic factors among undergraduates at the University of Jaffna.

Materials & Methods: An institution-based descriptive cross-sectional study was conducted among undergraduates of the University of Jaffna. A total of 426 undergraduates were recruited as study participants from selected faculties of the University of Jaffna using a stratified random sampling technique. The data was collected with a self-administered questionnaire which includes internationally validated, widely used, and freely accessible UCLA loneliness scale. The data was analysed using SPSS version 27. Ethical approval was obtained from the Ethics Review Committee of Faculty of Medicine, University of Jaffna.

Results: Among 426 participants, ages ranged from 20–27 years; 68.3% were female, 56.6% reported inadequate monthly income, and 88 participants were from health-related faculties. Overall, 17.6% reported high (severe) loneliness, 44.1% moderate loneliness, and 38.3% low loneliness, with no significant association with socio-demographic factors.

Conclusions: More than half of the undergraduates at the University of Jaffna are suffering with moderate or severe loneliness. This highlights the need for implementing loneliness-awareness and social support initiatives for undergraduates, rather than targeting specific socio-demographic groups.

Keywords: *UCLA loneliness scale, undergraduates, sociodemographic factors.*

OP-ID 25

Assessment of handgrip strength and influencing factors among older adults in Kaithady Elders' Home**Sajeewani J^{1*}, Dulakshi NHLK¹, Kamalarupan L¹, Sasrubi S²**¹*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.*²*Department of Community Medicine, Faculty of Medicine, University of Jaffna, Sri Lanka.***sajeedarsha2000@gmail.com*

Introduction & Objectives: Handgrip strength is a simple, low-cost indicator of overall muscle strength and functional health. Institutionalized older adults are at higher risk of muscle strength decline due to limited physical activity and comorbidities. This study assessed handgrip strength and its associated socio-demographic factors among older adults at the State Home for Elders, Kaithady, Jaffna District.

Materials & Methods: A descriptive cross-sectional study was conducted among 110 older adults aged 60 years and above residing at the State Home for Elders, Kaithady, Jaffna. Data were collected using a validated interviewer-administered questionnaire to identify the socio demographic factors. Handgrip Strength was measured in the dominant hand using a Smedley digital hand dynamometer. SPSS version 27 was used to analyze the data. Mann-Whitney U test and Kruskal-Wallis H test were used. Ethical clearance was obtained from the Ethics Review Committee, Faculty of Medicine, University of Jaffna.

Results: A total of 110 older adults aged 60 years and above participated in the study. Of the participants, 54.5% were males and 45.5% were females. The overall mean Handgrip Strength was 11.16 kg (SD = 6.01). Based on an age- and sex-specific reference chart, 86.7% of males and 84.0% of females had weak Handgrip Strength. Among the socio-demographic factors, only gender ($p = 0.005$) and previous occupation ($p = 0.003$) were significantly associated with Handgrip Strength.

Conclusions: A high prevalence of weak Handgrip Strength was observed among institutionalized older adults at the State Home for Elders, Kaithady in Jaffna exceeding levels reported in community-dwelling older adults in Sri Lanka. Gender and previous occupation were significantly associated.

Keywords: *Handgrip strength, older adults, institutionalized elders, socio-demographic factors, Jaffna District.*

OP-ID 26

Level of knowledge of Complementary Feeding and Its Associated Factors among Mothers of Children Aged 6–24 Months.**Keerthana S^{1*}, Nilakshan K¹, Thabotharan D¹, Kamalarupan L¹**¹*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.***ksivaraja32@gmail.com*

Introduction & Objectives: Complementary feeding is the introduction of solid, semi-solid, and soft foods to infants at six months of age while continuing breastfeeding up to two years of age or beyond. This study was aimed to assess the level of knowledge of complementary feeding and its association with selected socio-demographic factors among mothers of children aged 6–24 months in the Nallur Medical Officer of Health (MOH) area.

Materials & Methods: A community-based descriptive cross-sectional study was conducted among 252 mothers of children aged 6-24 months in the Nallur MOH area using simple random sampling. Data were collected using a pre-tested, interviewer-administered questionnaire comprising socio-demographic characteristics and knowledge-related questions on complementary feeding. The knowledge assessment covered the timing of initiation, risks of early and late introduction, introduction of salt and sugar, introduction of family diet, feeding style, meal and snack frequency, feeding environment and position, feeding during illness, and food consistency. Data were analyzed using descriptive statistics and the chi-square test in IBM SPSS statistics version 26.

Results: The mean age of mothers was 31 years, with 41.3% having completed GCE Advanced Level education and 61.1% being housewives. Regarding knowledge, 55.2% had an average level, 36.1% poor and 8.7% good. Knowledge level was significantly associated with maternal education ($p < 0.001$), paternal education ($p < 0.001$), maternal occupation ($p < 0.001$), paternal occupation ($p = 0.018$), and family income ($p < 0.001$).

Conclusions: Mothers had average level of knowledge of complementary feeding, influenced by parental education, occupation, and family income, highlighting the need for nutrition education.

Keywords: *Complementary feeding, knowledge, mothers, Jaffna.*

OP-ID 27**Level of knowledge and factors affecting postpartum family planning use in mothers in Nallur MOH****Arthika S^{1*}, Newra N¹, Kamalarupan L¹, Nivetha P¹**¹*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.***arthika64@gmail.com*

Introduction & Objectives: Postpartum family planning is needed for at least one year after childbirth to prevent unintended pregnancy. This study was aimed to assess the knowledge and associated factors on postpartum family planning utilization among mothers under twelve months of post-delivery who are attending polyclinics in the Nallur MOH area.

Materials & Methods: A descriptive cross-sectional study was conducted among postpartum mothers under one year of post-delivery from January 2025 to July 2026 in the Nallur MOH area. There were 410 mothers recruited as study participants in the Nallur MOH area via a stratified proportionate sampling technique. Data was collected by using a self-administered questionnaire and statistical software SPSS 27 was used to analyze the data. Totally there were 31 points for knowledge questions. Data was presented in frequencies, percentages and Chi-square test was used to find the association. Ethical approval was obtained from ERC, Faculty of Medicine, University of Jaffna.

Results: Response rate is 100%. The mean age was 29.63 years. Most of them were Sri Lankan Tamils (96.3%). More than half of mothers (53.2%) had inadequate knowledge of postpartum family planning, even though 99.5% had received antenatal education and 97.8% had received postnatal education. Most of them (95.9%) knew the correct definition of the postpartum family planning and 79% of mothers knew the recommended two-year birth spacing interval. Race, education, occupation and family monthly income were shown the statistical significance with the level of knowledge.

Conclusions: Knowledge of postpartum family planning remains inadequate among a substantial proportion of mothers even though antenatal and postnatal education is provided adequately, which indicates a gap in education quality rather than access.

Keywords: *postpartum, family planning, knowledge, mothers, Jaffna.*

OP-ID 28

Skin disease prevention practices among sanitary workers in Jaffna Municipality**Suventhan K¹, Sanjeevan R^{1*}, Jegapragash V¹, Sivapragasam S²**¹Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.²Teaching Hospital Jaffna, Sri Lanka.

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Introduction & Objectives: Sanitary workers are frequently exposed to occupational hazards, including biological waste, chemicals, and prolonged outdoor work, which predispose them to a range of skin diseases. Despite this, practices for preventing skin diseases among sanitary workers remain poorly studied in the Sri Lankan context, particularly in Jaffna Municipality. This study aimed to assess the level of preventive practices regarding skin diseases and its associated factors among sanitary workers in Jaffna Municipality.

Materials & Methods: An institution-based descriptive cross-sectional study was conducted among sanitary workers in Jaffna Municipality. As the calculated sample size (384) exceeded the total study population (250), the entire population was included. Data were collected using a pretested, interviewer-administered questionnaire and analyzed using SPSS version 27. The questionnaire was developed in English, validated by an expert panel, translated into Tamil using backtranslation. Practice was categorized as good (above 65%) or poor (65% or below), and its association with sociodemographic and work-related factors was assessed using the chi-square test ($p < 0.05$).

Results: Of the 250 eligible participants, 234 responded (93.6% response rate). Only 35.5% demonstrated good preventive practice, while 64.5% showed poor practice. Practice level was significantly associated with a prior history of skin disease, attendance at training, access to water and soap, availability of bathing/changing facilities, PPE adequacy, frequency of supervisor reminders, and years of service (all $p < 0.05$), while sociodemographic factors such as age, gender, and marital status showed no significant association.

Conclusions: Preventive practice regarding skin diseases among sanitary workers in Jaffna Municipality remains inadequate. Good practice was associated with workplace infrastructure, adequate PPE, and supervisor support. Regular training, improved PPE supply, and better workplace facilities are recommended to strengthen skin disease prevention among sanitary workers.

Keywords: Practice, Skin diseases, Sanitary workers, Prevention, Jaffna.

OP-ID 29

Anaesthesia knowledge and associated factors among preoperative patients at Teaching Hospital Jaffna**Maheswaran A^{1*}, Rakulan K¹, Jegapragash V¹, Premakrishna S²**¹Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.²Teaching Hospital Jaffna, Sri Lanka.

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Introduction & Objectives: Anaesthesia is a vital component of surgical care, yet patients' knowledge regarding anaesthesia remains poorly studied in resource-limited settings such as Jaffna, Sri Lanka. Inadequate preoperative knowledge heightens patient anxiety and can adversely affect decision-making and perioperative outcomes. This study aimed to assess the level of knowledge and associated socio-demographic factors regarding anaesthesia among patients scheduled to undergo surgery at the Teaching Hospital, Jaffna.

Materials & Methods: A descriptive, institution-based cross-sectional study was conducted among 369 pre-operative patients awaiting elective surgery, consecutively recruited from the surgical units of the Teaching Hospital, Jaffna, from April to July 2026. Data were collected using a pretested, interviewer-administered questionnaire covering socio-demographic characteristics and a seven-item knowledge assessment. Data were analysed using IBM SPSS 27 with descriptive statistics and the Chi-square test ($p < 0.05$).

Results: Most participants (84.8%) demonstrated inadequate knowledge of anaesthesia; only 15.2% showed an adequate level. Knowledge was significantly associated with gender ($p = 0.013$), marital status ($p < 0.001$), and occupation ($p = 0.027$). Males showed higher adequate knowledge (19.6%) than females (10.3%). Single patients (29.4%) showed higher adequate knowledge than married (12.9%) and widowed (8.3%) patients. Employed patients (18.7%) showed higher adequate knowledge than unemployed patients (10.3%). No statistically significant with age, ethnicity, religion, education, residence, timing of clinic visit, or prior anaesthesia experience.

Conclusions: Patients scheduled to undergo surgery at the Teaching Hospital, Jaffna had inadequate knowledge of anaesthesia, with gender, marital status, and occupation as significantly associated factors. These findings highlight the need for structured, targeted pre-operative educational interventions to improve preparedness and reduce peri-operative anxiety.

Keywords: Anaesthesia, knowledge, associated factors, preoperative patients, Teaching Hospital Jaffna.

OP-ID 30

Knowledge on ectopic pregnancy and associated factors among eligible mothers who attend family planning clinics in Nallur MOH area**Anchana S^{1*}, Saruja R¹, Kamalarupan L¹, Prashanthan N¹**¹Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

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Introduction & Objectives: Ectopic pregnancy (EP) is a life-threatening condition in which a fertilised ovum implants outside the uterine cavity. It is the leading cause of maternal death in the first trimester. Early recognition of symptoms and risk factors enables prompt diagnosis, reducing complications and preserving fertility. This study aimed to assess knowledge on ectopic pregnancy and associated factors among eligible mothers attending family planning clinics in the Nallur MOH area.

Materials & Methods: This community-based descriptive cross-sectional study was conducted among 250 eligible mothers attending family planning clinics in the Nallur MOH area. Data were collected using a pre-tested, interviewer-administered questionnaire covering socio-demographic, obstetric, and healthcare-access factors, as well as knowledge of EP, including its definition, risk factors, signs and symptoms, complications, and prevention. Data were analysed using IBM SPSS Statistics 27, and associations were assessed using the chi-squared test.

Results: Participants had a mean age of 31 years. Most had a secondary and tertiary education, and 59.2% were unemployed. Knowledge of ectopic pregnancy was inadequate in 27.2%, moderate in 50.8%, and adequate in 22.0% of participants. Knowledge level was significantly associated with educational level ($p < 0.001$), occupation ($p = 0.004$), and monthly income ($p < 0.001$). Among obstetric and healthcare-access factors, number of pregnancies, previous miscarriage, previous ectopic pregnancy history, health education sessions attended, and comfort discussing reproductive issues with healthcare staff were significantly associated with knowledge level (all $p < 0.05$).

Conclusions: The study revealed that participants' knowledge of EP was suboptimal and significantly associated with socio-demographic, obstetric, and healthcare-access factors, highlighting the need for strengthened health education at MOH clinics on risk factors and warning signs.

Keywords: Ectopic pregnancy, Eligible mothers, Knowledge level, Associated factors.

OP-ID 31

Quantification of Sulfate in therapeutically important native *Sargassum* Fucoidan Extract by BaCl₂–Gelatin Turbidimetric Assay**Fernando H E^{1*}**¹Faculty of Medicine, University of Kelaniya, Sri Lanka.

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Introduction & Objectives: Fucoidans, sulfated polysaccharides extracted from brown algae, are increasingly studied for diverse pharmacological activities that often correlate with sulfate content, accurate sulfate quantification is therefore essential. This study applied a microplate-based barium chloride–gelatin turbidimetric assay to quantify sulfate in a fucoidan extract from Sri Lankan *Sargassum polycystum* (SP).

Materials & Methods: Crude fucoidan was extracted from dried SP by; ethanol depigmentation, repeated 0.1M HCl mediated acid hydrolysis, and freeze-drying. A K₂SO₄ stock (2.0 mg/mL) was prepared and serially diluted to generate standards of 100–600 µg/mL. The BaCl₂–gelatin reagent comprised 10% BaCl₂·2H₂O with gelatin at 5 mg/mL and 1M HCl was used to acidify samples. In a 96-well format, 100 µL of each standard or fucoidan sample (6 mg/mL) was combined with 120 µL water, 20 µL gelatin solution, 10 µL HCl, and 50 µL BaCl₂ reagent; after 20 minutes at room temperature, BaSO₄ turbidity was read at 420 nm and sulfate concentrations interpolated from the calibration curve.

Results: The calibration curve exhibited linearity up to 600 µg/mL with R²≈0.99. The fucoidan sample (SP) produced a mean blank-corrected absorbance of approximately 0.365, corresponding to 658.2 µg/mL sulfate in the assay and 1974.6 µg/mL after accounting for dilution, equivalent to 1.9746 mg/mL sulfate in the original extract. Given a fucoidan concentration of 6 mg/mL, the extract contained 32.9% sulfate, or 329.1 mg sulfate per gram on a dry-weight basis.

Conclusions: This assay proved effective for sulfate quantification in *Sargassum* fucoidan extracts, and the high sulfate content observed supports the extract's potential for bioactivity-driven therapeutic applications. Future work should validate these findings, correlating sulfate distribution with monosaccharide composition, to evaluate biological activities *in vitro* and *in vivo* to establish structure–function relationships and therapeutic relevance for drug development pipelines globally.

Keywords: Sulfate, fucoidan, *Sargassum*, BaCl₂–gelatin, turbidimetric assay.

OP-ID 32

Treatment remedies used by patients attending a selected Ayurveda hospital and the general public in the vicinity of a selected university in Colombo District for common cold**Sindhuri S^{1*}, Samaranayaka N R¹, Wickramathilake C²**

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Introduction & Objectives: Common cold is a frequently encountered upper respiratory viral infection. Identifying treatment practices is important to promote rational medicine use. This study aimed to identify treatment remedies used by individuals across ethnicities to manage the common cold in a selected Ayurveda hospital and among the public in the vicinity of a selected university, with a special focus on traditional and western medicine practices.

Materials & Methods: A descriptive cross-sectional study was conducted among 308 participants with a history of common cold within the past year; 229 patients at the National Ayurvedic Teaching Hospital, Borella, 79 public in the vicinity of the University of Sri Jayewardenepura. Data were collected using a content- and face-validated interviewer-administered questionnaire using convenience sampling. Data were analyzed using IBM SPSS version 21.0 and stratified by ethnicity. Chi-square tests assessed associations between traditional/herbal and Western medicine use (yes/no) and gender (2 categories), age group (6 categories), education level (4 categories), and ethnicity (5 categories). $P < 0.05$ was significant.

Results: Of the 308 participants, 290 (94.2%) reported using traditional or herbal remedies and 250 (81.5%) reported using Western medicines. Overall, 234 (76.0%) used both approaches, while 56 (18.2%) used traditional/herbal remedies only and 17 (5.5%) used Western medicines only. Among traditional/herbal remedies, Samahan (51.6%), ginger-coriander drink (35.5%) and Paspanguwa (34.4%) were most frequently used among all ethnicities. Among Western medicines, paracetamol (67.5%), vitamin C (64.6%) and antihistamines (55.5%) were most commonly reported. Of 250 Western medicine users 96 (38.4%) have consulted a doctor, while 154 (61.6%) reported self-medication. No significant associations were observed for traditional/herbal and Western medicine use with gender ($p = 0.548$; $p = 0.487$), age ($p = 0.302$; $p = 0.824$), education ($p = 0.846$; $p = 0.332$), and ethnicity ($p = 0.604$; $p = 0.970$).

Conclusions: Participants used a combination of traditional/herbal and Western treatment approaches. Treatment preferences were not associated with sociodemographic factors.

Keywords: Ethnicity, Common cold, Traditional, Western.

OP-ID 33

Self-care practices and associated factors among Type 2 diabetic patients at a Tertiary care hospital in Northern Sri Lanka**Thuvaragan S^{1*}, Jayawardhane SW¹, Aravinthan M²***¹Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.**²Diabetic Center, Teaching Hospital Jaffna, Sri Lanka.***sthavaragan@univ.jfn.ac.lk*

Introduction & Objectives: Type 2 diabetes mellitus (T2DM) requires lifelong pharmacological treatment and sustained self-management. Effective self-care practices, including adherence to dietary recommendations, regular physical activity, blood glucose monitoring and foot care, are essential for achieving optimal glycemic control and reducing diabetes-related complications. However, evidence regarding self-care practice among patients with diabetes in Sri Lanka remains limited. This study evaluated self-care practices and identified factors associated with self-care among patients with T2DM at a Tertiary care hospital in Northern Sri Lanka.

Materials & Methods: A hospital-based, cross-sectional study was conducted among adults with T2DM attending the Diabetic Centre of the Teaching Hospital, Jaffna. The calculated sample size was 426. The self-care questionnaire was developed based on prior literature and validated by circulating among experts. The pretested questionnaire was used to collect data from patients with T2DM. Self-care was dichotomized into good and poor self-care using the median score as the cut-off. Associations between self-care practices and selected categorical variables were evaluated using the Chi-square test or Fisher's exact test at $p < 0.05$.

Results: The patient response rate was 73.2% ($n = 312$). The mean age of the patients was 59.14 years ($SD = 12.393$). Overall, 53.2% of participants demonstrated good self-care practices. Significant associations were observed between self-care practices and age ($p = 0.024$), marital status ($p = 0.019$), educational level ($p = 0.037$), occupation ($p = 0.016$), previous hospitalization due to diabetes ($p < 0.001$), duration of diabetes ($p = 0.046$), use of traditional remedies ($p = 0.035$), and family support ($p = 0.005$). However, gender, ethnicity, monthly income, and physician consultation did not show an association with self-care practice.

Conclusions: More than half of the patients showed good self-care practices. Self-care practice was associated with age, marital status, educational level, occupation, previous diabetes-related hospitalization, duration of diabetes, use of traditional methods and family support. These findings highlight the need for targeted, patient-centered diabetes education and counselling, with particular attention to associated factors.

Keywords: Associated factors, Patients, Self-care practices, Sri Lanka, Type 2 diabetes mellitus, Tertiary care hospital.

OP-ID 34

In-vitro antioxidant activity of the methanolic leaf extract of *Jeffreyia zeylanica***Sulaxsan V¹, Delakshainy V^{1*}, HAS Weragodaarachchi¹, Sivasinthujah S¹**¹Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

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Introduction & Objectives: *Jeffreyia zeylanica*, an endemic medicinal plant of Sri Lanka, leaf of the plant is traditionally used to treat various ailments, including fractures and bone fusion, boils, eczema, asthma, food poisoning, diarrhea, dysentery, wounds, and abscesses, and are also used as an antivenom agent; however, scientific evidence supporting its antioxidant activity remains limited. Therefore, this study aimed to evaluate the in-vitro antioxidant activity of the methanolic leaf extract of *J. zeylanica*.

Materials & Methods: Fresh leaves of *J. zeylanica* were collected during October 2025 from Kaithady, Jaffna District, Northern Province, Sri Lanka, authenticated by at the National Herbarium, Royal Botanical Gardens, Peradeniya, Sri Lanka, shade-dried, powdered, and extracted by methanolic maceration. Antioxidant activity was evaluated using the 2,2-diphenyl-1-picrylhydrazyl (DPPH) free radical scavenging assay and the ferric reducing antioxidant power (FRAP) assay was assessed at 200 µg/mL, with ascorbic acid as the reference standard. The total phenolic content was evaluated using the Folin–Ciocalteu method at 200 µg/mL, with gallic acid as the reference standard. DPPH activity was expressed as IC₅₀, while FRAP and TPC were expressed as mg AAE/g extract and mg GAE/g extract, respectively. All experiments were performed in triplicate and reported as mean ± standard deviation. An independent-samples t-test was used to compare DPPH IC₅₀ values between the extract and ascorbic acid at a 5% significance level ($p < 0.05$).

Results: The methanolic extract exhibited moderate antioxidant activity, with the mean IC₅₀ value of 49.02 ± 3.58 µg/mL, whereas the mean IC₅₀ value of the ascorbic acid standard was 24.96 ± 0.51 µg/mL. Statistical analysis indicates a significant difference between the standard and the methanolic extract ($p < 0.05$). The FRAP of the methanolic extract was 402.85 mg AAE/g extract, and the total phenolic content was 385.455 mg GAE/g extract.

Conclusions: The methanolic extract of *J. zeylanica* exhibits in-vitro antioxidant activity, which might be due to the presence of phenolic content. These findings support the traditional medical use of *J. zeylanica* and highlight its potential as a natural source of antioxidant compounds for future pharmaceutical and nutraceutical applications.

Keywords: Antioxidant activity, *Jeffreyia zeylanica*, DPPH assay, Ferric reduction, Total Phenolic Content.

OP-ID 35

In vitro evaluation of antidiabetic activity of the methanolic extract of the seed of *Vateria copallifera***Athapattu AWMAK^{1*}, Rathnayake GWSL¹, Prasadi HLT¹, Sivasinthujah S²**¹Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.

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Introduction & Objectives: *Vateria copallifera alston* is one of the endemic plants in Sri Lanka and is reported to have larvicidal, antioxidant and antibacterial activities. Ayurveda uses the plant's seeds to treat diabetes mellitus. Because of this medicinal value and the fact that no studies investigated the antidiabetic property of the seed, this study focuses on evaluating the antidiabetic activity of the methanolic seed extract. Seeds were collected in Kalutara, Sri Lanka.

Materials & Methods: Seeds were dried, powdered, and macerated in methanol to obtain the methanolic extract. The antidiabetic potential was evaluated by the α -amylase and α -glucosidase inhibitory assay using acarbose as standard. Total phenolic content was evaluated using gallic acid as the standard. Qualitative phytochemical screening was performed on crude methanol extracts. All experiments were performed in triplicate and reported as mean $\pm$ standard deviation. Results were analyzed using one-way ANOVA and Tukey's post hoc test ($p < 0.05$) in SPSS23.

Results: The methanolic extraction of seeds produced an extraction yielded of 16.77%. Regarding the α -amylase inhibition, acarbose exhibited the strongest inhibitory effect (IC_{50} : 145.3629 ± 4.12 μ g/ml), while *V. copallifera* seed extract exhibited moderate inhibitory activity (IC_{50} : 3046.180 ± 1025.67 μ g/mL). Regarding α -glucosidase inhibition, acarbose exhibited the strongest inhibitory effect (IC_{50} : 211.98 ± 1.16 μ g/mL), while the seed extract exhibited (IC_{50} : 318.04 ± 0.947 μ g/mL). The total phenolic compound of the seeds was 59.39 ± 1.08 mg GAE/g extract. Statistical analysis showed that the IC_{50} values of seed extract for both α -amylase and α -glucosidase differed significantly from those of acarbose ($p < 0.05$). The qualitative phytochemical analysis confirmed the presence of alkaloids, flavonoids, saponins, tannins, gum mucilage and glycosides.

Conclusions: This study provides first evidence that *V. copallifera* seed extract has antidiabetic activity, supporting its Ayurvedic use. It showed potent α -glucosidase inhibition, but weaker α -amylase inhibition. This activity likely stems from high phenolic content and phytochemicals. Further isolation and in vivo studies are warranted

Keywords: *Vateria copallifera*, antidiabetic activity, α - amylase inhibition, α -glucosidase inhibition, total phenolic content.

OP-ID 36

Hot-aqueous extraction and preliminary phytochemical screening of post-distillation Ceylon cinnamon residues for sustainable value addition**Janakan T¹, Gamagedara TP^{2*}**

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Introduction & Objectives: Ceylon cinnamon (*Cinnamomum verum* J. Presl) is an economically important Sri Lankan spice widely used in food, beverage, pharmaceutical, and fragrance industries. Steam distillation recovers volatile constituents, while the remaining solid residues may retain non-volatile phytochemicals suitable for further utilization. However, information on the phytochemical composition of post-distillation Ceylon cinnamon residues remains limited. Therefore, this preliminary study aimed to screen hot-aqueous extracts of post-distillation residues from different commercial bark grades and geographical origins for selected phytochemical classes.

Materials & Methods: Post-distillation residues representing three commercial bark grades (C5 Special, C4, and H2) from Galle and Matara were shade-dried, powdered, and subjected to hot-aqueous extraction. The extracts were screened using standard qualitative phytochemical screening tests for flavonoids, alkaloids, saponins, terpenoids, phenols, and tannins. Results were recorded based on the presence or absence of characteristic reactions, with differences in visual reaction intensity described qualitatively rather than quantified as phytochemical concentrations.

Results: flavonoids, terpenoids, phenols, and tannins produced positive reactions in extracts from all evaluated bark grades and geographical origins, indicating that selected non-volatile phytochemical classes remained detectable in the residues following steam distillation. Alkaloids and saponins showed variation in positive reactions among the samples. Differences in visual reaction intensity were also observed; however, these were not interpreted as quantitative differences.

Conclusions: Post-distillation Ceylon cinnamon residues retained detectable phytochemical classes that could be recovered using hot aqueous extraction. These preliminary findings indicate that such residues warrant further investigation as potential resources for value addition rather than being considered solely as processing waste. Quantitative phytochemical determination and biological activity assessment are required to validate these observations and determine their potential applications.

Keywords: Ceylon cinnamon; hot aqueous extraction; phytochemical screening; post-distillation residues; value addition.

OP-ID 37

Molecular Design of Functional Enhancers for High-Sensitivity Luminol Chemiluminescent Detection**Sudhahar Dharmalingam^{1,2*}, Elna Bijoy²**¹*College of Pharmacy, Graphic Era Hill University, Bhimtal Campus, Bhimtal, Nainital Uttarakhand, INDIA*²*Nehru College of Pharmacy, Pampady, Thiruvilwamala, Thrissur – 680588, Kerala, INDIA*

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Introduction & Objectives: Luminol is an important chemiluminescent compound widely used in analytical, biochemical, and forensic sciences. Upon oxidation under suitable conditions, it produces an intense blue chemiluminescent emission. The main objective of the study is to synthesize and characterize luminol, evaluate factors influencing its chemiluminescent response with different oxidizing agents, and explore its potential applications in amino acid detection and forensic bloodstain analysis.

Materials & Methods: Analytical-grade chemicals were used. Luminol was synthesized by an established method and evaluated for yield, physical characteristics, solubility, pH, UV–Visible absorption, and FTIR spectral characteristics. UV–Visible and FTIR analyses were performed using Shimadzu instruments. The chemiluminescent response was investigated using hydrogen peroxide (H₂O₂), potassium ferricyanide, sodium hypochlorite, horseradish peroxidase (HRP), potassium periodate, copper sulphate, and potassium permanganate. TLC was performed for selected amino acids, including histidine and tryptophan, using n-butanol acid (4:1:5) as the mobile phase. The potential of luminol for presumptive bloodstain detection was also evaluated under dark conditions using an appropriate luminol–oxidant system.

Results: Luminol was successfully synthesized with a 99% yield, indicating efficient product recovery. UV–Visible and FTIR analyses confirmed characteristic spectral features consistent with luminol. Chemiluminescence intensity and duration varied among the oxidizing agents tested. Prominent blue-green luminescence lasting approximately 60–120 seconds was observed with luminol in the presence of H₂O₂, potassium ferricyanide, sodium hypochlorite, and HRP. TLC analysis demonstrated detectable chemiluminescent responses at the locations of selected amino acids, indicating potential analytical utility. Luminol also produced a characteristic blue-green chemiluminescent response at blood-containing locations, supporting its potential for presumptive detection of blood traces.

Conclusion: The study demonstrates successful synthesis and characterization of luminol with high yield and confirms its effective chemiluminescent response with selected oxidizing systems. The observed responses in amino acid analysis and presumptive bloodstain detection highlight the potential of luminol as a versatile reagent for analytical, biochemical, and forensic applications.

Keywords: Luminol, Oxidizing agents, Chemiluminescence, Thin-layer Chromatography, Forensic analysis.

OP-ID 38

Antibacterial Activity of Leaf and Bark Extracts of *Bhesa ceylanica* Against *Staphylococcus aureus* and *Escherichia coli***Amarasinghe AASS¹, Hettiarachchi PD¹, Hasma MA¹, Mafras FSS², Maheshwaran P^{1*}**¹Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.²Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna

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Introduction & Objectives: The increasing emergence of antimicrobial resistance has highlighted the need to identify novel bioactive compounds from medicinal plants. *Bhesa ceylanica* is widely used in traditional medicine to clean open skin wounds and to treat gastrointestinal disorders; however, scientific evidence supporting its antibacterial properties remains limited.

Materials & Methods: Leaves and bark were shade-dried and extracted separately using water, methanol, and petroleum ether. Antibacterial activity was assessed against *Staphylococcus aureus* (*S. aureus*) and *Escherichia coli* (*E. coli*) using the agar well diffusion assay with co-amoxiclav as the positive control. Preliminary phytochemical screening and thin-layer chromatography were performed.

Results: The methanolic bark extract demonstrated the greatest antibacterial activity at 40 mg/mL, producing mean inhibition zones of 26.67 mm against *S. aureus* and 12.67 mm against *E. coli*. Methanolic leaf extract also demonstrated antibacterial activity; however, the petroleum ether leaf extract exhibited no inhibitory effect. Polar extracts (aqueous and methanol) demonstrated significantly greater antimicrobial activity than non-polar extracts ($p < 0.05$). The greater antibacterial activity observed in the methanolic, and aqueous extracts may be associated with the presence of polyphenols, flavonoids, terpenoids, and tannins. The comparatively lower antibacterial activity of the non-polar extracts may be related to differences in their phytochemical composition.

Conclusions: Methanolic bark extract exhibited the strongest antibacterial activity, particularly against *S. aureus*. The presence of phytochemicals, including polyphenols, flavonoids, terpenoids, and tannins, in the polar extracts may have contributed to the observed antibacterial effects. These findings support further investigation of *Bhesa ceylanica* as a potential source of antibacterial agents.

Keywords: *Bhesa ceylanica*; antibacterial activity; phytochemical screening; *Staphylococcus aureus*; *Escherichia coli*.

OP- ID 39

Mixed hydrotropy technique employing combined hydrotropic agents for solubility enhancement of Aceclofenac**D. Nagasamy Venkatesh^{1*}**

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Introduction & Objectives: Aceclofenac (ACE), a non-steroidal anti-inflammatory agent, system widely prescribed to relieve pain and reduce inflammation in chronic conditions like osteoarthritis, rheumatoid arthritis, and ankylosing spondylitis. ACE is a poorly soluble drug classified under the biopharmaceutical classification system (BCS) - II, which accounts for its poor oral bioavailability. The present study aims to increase the solubility and dissolution behaviour of ACE by employing the hydrotropic solubilisation technique.

Materials & Methods: Different hydrotropic agents, such as sodium citrate, sodium acetate, and their combinations at various ratios were employed in the preparation of hydrotropes for ACE. These hydrotropes were systematically evaluated for compatibility with ACE. Initially, Fourier Transform Infra-Red Spectroscopy (FTIR) and Differential Scanning Calorimetry (DSC) were employed. Further, X-ray Diffraction (XRD) and Scanning Electron Microscopy (SEM) analyses were performed to assess changes in the crystalline nature of ACE

Results: The hydrotrope, composed of sodium acetate (5% w/v), sodium citrate (5% w/v) and their combinations (5% w/v of each), exhibited 70.88%, 57.8% and 87.67% of drug release at the end of 2 hours. The hydrotropes prepared using combinations of sodium citrate and sodium acetate at a concentration of (5% w/v each) exhibited a 1.99-fold increase in solubility compared to the ACE.

Conclusions: The present investigation demonstrated that the combination of hydrotropes enhanced the solubility of the aqueous soluble drug ACE. However, *in vivo* studies are essential to establish its potential effect.

Keywords: Aceclofenac, hydrotropy, solubility dissolution, solubility enhancement.

OP-ID 40

Heavy metals contamination in dried *Sardinella longiceps* and *Stolephorus indicus* from coastal area of Jaffna, Sri Lanka: Implications of food safety**Thadchajini V¹, Gamagedara T P^{1,2*}**¹Postgraduate Institute of Science, University of Peradeniya, Sri Lanka²Department of Basic Science, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka

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Introduction & Objectives: Dried fish is an affordable source of high-quality protein, healthy fats, and essential nutrients and is widely consumed in Sri Lanka. This study evaluated the heavy metal concentrations in dried *Sardinella longiceps* and *Stolephorus indicus* collected from major coastal locations in Point Pedro and Nagarkovil, Jaffna District.

Materials & Methods: These two fish species were selected because they are commonly available in dried fish markets and are important components of local dried fish consumption. Representative samples were purchased from local markets and prepared using standard sample-digestion procedure prior to analysis by Atomic Absorption Spectrophotometry (AAS).

Results: The analyzed heavy metal concentrations followed the order Cr > Pb > Cd, while cadmium concentrations were below the detection limit specified by the Sri Lanka Standards (SLS). The Metal Pollution Index (MPI) indicated a moderate heavy metal contamination in both fish species, with *Sardinella longiceps* showing the highest level of contamination and *Stolephorus indicus* the lowest. Furthermore, samples collected from Point Pedro contained higher heavy metal concentrations than those obtained from Nagarkovil. Statistical analysis revealed significant differences ($p < 0.05$) in heavy metal concentrations between the two fish species.

Conclusions: Overall, the findings indicate the presence of heavy metal contamination in the investigated dried fish and demonstrate the need for continued monitoring of commonly consumed dried fish species to ensure food safety and reduce potential health risks associated with long term consumption.

Keywords: Heavy metals, dried fish, *Sardinella longiceps*, *Stolephorus indicus*, Metal Pollution Index.

OP-ID 41

Prevalence of leftover medicines and associated factors among patients attending different clinics at Teaching Hospital Jaffna, Northern Province**Vinothini J¹, Kalki P^{1*}, Harshya A¹, Aravinthi Y¹**¹*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.***kalki@univ.jfn.ac.lk*

Introduction & Objective: Leftover medicines (LMs) are medicines that remain unused or partially used after being dispensed. LM accumulation has become a growing healthcare concern as it may lead to medication wastage, healthcare costs, and finally led to treatment failure. This study aimed to estimate the prevalence of and identify the factors associated with the LMs.

Methodology: A descriptive cross-sectional study was conducted among 580 different clinic patients attending Teaching Hospital, Jaffna, in 2026 and stratified random sampling was adopted. Data were collected through an interviewer-administered questionnaire for patient's information and medications information was extracted from clinical records.

Results: The median participant age was 58 years (IQR: 44–68), and 59% were female. The prevalence of LMs was 82%. Tablets and capsules were the most common dosage form (83%). Among 17 therapeutic categories, antihypertensive (15%), and analgesic (12%) medicines were the most common LMs. The major reasons were cognitive-related medication non-adherence (36%), obtaining medicines beyond clinical need (23%), and reductions in prescribed doses (13%). LMs were significantly associated with age >60 years, below secondary education, unemployment, chronic disease, follow-up intervals >2 months, disease duration >4 years, and prescription of >5 medicines ($p < 0.001$). Adverse effects ($p = 0.002$) and poor understanding of medication instructions ($p = 0.005$) were also significantly associated.

Conclusion: LMs were highly prevalent and significantly associated with several socio demographic factors. Study reveals the importance of structured medication reconciliation and patient counselling during follow-up visits.

Keywords: *Leftover medicines, Clinic patients, Prevalence.*

OP-ID 42

Development of SRIHER knee pain screening tool for musculoskeletal knee pain individual: A modified international e-Delphi study**Soundararajan K^{1*}, Antony Leo Aseer P¹, Mohammed Sameer², Gopal Nambi³**¹*Sri Ramachandra Faculty of Physiotherapy, Sri Ramachandra Institute of Higher Education and Research, Chennai, India,*²*Department of Orthopedics, Sri Ramachandra Institute of Higher Education and Research, Chennai, India,*³*Department of Physical therapy and Health rehabilitation, Prince Sattam bin Abdulaziz University, Al-Kharj, Saudi Arabia.*

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Introduction & Objectives: Tens of millions of individuals experience knee discomfort worldwide, which can make it difficult to even walk across a room. Being the most often reported region of pain in the human body, knee discomfort is only surpassed by low back pain. Knee pain, a prevalent musculoskeletal complaint in physical therapy outpatient facilities. However, the incorporation of subgroup-matched treatments into knee pain classification systems based on the Biopsychosocial model has emerged as a research priority. This study aimed to develop and obtain an expert consensus on the SRIHER Knee Pain Screening Tool, which categorizes and treats individuals based on the Biopsychosocial model.

Materials & Methods: Initial items were derived from a preliminary literature search across PubMed, Web of Science, PEDro, and Scopus databases. A 3-round online modified e-Delphi survey was conducted. Thirty international musculoskeletal physiotherapy experts with > 10 years of clinical/research experience were invited; 25 experts across 5 countries (India, Saudi Arabia, UK, USA, Australia) participated. Consensus was defined a priori as 80 % expert agreement.

Results: In Round 1 (25 experts), 24 of 30 draft items met consensus (I-CVI > 0.80) and 6 items were modified. In Round 2 (23 experts completed), 4 modified items were retained and 2 were removed. In Round 3 (22 experts completed), final consensus was established on all remaining items. All 28 finalized items achieved an (I-CVI > 0.81), and the overall Scale Content Validity Index (S-CVI) reached 0.926.

Conclusions: The modified Delphi process demonstrated excellent content validity and expert consensus for the proposed screening tool, offering a standardized approach for subgrouping and targeted physical therapy interventions.

Keywords: Knee Pain, Screening Tool, Good Health & Well Being.

OP-ID 43

SRIHER EXercise app and non-app-guided exercise program to improve clinical outcomes in musculoskeletal disorder patients: A randomized controlled crossover trial**Soundararajan K^{1*}, Antony Leo Aseer P¹**

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Introduction & Objectives: An effective rehabilitation program is built on the foundation of adherence to exercise treatments. One major problem in essential physiotherapy care, however, is the lack of a gold standard tool to assess exercise adherence and encourage adherence to prescribed home exercise. By creating an appropriate instrument to evaluate exercise adherence. To develop and evaluate the effect of the SRIHER EXercise app among patients with musculoskeletal (MSK) disorders.

Materials & Methods: An empirical study (through semi-structured interviews) was conducted with physiotherapists and patients to reveal the requirements; then, the app was developed. Trial was conducted with 124 participants (Group A: 62; Group B: 62). Phase 1: Group A receives exercise with app for a week, while Group B receives exercise without app (routine) during the same period. Wash-out Period: After this initial treatment, there's a wash-out period for a week. Phase 2: the groups switch; Group A now gets exercise without app, and Group B receives exercise with app for another week. All participants were assessed for pain intensity, global perceived effect, range of motion, muscle strength, and disability at baseline and the end of the treatment.

Results: Significant differences were found in pain intensity, global perceived effect, range of motion, muscle strength, and disability with both groups at the end of the treatment ($p < 0.05$). However, during Phase I, Group A, and Phase II, Group B demonstrated more clinical benefits while using the SRIHER EXercise app.

Conclusions: The SRIHER EXercise app is more beneficial than the routine method in the measurement of exercise adherence monitoring and exercise adherence promotion to prescribed home exercise in primary physiotherapy care.

Keywords: Adherence; Compliance; Good Health and Well Being.

OP-ID 44**Enhanced bilateral hand activity training improves the amount of use and quality of movement of the paretic upper limb in community-dwelling stroke survivors: A secondary pre-post analysis****Alexander Gnanaprakasam^{1,2*}, Suruliraj Karthikbabu², John M. Solomon¹**¹*Department of Physiotherapy, Manipal College of Health Professions, Manipal Academy of Higher Education, Manipal, India.*²*KMCH College of Physiotherapy, The Tamil Nadu Dr MGR Medical University, Coimbatore, India.***alex david306@gmail.com*

Introduction & Objectives: Restoration of spontaneous use and movement quality of the paretic upper limb during daily activities remains a major challenge after stroke. Enhanced Bilateral Hand Activity Training (EBHAT) is a structured, task-oriented intervention integrating bilateral upper-limb activities with meaningful hand use during functional activities. This study evaluated changes in the amount of use (AOU) and quality of movement (QOM) of the paretic upper limb following an 8-week EBHAT programme in community-dwelling stroke survivors.

Materials & Methods: This secondary pre-post analysis used data from participants who received EBHAT in a randomized controlled trial at a tertiary hospital in India. Community-dwelling stroke survivors aged 40–70 years with unilateral stroke completed an 8-week EBHAT program comprising 1-hour supervised sessions, 3 days per week, supplemented by structured home practice. AOU and QOM were assessed using the Motor Activity Log (MAL) at baseline and post-intervention. Paired t-tests compared pre- and post-intervention scores.

Results: Fifty-one participants with supratentorial stroke were included. The median post-stroke duration was 299 (203) days. 30% were female, 85% had ischaemic stroke, 71% had diabetes mellitus, 73% had hypertension. Following the 8-week EBHAT programme, significant improvements were observed in both MAL subscales: AOU, mean difference −3.09 (95% CI −3.45 to −2.73; $p < 0.001$), and QOM, −2.33 (95% CI −2.66 to −1.99; $p < 0.001$). Changes exceeded the established clinically important threshold for the MAL. No serious adverse events were reported.

Conclusion: EBHAT was associated with significant and clinically meaningful improvements in the amount and quality of paretic upper-limb use during daily activities. As this was a secondary pre-post analysis without a concurrent control, findings should be interpreted as within-participant changes. Future controlled studies should investigate the neural mechanisms underlying these improvements.

Keywords: Stroke Rehabilitation; Upper Extremity; Activities of Daily Living; Motor Activity; Exercise Therapy.

OP-ID 45

Correlation between sit-to-stand performance and dynamic walking ability in individuals with subacute ischemic stroke: An observational study**Ashmi. R¹, Karthikeyan Thangavel^{1,2}, Alexander Gnanaprakasam^{1*}**

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Introduction & Objective: Walking recovery after stroke requires lower-limb strength, balance, postural control, and turning ability. The Five Times Sit-to-Stand Test (FTSTS) assesses transitional mobility, while the Figure-of-8 Walk Test (F8WT) evaluates dynamic walking and turning. However, the relationship between transitional mobility and dynamic walking remains unclear. This study aimed to determine the correlation between FTSTS and F8WT performance in individuals with poststroke.

Materials & Methods: This observational study was conducted at a tertiary hospital in India. Twenty patients with ischemic stroke who could follow commands, provide informed consent, and walk independently for 10 meters were included. Participants performed the FTSTS and F8WT, with the best of two trials recorded. Data were normally distributed and expressed as mean (SD). Pearson's correlation coefficient was used to examine the relationship between FTSTS and F8WT performance using Jamovi. Statistical significance was set at $p < 0.05$.

Results: Of the 20 individuals, 15 (75%) were males. Lesions were subcortical in 11 (55%), cortical in 6 (30%), and combined cortical-subcortical in 3 (15%) participants. Regarding comorbidities, Diabetes mellitus was present in 3 (15%), hypertension in 5 (25%), both in 6 (30%). The mean post-stroke duration was 9.25 ± 3.09 days, with mild stroke severity based on the NIHSS. A weak positive correlation was observed between FTSTS and F8WT completion times ($r = 0.371$); however, the association was not statistically significant ($p = 0.107$).

Conclusions: The positive trend suggests that slower sit-to-stand performance may be associated by slower dynamic curved walking; however, the relationship was not statistically significant. Both tasks involve overlapping demands, including lower-extremity functional performance, weight transfer, anticipatory postural control, trunk stability, and dynamic balance. Due to small sample size findings should be interpreted cautiously. Larger, representative studies are warranted to establish the clinical significance and rehabilitation planning.

Keywords: Ischemic stroke, dynamic walking, sit-to-stand, functional mobility, gait, balance.

OP-ID 46

Development of a digital health intervention for evaluating functional movement using deep learning technology: A feasibility study

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Introduction & Objectives: Objective assessment of movement quality is important in physiotherapy for identifying movement dysfunction and monitoring functional performance. Conventional functional movement screening (FMS) relies substantially on visual observation and clinician judgement, which may introduce inter-rater variability. Advances in computer vision and markerless pose estimation provide opportunities for automated systems. However, automated FMS assessment remains limited. So, we aimed to develop and preliminarily evaluate an AI-enabled system for automated FMS-aligned movement assessment.

Materials & Methods: A preliminary technical and expert validation evaluation was conducted. One participant recorded performance on FMS-aligned tasks was analyzed by the developed AI system and independently assessed by 15 physiotherapists serving as expert raters. The system scores ranged from 0- 3, and composite scores ranged from 0 to 12. Expert-generated scores and rated usability were evaluated descriptively with AI-generated scores.

Results: The 15 experts had a mean age of 35 ± 5.8 years and a mean clinical experience of 107 ± 5.4 years. The mean expert-derived FMS composite score was 9.87 ± 0.64 , compared with 9.80 ± 0.41 generated by the AI system. Exact agreement was observed in 80.0% of assessments, while 100% of expert scores were within ± 1 point of the AI-generated scores. The system identified movement abnormalities corresponding to expert observation, including heel raise, knee valgus, lumbar flexion, trunk lean, hip drop, and leg lag. Overall expert satisfaction was $4.8 \pm 0.4/5$.

Conclusions: The AI-enabled system demonstrated promising agreement with expert FMS ratings and high expert acceptability. Further studies involving larger and diverse populations are required to establish reliability, diagnostic accuracy and clinical applicability.

Keywords: functional movement screening, Artificial intelligence, digital health.

OP-ID 47

Not all VAR reviews are equal: A cluster analysis of video assistant referee intervention profiles in the 2026 FIFA world cup**Thisan M¹, Abivarna S^{1*}, and Ketheeswaran K¹**¹*Sports Science Unit, Faculty of Allied Health Sciences, University of Jaffna, Sri Lanka.***thishanshan1234@gmail.com*

Introduction & Objectives: The Video Assistant Referee (VAR) is one of the most significant innovations in football refereeing, introducing video-assisted review to increase the accuracy and fairness of decision-making. Yet, despite often being treated as a single phenomenon in public discourse, VAR interventions are highly heterogeneous in procedural aspects and competitive implications. This study aims to categorize VAR interventions by their profiles and assess how these profiles affect game outcomes in the 2026 FIFA World Cup.

Materials & Methods: Match data were drawn from official FIFA reports and verified sources. A total of 23 VAR incidents (N incidents = 23), occurring across 22 matches (N matches = 22) in the Group Stage through the Quarterfinals, were analyzed in terms of incident type, intervention pathway (checked/no change vs. referee overturned decision), review procedure (VAR-only check vs. referee monitor review), time spent reviewing, stage of the game, and impact on match outcome. Mixed-data clustering based on Gower distance and hierarchical clustering identified distinct intervention profiles, with the optimal number of clusters determined by silhouette coefficient analysis. Clusters were then examined for their relationships with match-changing decisions, knockout-stage involvement, and competitive implications.

Results: Referees overturned their initial decision in 61% of interventions, and 30% of interventions were judged to have influenced the match outcome. Referee monitor reviews involving subjective judgment (penalties, red cards) were significantly more likely to influence outcomes than simple verification checks (offside confirmation).

Conclusions: These findings indicate that VAR interventions form distinct profiles with differing implications for match integrity, underscoring the need for pathway-specific transparency and policy attention.

Keywords: Video Assistant Referee (VAR), Cluster Analysis, Match Outcomes, 2026 FIFA World Cup.

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