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# International Conference on
## Frailty and Geriatric Assessments

*Promoting Healthy Aging through Holistic Approaches and Innovations.*

CAPAGE 2025

# PROGRAMME BOOK

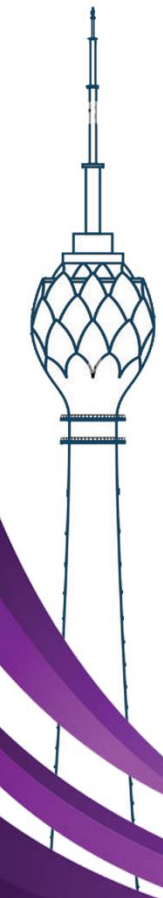
# CAPAGE 2025

"The International Conference on Frailty and Geriatric Assessments 2025"

18th and 19th February 2025

**UCFM TOWER - FACULTY OF MEDICINE**

**UNIVERSITY OF COLOMBO**



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# CONTENTS

# MESSAGE FROM THE CHIEF GUEST

It is with great pleasure that I extend my warmest congratulations to the Faculty of Medicine, University of Colombo, and the Department of Allied Health Sciences for organizing the International Conference on Frailty and Geriatric Assessment. This pioneering effort highlights the university's dedication to addressing the pressing healthcare needs of Sri Lanka's aging population.

The Ministry of Health recognizes the growing importance of geriatric healthcare and remains committed to fostering policies and strategies that enhance the well-being of older adults. This conference serves as an essential platform for integrating academic research, healthcare practice, and policy-making to ensure a holistic approach to elderly care. The discussions and insights shared during this event will undoubtedly contribute to strengthening Sri Lanka's healthcare system and advancing age-friendly health services.

I commend the organizers for their remarkable efforts in bringing together experts and stakeholders to exchange knowledge and best practices. I am confident that the conference will lead to meaningful collaborations and long-term improvements in geriatric healthcare. Wishing all participants a productive and enlightening experience.

**Dr. Anil Jasinghe**

**Secretary of the Ministry of Health and Media**

**Sri Lanka**

# MESSAGE FROM THE GUEST OF HONOR

I am delighted to extend my heartfelt congratulations to the Faculty of Medicine, University of Colombo, for organizing the International Conference on Frailty and Geriatric Assessment. This landmark event underscores the university's commitment to academic excellence, research, and innovation in the critical field of geriatric healthcare.

The University Grants Commission recognizes the pivotal role of higher education institutions in shaping the future of healthcare through research and interdisciplinary collaboration. The field of geriatrics is increasingly significant, and initiatives like this conference contribute to developing evidence-based policies, strengthening healthcare education, and ensuring that our aging population receives the care they deserve.

This conference brings together distinguished experts, scholars, and healthcare professionals, fostering an environment of knowledge-sharing and collaboration. The discussions and research presented here will serve as a foundation for future advancements in geriatric care and policy development in Sri Lanka.

I extend my best wishes to the organizers, speakers, and participants for a successful conference filled with insightful discussions and innovative contributions to the field of geriatrics.

**Professor Kapila Seneviratne**

**Chairman**

**University Grants Commission**

# MESSAGE FROM THE VICE CHANCELLOR

It is with great pride and pleasure that I extend my warmest welcome to all participants of the International Conference on Frailty and Geriatric Assessment, taking place on the 18th and 19th of February 2025 at the Faculty of Medicine, University of Colombo.

This significant event, hosted by the Faculty of Medicine, University of Colombo, is a cornerstone of the ERASMUS project titled "Capacity for Active Ageing (CAPAGE) – Promoting Academic and Professional Excellence in Health Care to Meet the Challenges of Aging in Sri Lanka." This initiative, co-funded by the European Union, symbolizes the fruitful collaboration between European and Sri Lankan universities, fostering knowledge exchange and capacity building in the critical field of geriatric health.

As an institution renowned for its commitment to academic excellence and research, the University of Colombo is honoured to host this prestigious event, which brings together leading experts, clinicians, researchers, and policymakers from across the globe. The theme of this conference is of paramount importance, addressing the pressing challenges of aging populations and the growing need for evidence-based approaches to geriatric care.

Frailty and comprehensive geriatric assessment are critical topics in today's rapidly aging world. This conference not only serves as a platform for exchanging innovative ideas and research but also emphasizes the role of collaboration in advancing holistic care for older adults. By fostering interdisciplinary dialogue, we aim to drive meaningful change in geriatric health and well-being, especially in regions with resource-limited healthcare systems.

I commend the Faculty of Medicine for their dedication and meticulous efforts in organizing this conference, ensuring its success as a hub for scholarly exchange and capacity building. To our distinguished speakers, I thank you for your invaluable contributions, and to all attendees, I encourage you to engage actively, share insights, and forge partnerships that transcend borders.

Let us seize this opportunity to reaffirm our commitment to addressing the complexities of aging and promoting healthier, more dignified lives for older adults everywhere.

Wishing you all an enriching and inspiring conference.

**Senior Professor H D Karunaratne**

**Vice Chancellor**

**University of Colombo, Sri Lanka**

# MESSAGE FROM THE DEAN

It is with great pleasure and immense pride that I extend my heartfelt congratulations to the Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, for successfully organizing their inaugural international conference, the International Conference on Frailty and Geriatric Assessment. This landmark event, scheduled for the 18th and 19th of February 2025, marks a significant milestone in advancing geriatric healthcare education and research in Sri Lanka.

The Faculty of Medicine has consistently been at the forefront of academic excellence, research, and healthcare innovation. This conference is a testament to our unwavering commitment to addressing the complex challenges posed by aging populations. As part of the broader ERASMUS initiative, Capacity for Active Ageing (CAPAGE) – Promoting Academic and Professional Excellence in Health Care to Meet the Challenges of Aging in Sri Lanka, this event underscores the power of international collaboration in fostering knowledge exchange, capacity building, and evidence-based approaches to geriatric care.

Frailty and comprehensive geriatric assessment are critical and timely topics in the global healthcare landscape, especially in resource-limited settings. This conference provides an invaluable platform for academics, clinicians, researchers, and policymakers to engage in meaningful discussions, share cutting-edge research, and explore innovative strategies to enhance the quality of life for older adults. Through interdisciplinary dialogue and collaboration, we can collectively shape the future of geriatric healthcare, ensuring that older adults are treated with the dignity, care, and support they rightfully deserve.

I take this opportunity to commend the Department of Allied Health Sciences for their vision, dedication, and meticulous planning in convening distinguished experts and scholars for this prestigious event. Their exceptional efforts in organizing this conference will undoubtedly serve as an inspiration for future endeavours in geriatric research and practice within our institution and beyond.

To all the esteemed speakers, participants, and attendees, I encourage you to actively engage, exchange insights, and build lasting partnerships that will contribute to advancing geriatric healthcare globally. May this conference ignite impactful research, innovative solutions, and strengthened global networks in aging and frailty care.

Wishing you all a highly productive and enlightening conference experience.

**Vidya Jyothi Prof. Vajira Dissanayake**

**Dean**

**Faculty of Medicine**

**University of Colombo, Sri Lanka**

# MESSAGE FROM CO CHAIRPERSON DR. ASHA WETTASINGHE

It is with great pride and enthusiasm that I welcome you to the International Conference on Frailty and Geriatric Assessments, hosted by the Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka. This significant event is part of the ERASMUS project titled “Capacity for Active Ageing (CAPAGE) – Promoting academic and professional excellence in health care to meet the challenges of aging in Sri Lanka”. With the theme “Promoting Healthy Aging through Holistic Approaches and Innovations”, this conference serves as a dynamic platform to bring together healthcare professionals from various disciplines, including physiotherapists, nurses, medical doctors, psychologists, rehabilitation experts, and allied health practitioners. Together, we aim to exchange knowledge, foster collaboration, and explore innovative strategies that will significantly impact geriatric care and healthy aging worldwide.

The International Conference on Frailty and Geriatric Assessments features a thoughtfully curated program designed to address critical aspects of aging and geriatric care. Spanning two days, the conference includes an engaging mix of plenary sessions, symposia, oral presentations, and poster sessions. Renowned experts from Sri Lanka and international institutions will share their insights on a range of topics, including comprehensive geriatric assessments, innovative rehabilitation strategies, cognitive and mental health in aging, and personalized care approaches. The program also highlights cultural perspectives and emerging challenges in geriatric management, ensuring a holistic understanding of the field. This diverse lineup of activities aims to foster meaningful discussions, inspire innovation, and build collaborative networks to advance the quality of care for aging populations globally.

We extend our heartfelt gratitude to our collaborators from European and Sri Lankan universities, whose dedication and support have been instrumental in realizing this event. Our appreciation also goes to the European Union for co-funding this project, making it possible to address these critical issues with a global perspective.

I encourage all participants to immerse themselves in the discussions, share their expertise, and seize this opportunity to network with like-minded professionals. Let us shape the future of elderly care together, ensuring that aging individuals around the world experience healthier and more fulfilling lives.

Thank you for your participation, and I wish you all a successful and inspiring conference.

**Dr. Asha Wettasinghe**

**Co- Chair**

**Capacity for Active Ageing (CAPAGE) Conference 2025**

# MESSAGE FROM CO-CHAIRPERSON PROF. MONICA CHRISTOVA

I am delighted to see that the International Conference on Frailty and Geriatric Assessments which was a mere idea in 2023, has now become a reality. This conference is part of the project "Promoting academic and professional excellence in health care to meet the challenges of aging in Sri Lanka" dedicated to fostering sustainable innovation capacity for modernizing higher and professional healthcare education in Healthy Aging and Geriatrics in Sri Lanka. Aging and geriatric care represent global challenges impacting both western and eastern societies. Such challenges serve as opportunities for scientists to enhance their expertise, collaborate, and showcase their finest work. We believe that addressing the complexity of aging in the healthcare context requires a multidisciplinary approach and effective science communication. Hence, this conference gathers local and international researchers, healthcare professionals, academics, and students devoted to the fields of Frailty and Aging.

Research conferences like this are invaluable for advancing knowledge, sparking curiosity, and fostering the exchange of ideas. Our primary expectations is that, it will encourage shared understanding on multiprofessional geriatric assessments and their importance in the prognosis and treatment of aging-related disorders; and will broaden the knowledge on contemporary approaches to managing frailty in the older population.

Furthermore, the international conference will enhance intercultural dialogue among participants from diverse backgrounds, research interests, and cultural histories. This event serves as a platform for ongoing cooperation and networking, and holds potential for enhancing capacity in healthcare education and research in Sri Lanka. Lastly, it will facilitate the translation of research from the laboratory to universities, clinical settings, and the public at the national level.

On behalf of the project consortium, I extend my gratitude to all attendees for their valuable contribution and to the organizers for their dedication in hosting this event in Colombo, a city reflecting multicultural traditions and modern imaginary.

**Prof. Monica Christova**

**Co-chair**

**Capacity for Active Ageing (CAPAGE) Conference 2025**

# MESSAGE FROM THE SECRETARY
# DR. KRM CHANDRATHILAKA

It is with great honour that I extend my heartfelt invitation to the International Conference on Frailty and Geriatric Assessments, which will take place on the 18th and 19th of February 2025 at the Faculty of Medicine, University of Colombo, Sri Lanka.

This prestigious event is hosted by the Department of Allied Health Sciences and forms an integral part of the ERASMUS project titled "Capacity for Active Ageing (CAPAGE) – Promoting Academic and Professional Excellence in Health Care to Meet the Challenges of Aging in Sri Lanka." a collaboration between leading European and Sri Lankan universities co-funded by the European Union.

The conference, themed "Promoting Healthy Aging through Holistic Approaches and Innovations," aims to unite a diverse group of healthcare professionals, including physiotherapists, nurses, medical doctors, psychologists, rehabilitation experts, and allied health specialists. Together, we will share knowledge, foster collaborations, and explore innovative strategies to address the challenges of aging populations.

With the rapid increase in aging demographics worldwide, the importance of multidisciplinary approaches to geriatric care has never been more critical. This conference will delve into the latest advancements in frailty assessment, holistic care models, and cutting-edge research in geriatric health. It will also serve as a platform to exchange ideas and develop solutions that promote dignity, vitality, and well-being among older adults.

We are confident that this conference will be a milestone in advancing geriatric care and active aging, benefiting not only our participants but also the communities they serve.
On behalf of the organizing committee, I extend my sincere gratitude to the distinguished speakers, participants, and collaborators who have come together to make this event a reality.
I urge all the enthusiasts to take full advantage of this unique opportunity to engage, learn, and contribute to shaping the future of elderly care.

I look forward to welcoming you to Colombo and wish you an enriching and inspiring experience.

**Dr. K.R.M. Chandrathilaka**

**Secretary**

**Capacity for Active Ageing (CAPAGE) Conference 2025**

# CAPAGE 2025 Conference Highlights

The International Conference on "Frailty and Geriatric Assessments-2025," hosted by the Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka, is a landmark event under the ERASMUS project “Capacity for Active Ageing (CAPAGE).” Co-funded by the European Union, this initiative fosters collaboration between European and Sri Lankan Universities to address the challenges of aging in Sri Lanka.

With the theme “Promoting Healthy Aging through Holistic Approaches and Innovations,” the conference serves as a dynamic platform for healthcare professionals, including physiotherapists, nurses, medical doctors, psychologists, rehabilitation specialists, and allied health experts, to share insights and innovations.

The project aims to enrich university curricula in Sri Lanka by introducing new courses on Healthy Aging and Geriatrics while improving practical training through six university labs for functional assessment of older adults. Additionally, it seeks to develop an educational and research network that promotes interdisciplinary collaboration among healthcare professionals, students, and academics at both national and international levels. The project also focuses on raising awareness of healthy aging by establishing 12 elective aging information centers for health promotion. To enhance healthcare competencies, professional physiotherapists and nurses will receive specialized training in health promotion. Furthermore, the project will drive efforts to promote research, internationalization, and digital skills among academic staff and students.

The conference highlights the latest advancements in frailty assessments, geriatric care, and holistic strategies aimed at enhancing the quality of life for aging populations. Physiotherapists play a vital role in enhancing mobility, reducing frailty, and preventing falls through evidence-based rehabilitation, while nurses contribute by managing chronic conditions and promoting self-care. Their combined expertise is crucial in ensuring older adults lead dignified and fulfilling lives. Through interdisciplinary collaboration, the conference aims to advance holistic, innovative approaches to improve geriatric care worldwide.

This gathering is a significant step toward building academic and professional excellence in healthcare, ensuring that the global aging population receives the care and attention it deserves.

# The International Conference on Frailty and Geriatric Assessments 2025

| INAUGURATION CEREMONY | | |
|---|---|---|
| | **18th FEBRUARY 2025 \| VENUE: MAIN AUDITORIUM, UCFM TOWER** | |
| **08.30 am** | **Registration \| Opening Ceremony Geriatric Assessment Laboratory** | |
| **09.15 am** | **Academic Procession \| Arrival of Invitees** | |
| **09.30 am** | **National Anthem and Faculty Song** | |
| **09.40 am** | **Lighting of the Oil Lamp** | |
| **09.50 am** | **Welcome Dance** | |
| **09.55 am** | **Welcome Address** | **Dr. Asha Wettasinghe**<br>*Co-Chair, CAPAGE Conference 2025* |
| **10.00 am** | **Introduction to CAPAGE** | **Prof. Monica Christova**<br>*Co-Chair, CAPAGE Conference 2025* |
| **10.10 am** | **Address by Dean** | **Vidya Jyothi Prof. Vajira Dissanayake**<br>*Dean, Faculty of Medicine, University of Colombo* |
| **10.20 am** | **Address by Vice Chancellor** | **Professor H.D. Karunarathna**<br>*Vice Chancellor, University of Colombo* |
| **10.30 am** | **Address by the Guest of Honor** | **Professor Kapila Seneviratne**<br>*Chairman, University Grants Commission* |
| **10.40 am** | **Address by the Chief Guest** | **Dr. Anil Jasinghe**<br>*Secretary of the Ministry of Health and Media, Sri Lanka* |
| **10.55 am** | **Cultural Performance** | |
| **11.05 am** | **Keynote Address**<br>"Physical Activity for Promoting Health and Preventing Falls in Older Age: Implementing the Evidence into Practice" | **Professor Anne Tiedemann**<br>*Faculty of Medicine and Health, University of Sydney, Australia* |
| **11.35 am** | **Journal Launch** | **Sri Lanka Journal of Physiotherapy and Rehabilitation Sciences**<br>*Official Journal of Department of Allied Health Sciences, Faculty of Medicine, University of Colombo* |
| **11.55 am** | **Vote of Thanks** | **Dr. K.R.M. Chandarathilaka**<br>*Secretary, CAPAGE Conference 2025* |
| | **Cultural Performance \| University of Visual & Performing Arts** | |
| **12.00 pm** | **End of the Inauguration Ceremony** | |
| **12.00pm to 1.00pm \| Refreshments** | | |

# KEYNOTE ADDRESS

**Professor Anne Tiedemann**
**Faculty of Medicine and Health**
**University of Sydney, Australia**

## Physical Activity for Promoting Health and Preventing Falls in Older Age: Implementing the Evidence into Practice

We all know that regular physical activity is good for our bodies and minds, however knowledge does not always translate to action. The WHO Global Action Plan on Physical Activity (GAPPA) recognizes that to increase physical activity across the population requires a systems-based approach – there is no single policy solution to this complex issue. GAPPAs four objectives are to create: 1. Active Societies, 2. Active Environments, 3. Active People and 4. Active Systems, and it recommends 20 policy actions that address the cultural, environmental and individual determinants of inactivity.

This presentation will outline current international guidelines on physical activity for promoting health and preventing falls in older age. It will also overview some of Professor Tiedemann's current research, relevant to GAPPA policy action 3.5, physical activity programs and opportunities, evaluating scalable approaches to promoting fall prevention exercise and physical activity more broadly, among people aged 50+. This will include the NHMRC-funded Successful AGEing (SAGE) yoga trial, the Coaching for Healthy AGEing (CHAnGE) trial and the Active Women over 50 projects.

# Summary of the Presentations

# Plenaries

## Plenary 1

**Pioneering Geriatric Care in the Country**

*Dr. Lasantha Ganewatte*
*President, Sri Lanka Association of Geriatric Medicine and Consultant Physician*
*New District General Hospital, Matara, Sri Lanka*

Sri Lanka is undergoing a demographic transition marked by declining fertility rates and an increasing elderly population. As a result, we encounter numerous challenges in many areas including health. Some of the Key health challenges include Rising Burden of Non-Communicable Diseases like heart disease, diabetes, stroke, cancer, and chronic respiratory diseases, many are living with geriatric syndromes where heath sector is not geared, increased demand for elderly care services with specialized healthcare facilities, elderly homes, and trained caregivers are needed to support the ageing population. There are higher numbers of mental health issues like dementia, depression and social isolation among the elderly. A shrinking workforce due to ageing may impact the economy and funding for healthcare. There will be inadequate pension and social security systems will further complicate the limited accessibility to healthcare of older adults.

Recognizing the urgent need for specialized geriatric care, a group of dedicated professionals came together to lay the foundation for The Sri Lankan Association of Geriatric Medicine (SLAGM) in 2014, with the vision of “active and Healthy ageing”. The association is dedicated to pioneering age-friendly care nationwide. It is made up of a diverse membership, including medical specialists from multiple disciplines, grade medical officers, nurses, physiotherapists, occupational therapists, and speech and language therapists.

SLAGM is committed to providing advocacy, leadership, and partnership to drive positive change and support our mission. It works to enhance health promotion and mitigate risks for older people across the country.

We provide numerous educational and training activities to enhance the skills and capacity of both trainees of geriatric Medicine and other doctors. Dedicated members of the association travel to outstations and organize regional meetings to improve the understanding and expertise of doctors and nurses in caring for older people

Faced with a lack of specialized staff, SLAGM led the way in transforming the current team to deliver geriatric-friendly care by creating care pathways that are accessible to many. We provide a robust platform to promote research, audits, and scientific writing, with ample space in our newsletters and bulletins for showcasing these efforts.

The Way Forward would be Strengthening collaborations with local and international organizations to introduce innovative practices in geriatric care.

## Plenary 2

**Recognizing and Diagnosing Depression in Older Adults: Key Indicators and Strategies**

*Dr. Malsha Gunathilake*
*Secretary, Sri Lanka College of Psychiatrists*
*Consultant Old Age Psychiatrist*
*Colombo South Teaching Hospital, Kalubowila, Sri Lanka*

Depression is the most prevalent psychiatric disorder among older adults and represents a significant risk factor for disability and mortality. Biological, psychological, and social transitions associated with aging often contribute to its onset, with prevalence rates ranging from 10% to 20%. Despite its common occurrence, depression remains undiagnosed in nearly half of older adults. This lack of diagnosis can result in severe consequences, including physical health deterioration, increased disability, and heightened risks of suicide, ultimately raising both morbidity and mortality rates. Untreated depression exacerbates the functional impairments caused by coexisting physical illnesses, disrupts treatment adherence, and hampers rehabilitation efforts, further diminishing an individual's quality of life.

However, depression in older adults is highly treatable with a combination of pharmacological interventions, psychotherapy, electroconvulsive therapy (ECT), and targeted social interventions. Therefore, early detection and timely referral for treatment are crucial for mitigating its adverse effects.

The Geriatric Depression Scale (GDS) is a widely validated screening tool tailored for identifying depressive symptoms in older populations. Recognizing the diverse presentations of depression in this population is essential for accurate diagnosis. This lecture will explore the distinct manifestations of depression in older adults, discuss effective screening strategies, and provide guidance on early recognition and diagnosis.

## Symposium 01

**Personalizing Elderly Care: Using Geriatric Assessments to Guide Treatment Decisions**

### Comprehensive Geriatric Assessment – MDT Approach

*Dr. Barana Millawithana*
*Consultant Physician, Base Hospital, Wathupitiwala, Sri Lanka*

Comprehensive Geriatric Assessment (CGA) is a multidimensional, interdisciplinary process aimed at evaluating older adults' medical, social, and functional needs to create an integrated personalized care plan. The Multidisciplinary Team (MDT) approach to CGA involves a diverse group of healthcare professionals, including geriatricians, physicians, nurses, physiotherapists and other allied health professionals, social workers, nutritionists, and psychologists, who collaborate in assessment and management. This holistic approach helps to identify medical, psychological, social, and environmental factors affecting the older patient's well-being.

CGA is essential for older adults with multiple chronic medical conditions, frailty, or functional decline, as it allows for coordinated, patient-centered care that improves outcomes such as quality of life, functional independence, and healthcare utilization. The assessment involves a thorough evaluation of the patient's physical health, cognitive status, mobility, nutrition, medication, social support, and mental health. By recognizing the interconnectivity of these domains, the MDT can design a comprehensive care plan that addresses all aspects of the patient's health and aligns with their personal preferences.

The MDT approach also facilitates effective communication among team members, ensuring that treatment plans are well-coordinated and that the patient's care is continuously optimized. Evidence suggests that CGA with an MDT approach can lead to reduced hospital admissions, better management of chronic diseases, and improved patient satisfaction. The origins of CGA can be traced to the foundational literature of the specialty of Geriatric Medicine in the UK in the 1940s and has increasingly recognized as a best practice in geriatric care, particularly in hospital, community, and home-based settings. Its application provides a crucial framework for managing the complex health challenges faced by ageing populations.

## Dysphagia Assessment and Management

*Dr. Christoph Palli*
*Senior Lecturer, Institute of Health and Nursing*
*FH Joanneum, University of Applied Sciences, Austria*

The presentation "Development of Clinical Items to Identify Dysphagia in Patients with Dementia" explores the challenges of detecting dysphagia—a condition affecting up to 80% of dementia patients. Dysphagia can result in serious complications, including aspiration pneumonia, malnutrition, and dehydration, leading to increased frailty, dependency, and healthcare costs. Early identification is crucial to prevent these outcomes.

Current diagnostic tools, such as video fluoroscopic swallowing studies (VFS) and fibreoptic endoscopic evaluation of swallowing (FEES), are effective but require patient cooperation and are often resource-intensive, expensive, and unavailable outside regular working hours. These challenges are particularly pronounced in patients with dementia, who may exhibit care-resistant behaviour and struggle to cooperate during structured assessments. This underscores the need for alternative tools that can be applied without relying on patient cooperation.

This study employed a three-round e-Delphi method to develop observable clinical items for dysphagia identification. These items are designed for use by registered nurses during routine observations of patients during meals, avoiding the need for specialized equipment or creating an uncomfortable or laboratory-like environment for patients. By focusing on natural eating situations, the assessment minimizes stress and care-resistant behaviour, ensuring more accurate observations.

The findings mark a significant step toward creating a practical, evidence-based screening tool for nurses, enabling early dysphagia detection and timely intervention. Although further field studies are needed to validate the diagnostic accuracy of the identified items, this approach holds promise for improving care quality and outcomes for dementia patients.

## Assessment and Management of Low Back Pain in Older Adults in Australia

*Dr. Chathurani Sigera*
*The Institute for Musculoskeletal Health*
*University of Sydney, Australia*

The prevalence of low back pain (LBP) is rising, particularly among older adults. Individuals aged 75 years and above are more likely to present with LBP in hospitals, often influenced by factors like limited access to primary care, comorbidities, frailty, and polypharmacy. These older patients are typically under-represented in clinical research, which results in challenges when developing effective management strategies for this age group.

In Australia, LBP clinical care standards have been developed to guide clinicians in managing LBP effectively. These standards emphasize the importance of early assessment, a comprehensive history, and a neurological examination to exclude serious pathology. Special considerations are needed for older adults, who often present with multiple comorbidities and psychological factors such as depression and fear of movement, which are significant predictors of long-term disability.

The management of LBP in older adults should prioritize active strategies such as physical activity, social connections, and careful use of pain medications, rather than passive treatments. Clinical care guidelines recommend non-pharmacological approaches to improve mobility and function. In cases where symptoms worsen or fail to improve, specialist referrals may be necessary for further evaluation or advanced treatments.
Given the complexity of managing LBP in older patients with comorbidities, there is an urgent need for high-quality research that includes older adults. Such research will enhance evidence-based practices, improve adherence to clinical care standards, and ensure better, more tailored care for this growing aging population.

## Pulmonary Assessment for Older Adults

*Prof. Sonia Souto*
*Department of Biomedical Sciences, Medicine and Physiotherapy*
*University of A Coruña, Spain*

Aging, which we broadly define as the time-dependent functional decline that affects most living organisms, is characterized by a progressive loss of physiological integrity, leading to impaired function and increased vulnerability to death. This deterioration is the primary risk factor for major human pathologies, including cancer, diabetes, cardiovascular disorders, and neurodegenerative diseases. Weakness and aging go hand in hand, manifesting as a weakening of the body's ability to resist and adapt. In the older adults (conventionally defined as individuals ≥ 60 years of age), it is often difficult to establish what normality is, because of the numerous anatomical and physiological modifications that occur during the aging process. As a result, the greatest challenge is to differentiate between the normal aging process and the onset of disease. This presentation explores the complexities of pulmonary function assessment in older adults' population, highlighting the importance of this practice for accurate diagnosis and effective management of age-related respiratory conditions. It delves into age-related changes in the respiratory system (lung structure, chest wall function and respiratory muscles changes, gas exchange and breathing control, etc.) and discusses common respiratory conditions affecting this group.

## Unveiling Motor Cortical Plasticity in the Ageing Brain: Insights from Non-invasive Brain Stimulation

*Prof. Monica Christova*
*Department of Physiotherapy*
*FH Joanneum, University of Applied Sciences, Austria*

Aging is accompanied by functional and structural brain changes, including alterations in motor cortical plasticity, which refers to the cortical capacity to reorganize and underlies the physiological basis of motor learning, memory, and recovery. Understanding these changes is crucial for developing targeted interventions to mitigate age-related motor decline. Motor cortical plasticity in the aging brain can be explored using non-invasive brain stimulation (NIBS) techniques, such as transcranial magnetic stimulation (TMS) and transcranial direct current stimulation (tDCS).

TMS is used to evaluate motor cortical plasticity. It applies a brief magnetic pulse to the primary motor cortex, leading to activation of the target muscle known as motor evoked potential (MEP). A change in MEP amplitude reflects changes in synaptic efficacy through long-term potentiation and depression -like mechanisms in cortical circuits which are important mediators of motor learning.
tDCS is used to modulate motor cortical plasticity. It applies low-intensity direct current stimulation through electrodes placed on the scalp over the target cortical areas. tDCS is usually applied for 10–20 min at intensities 1–2 mA, inducing excitability effects that can last for up to 60 minutes and enhance motor learning and memory.

While earlier studies using tDCS and TMS showed clear differences in M1 plasticity between young and older adults, recent studies have demonstrated less pronounced differences with advancing age. Therefore, our perspective from NIBS research should not automatically assume that motor cortical plasticity declines with age. Instead, aging-related differences are likely dependent on how M1 plasticity is measured.

# Symposium 2

**From Diagnosis to Prevention: Frailty, Sarcopenia, and Falls**

## Assessment of Frailty, Sarcopenia and Falls in Elderly

*Prof. Nirmala Rathnayake*
*Professor in Nursing*
*Department of Nursing, Faculty of Allied Health Sciences*
*University of Ruhuna, Sri Lanka*

Frailty, sarcopenia, and falls are interrelated geriatric syndromes that significantly impact the health and quality of life of older individuals. Frailty, characterized by diminished physiological reserves and increased vulnerability to adverse outcomes, often overlaps with sarcopenia. Sarcopenia is defined by the progressive loss of skeletal muscle mass, strength, and function. Together, these conditions increase the risk of falls, fractures, hospitalization, and mortality, posing a critical challenge in the context of an aging global population.

To assess these conditions effectively, a multidimensional approach is required, incorporating clinical, functional, and biochemical parameters. Frailty is commonly assessed using tools such as the Fried Frailty Phenotype and the Frailty Index, which evaluate criteria including unintentional weight loss, exhaustion, weakness, slowness, and low physical activity. Sarcopenia can be diagnosed through methods such as dual-energy X-ray absorptiometry, bioelectrical impedance analysis, and handgrip strength measurement, as per the guidelines of the European Working Group on Sarcopenia in Older People (EWGSOP). The Find-Assess-Confirm-Severity (FACS) approach, introduced by the EWGSOP, provides a systematic, stepwise framework for identifying and managing sarcopenia. This approach facilitates early diagnosis, improves patient outcomes, and guides tailored interventions.

In addition to these assessments, multidimensional risk factor analysis is critical for identifying individuals at risk. Fall risk can be comprehensively assessed using tools such as the Timed Up and Go test and the Berg Balance Scale, which provide insights into mobility and balance.

Understanding the interplay between frailty, sarcopenia, and falls is essential for implementing effective preventive strategies and interventions. Early identification through comprehensive screening programs allows for timely interventions that reduce fall risk, improve functional outcomes, and enhance the overall well-being of older adults.

## Haematological Disorders in the Elderly Patients

*Prof. Claudia Bodner*
*Lecturer, Biomedical Laboratory Scientist*
*Institute of Biomedical Science*
*FH Joanneum, University of Applied Sciences, Austria*

Unexplained anaemia in aging people, defined by the World Health Organization as haemoglobin levels below 12 g/dl in women and 13 g/dl in men, is prevalent among individuals over 60 years old. The incidence of anaemia increases with age, particularly among the oldest and most frail. A significant portion of anaemia cases in older adults have no clear underlying cause, termed unexplained anaemia of aging (UAA).

Many clinical and research studies have shown that about one-third of anaemia cases in older adults can be attributed to nutritional deficiencies, another third to haematological stem cell disorders, inflammation and chronic kidney disease, and the remaining third to unknown causes. This pattern is consistent across various populations, including community-dwelling individuals, hospital inpatients, and long-term care residents.

Anaemia is associated with decreased quality of life, depression, reduces physical functional capacity and increased mortality. Despite thorough evaluations, including medical history, physical exams, lab tests, and bone marrow biopsies, up to 40% of anaemia cases in older patients remain unexplained. Consequently, treatment options are limited. It represents a significant clinical challenge due to its detrimental health effects and the lack of specific therapeutic guidelines.

The treatment of patients with UAA is of critical importance as it represents a clinical as well as a nursing and therapeutic need, with the aim of improving the general condition and well-being of the ageing population. Further research is needed to understand the aetiology and develop effective clinical and therapeutic treatment strategies.

## Personalized Fall Prevention Strategies: Tailoring Interventions to Individual Needs

*Dr. Asha Wettasinghe*
*Senior Lecturer in Physiotherapy*
*Department of Allied Health Sciences*
*Faculty of Medicine, University of Colombo, Sri Lanka*

Falls are a leading cause of injury and loss of independence among older adults, necessitating effective prevention strategies tailored to individual needs. Personalized fall prevention begins with a comprehensive risk assessment that evaluates intrinsic factors like muscle weakness, balance impairments, visual limitations, cognitive decline, and chronic conditions, alongside extrinsic risks such as environmental hazards, footwear issues, and medication side effects.

Healthcare professionals collaborate interdisciplinarity to design and implement targeted interventions. Physiotherapists are central to these efforts, utilizing their expertise to assess mobility, strength, and gait. They create tailored exercise programs to enhance muscle strength, coordination, and postural stability, and guide assistive device use. Their role extends to educating patients and caregivers about fall risks and prevention, contributing to a holistic approach through teamwork with occupational therapists, medical doctors, and other specialists.

Advanced technology, including wearable devices, is often integrated to monitor gait and provide real-time insights for proactive adjustments. Addressing behavioural and psychological factors, such as the fear of falling, is critical for maintaining motivation and long-term engagement in prevention programs.

Personalization ensures interventions are culturally, socially, and economically appropriate, making them accessible and sustainable for diverse populations. This person-centered approach empowers older adults to maintain mobility, independence, and a higher quality of life, ultimately enhancing their well-being while reducing fall risks.

## Exercise Therapy for Seniors: What Exercise is more Appropriate for Older Adults?

*Prof. Zeltia Naia*
*Professor in Physiotherapy*
*Faculty of Physiotherapy*
*University of A Coruña, Spain*

As we age, a number of physical changes occur, that limit function and quality of life. In this age group, physical inactivity is common. There is scientific literature indicating that therapeutic exercise is essential to improve the quality of life and functionality of older adults. Therapeutic exercise can have an impact on reducing the risk of all-cause mortality, chronic disease and premature death.

A therapeutic exercise program for older people should address different physical abilities, including aerobic, strength, flexibility and balance training. Exercise recommendations should be tailored to the individual's own abilities and characteristics. To maximize its potential benefits, exercise dosage should also be adjusted. Older adults should be as physically active as their abilities and conditions allow.

## "VintAGEING + Feliz program: Portuguese experience of intervention in the senior community for active and healthy ageing"

*Prof. Cristiane Silva*
*Professor in Nursing*
*Santa Maria Health School, Porto, Portugal*

The VintAGEING project, whose name is inspired by the tradition of designating special harvests of Port wines (vintage) and the English word (ageing), is a social development and community intervention project, that began in 2017, promoted by Santa Maria Health School in Porto, Portugal. It is an intergenerational multidisciplinary program for healthy and active ageing for older adults ≥65 years. The main objectives of this program are to encourage the practice of structured and guided physical exercise, to improve and prevent cognitive decline and to increase health education and health literacy, contributing to the independence and well-being of the older adults.

# Symposium 3

**Holistic Perspectives on Cognitive and Mental Health in Ageing: Tools, Interventions, and Cultural Insights**

## Cognitive Changes in Ageing: Recognizing Early Signs of Dementia

*Prof. Chathurie Suraweera*
*Professor in Psychiatry*
*Department of Psychiatry, Faculty of Medicine*
*University of Colombo, Sri Lanka*

Ageing is an inevitable and complex process involving changes across multiple human life dimensions. While the physical changes of ageing, such as wrinkles, grey hair, and reduced physical stamina, are often highlighted and widely acknowledged, the cognitive changes associated with ageing tend to receive less attention. However, these cognitive changes are equally significant and can profoundly impact an individual's quality of life. Research indicates that while specific cognitive abilities like vocabulary and general knowledge remain stable or even improve with age, other cognitive functions such as memory, attention, and executive function often show a gradual decline starting in middle age and continuing throughout the lifespan. These changes are influenced by various factors, including biological, environmental, and social aspects, the individual's decade of life and gender.

Understanding the cognitive changes of ageing also involves distinguishing between normal ageing and pathological conditions. It is essential to differentiate normal cognitive decline, which is part of the ageing process, from mild cognitive impairment (MCI) and various forms of dementia, such as Alzheimer's disease. Each condition presents unique patterns of cognitive changes, and the type of dementia can influence the nature and progression of these changes. For example, memory loss is often prominent in Alzheimer's, while vascular dementia may primarily affect executive functioning. Recognising these distinctions is crucial for early diagnosis, effective intervention, and promoting strategies to maintain cognitive health and independence in older adults.

## Cognitive Assessment Tools and Techniques

*Prof. Laura Lorenzo-López*
*Department of Biomedical Sciences, Medicine and Physiotherapy*
*University of A Coruña, Spain*

Cognitive assessment is a crucial aspect of evaluating and managing cognitive health, particularly in aging populations, where early detection of cognitive decline can significantly impact care strategies and outcomes. This conference aims to introduce Sri Lankan professionals to a comprehensive range of cognitive assessment tools and techniques designed to enhance their clinical practice. The session will cover key aspects of cognitive assessment, including the principles underlying standardized screening tools, their application in diverse clinical contexts, and how they contribute to a holistic understanding of cognitive function. Special emphasis will be placed on the strengths, limitations, and cultural considerations of different assessment methods to ensure their relevance and efficacy in diverse patient populations. Participants will receive practical guidance on selecting, administering, and interpreting cognitive assessment tools tailored to the unique needs of individuals, with a focus on integrating these practices into routine clinical workflows to improve patient care and outcomes.

## Interdisciplinary non-pharmacological Interventions in Dementia

*Prof. Duarte Pereira*
*Professor in Physiotherapy*
*Santa Maria Health School, Porto, Portugal*

Neurodegenerative diseases have been increasing worldwide, with a high impact in terms of associated morbidity and mortality. In addition to pharmacological interventions, the non-pharmacological approach is fundamental involving interdisciplinary work, where physiotherapy, occupational therapy and nursing play an important role. An integrated approach in the physical and mental dimensions, patient centered, is essential to minimize the cognitive and functional decline of these conditions.

## Effects of Meditation on Ageing Brain

*Prof. Dilshani Dissanayake*
*Professor in Physiology*
*Department of Physiology, Faculty of Medicine*
*University of Colombo, Sri Lanka*

Aging is associated with cognitive decline, structural brain changes, and an increased risk of neurodegenerative diseases. Recent research has highlighted meditation as a potential non-pharmacological intervention to mitigate these effects and promote brain health. Meditation, particularly mindfulness meditation, has been found to enhance attention, memory, and executive functioning in older adults. Studies using neuroimaging techniques such as MRI and fMRI have shown that long-term meditators exhibit greater grey matter volume and cortical thickness in brain regions associated with cognition, such as the prefrontal cortex and hippocampus. These findings suggest that meditation may counteract age-related atrophy, thereby preserving cognitive abilities. Additionally, meditation has been linked to increased connectivity within the default mode network, which plays a crucial role in self-referential thinking and memory processing. A more resilient default motor network is associated with better cognitive aging and reduced risk of neurodegenerative disorders. The reduction in chronic stress and inflammation via meditation is postulated to underpin its neuroprotective effects. Chronic stress accelerates brain aging through increased cortisol production, which can lead to hippocampal atrophy and cognitive impairment. Meditation lowers cortisol levels and enhances the brain's resilience to stress. Furthermore, meditation promotes neuroplasticity by increasing neurotrophic factors which are proteins essential for neuronal growth and survival. The effect of meditation on enhancing neuroplasticity may help delay or prevent cognitive decline.

Long-term meditation has been shown to improve emotional regulation and psychological well-being in older adults. By fostering a sense of mindfulness and present-moment awareness, meditation helps reduce symptoms of anxiety and depression, which are common in aging populations. Positive mental states are linked to better cognitive performance and overall brain health. Despite these promising findings, more longitudinal and large-scale randomized controlled trials are needed to establish a causal relationship between meditation and brain aging.

The Centre for Meditation Research (CMR), Faculty of Medicine, University of Colombo embarked on research projects to explore further the effect of meditation on genes, stress-related biochemicals, neurochemicals, body systems, psychology, education, connectedness with nature and social harmony-related behaviour. The CMR research team conducted meditation-based randomized controlled trials to assess the effects on patients and community groups. The findings of current research studies suggest that meditation appears to exert protective effects on the aging brain by suppressing cellular atrophy, reducing stress, improving cognition and promoting neuroplasticity. As life expectancy continues to rise globally, integrating meditation into healthcare strategies could provide an accessible and cost-effective means to maintain cognitive function and improve the quality of life in older adults.

## Special Issues in Health Counselling from a Nordic Perspective

*Dr. Kristina Grahn*
*Lecturer in Social and Health Care Management*
*JAMK University of Applied Sciences, Finland*

In my presentation, I will explore the critical role of written patient education materials in healthcare, particularly from a Nordic perspective. Written health information offers numerous benefits, including message consistency, reusability, transferability, information permanence, and cost-effectiveness. However, the effectiveness of these materials depends on their readability and the patient's ability to understand and relate to the content.

High-quality written health information empowers patients to manage their health effectively. Key factors influencing success include literacy levels, readability, design, and the need for continuous updates and evaluation. Common weaknesses in patient education materials, such as difficult medical terminology and outdated information, will be addressed. I will discuss the evaluation process of patient instructions, focusing on aspects like appearance, educational value, content quality, comprehensibility, usability, readability, and suitability. Involving patients in the design of educational materials improves their quality and promotes patient satisfaction and adherence to care.

A case study from Central Finland will be presented, highlighting the development and evaluation of an assessment tool for patient use. The study's findings emphasize the importance of co-designing materials with patients, providing more training for staff, and allocating resources to identify patients who need additional support.
In conclusion, written health information can significantly enhance patient recovery, adherence to treatment, and reduce fear and anxiety. I encourage healthcare professionals to prioritize the evaluation and continuous improvement of patient education materials.

# Symposium 4

## Navigating Complexities: Current Challenges and Innovations in Geriatric Management

**Rehabilitation Approach for Older Adults**

*Dr. Chamara Jayathunga*
*Consultant in Rehabilitation*
*Rheumatology and Rehabilitation Hospital, Ragama, Sri Lanka*

In Sri Lanka, 12.3% of the population is aged 60 or older and Sri Lanka is the country with the highest proportion of older adults in South Asia. Since the elderly population commonly has multi-morbidity and numerous functional limitations; rehabilitation services are paramount to overcome these problems.

The World Health Organization (WHO) defines rehabilitation as "a set of interventions designed to optimise functioning and reduce disability in individuals with health conditions in interaction with their environment". Furthermore, the WHO recommends that rehabilitation is an essential health service and crucial for achieving universal health coverage.

Since many elderly patients have functional limitations (i.e. disabilities) caused by multiple factors, the first step in the rehabilitation approach is to accurately identify those causative factors. The International classification of functioning (ICF), which was proposed by the WHO in 2001 is an internationally accepted model that can be used to identify these causative factors. It is based on biopsychosocial model of disability and it defines disability as an umbrella term comprising of impairments in body structure and function, activity limitations or participation restrictions. Furthermore, the ICF model describes that the disability is also affected by contextual factors like personal and environmental factors.

By applying the WHO ICF model to elderly persons with functional limitations, the rehabilitation team can clearly picture the main concerns of that particular person. In addition, this model also helps to plan rehabilitation interventions. Goal setting is a key concept in rehabilitation and these goals should be based on the patients' wishes whenever possible.

Rehabilitation services are delivered by a team of professionals including doctors, nurses, therapists, carers, and social workers. Common interventions include medication reviews, health education, balance training, muscle strengthening, optimizing nutrition, gait training, ADL training, home modifications, management of pain, management of incontinence and skin care, and cognitive training. These interventions have to be carefully tailored to meet the agreed rehabilitation goals of each individual.

Furthermore, rehabilitation approach to an elderly person frequently requires open and honest discussions about realistic goals. Also, complex best interest decisions are also frequently required with the inputs from the next of kin.

## Prehabilitation – Starting Rehabilitation in Elderly People before Rehabilitation Starts

*Prof. Rudi A. Steenbruggen*
*Senior Lecturer Physiotherapy & Topic Research Expert*
*Saxion University of Applied Sciences, Netherlands*

Major schedulable surgical procedures such as thoracic, abdominal or orthopaedical procedures, are often associated with increased morbidity, more frequent complications, extended rehabilitation trajectories and reduced quality of life. Optimizing the preoperative condition (prehabilitation) of, in the vast majority of cases geriatric patients, can potentially reduce or even prevent these undesirable effects. The objective is to explain the current theory of prehabilitation, supplemented by the most current state of evidence from the literature regarding planned thoracic, large abdominal and orthopaedical procedures among the elderly. In the first part of the presentation, the theoretical working principles of prehabilitation will be explained focusing on stratification of patient groups, indications for successful preoperative patient training, and multidisciplinary working. Prehabilitation interventions such as exercise programs, nutrition schemes, psychological support, drug screening and smoking/alcohol cessation programs will be touched upon. In the second part, the current state of evidence of prehabilitation concerning thoracic, large abdominal and orthopaedical surgery among the elderly will be discussed. The presentation concludes with some take-home messages. After the presentation, audience members will have an increased understanding of the modern phenomenon of prehabilitation in the medical world, its working principles and evidence base, and therefore insight into whether prehabilitation is applicable in one's working environment within geriatrics and in what way. They will understand that the underpinning theory of prehabilitation stands and is well explained, and evidence is building up in the literature that prehabilitation within geriatrics does indeed work if applied appropriately, especially in thoracic and abdominal surgery.

## Intermediate Care for Older Adults in Sri Lanka: Way Forward

*Dr. Chamila Dalpatadu*
*Senior Lecturer in Physiology*
*Department of Physiology, Faculty of Medicine*
*University of Colombo, Sri Lanka*

Intermediate care model is part of the continuum of care for older adults. It encompasses transitional care services which support the continuity of care that must be an integral part of caring of an older adult. Broadly the aims are to prevent avoidable admissions to hospital, rehabilitation after discharge from acute care, proper assessment to determine the need for residential care and to establish patient centered care plan to increase functional capacity in older-adults.

Intermediate care, thus involves broad array of services to achieve these targets in geriatric care including step down care/half way home facilities, community rehabilitation centers, primary health care facilities geared for geriatric care and proper referral system.
Sri Lanka is faced with the challenge to streamline and uplift the care for older adults with the rise of its geriatric population. In order to properly establish intermediate care in Sri Lanka, maximum utilization of available resources is a must. Therefore, capacity building to utilize available human resources, formulating a team under the supervision of a geriatrician or a physician to assess care needs in order to set goals for step down care and innovative strategies such as government and private partnership insurance schemes for older adults would be the way forward to overcome these challenges. However, the biggest challenge would be policy changes that focuses on integrating primary care, acute care, family care, community and social services in order to achieve the goal of improving multi-disciplinary patient centered geriatric care for older adults in Sri Lanka.

## Person-centered Care for Older People

*Prof. Damayanthi Dassanayake*
*Professor in Nursing*
*Department of Nursing, Faculty of Allied Health Sciences*
*University of Peradeniya, Sri Lanka*

Person-centered care means treating patients as individuals and as equal partners in the business of healing; it is personalized, coordinated and enabling. Rather than identified PCC as a medical model, it is considered as multidisciplinary, recognizing that a person may need more than one professional to support them. Working in this way means recognizing people's capabilities and potential to manage and improve their own health, not seeing them simply as victims of disease or passive recipients of care.

Person-centered care for older people is an approach that prioritize the individual's unique needs, preferences, and values in planning and delivery of health care. Treating people with dignity, respect, and empathy are the important considerations in PCC. This approach considers physical health, emotional, social and psychological well-being of older adults. The key principles of PCC include holistic care, respect for individual preferences, autonomy and empowerment, building relationships, continuity of care and supportive environment. This model of care can improve health outcomes, increase satisfaction, and enhance the overall quality of life for older adults by treating them as active partners in their health care journey.

## The Basics, Challenges and Development Targets of Older People's Home Care

*Ms. Eija Janhunen*
*Specialist in Multidisciplinary Rehabilitation*
*Institute of Rehabilitation*
*JAMK University of Applied Sciences, Finland*

The "Flourishing Home Care" project, funded by the Finnish Ministry of Social Affairs and Health, aimed to develop home care models focusing on rehabilitation and preventive activities. Conducted in 2018, the study assessed rehabilitation periods in Central Finland's municipalities, mapping client contacts, service guidance, referrals, goals, and follow-up measures. The analysis revealed varying stages of implementation and common challenges such as client guidance effectiveness, referral criteria, and cooperation between home care and rehabilitation staff. Successful home rehabilitation is driven by client-defined goals and supported by a collaborative effort from clients, relatives, and specialized staff, ultimately enhancing the elderly's ability to manage daily life and engage in meaningful activities at home.

# MAIN CONFERENCE AT A GLANCE

<table>
<tr><th colspan="5">MONDAY, 18TH FEBRUARY 2025 | CAPAGE CONFERENCE - DAY 01 | Main Auditorium-UCFM Tower</th></tr>
<tr><td colspan="5">1.00pm – 1.30pm</td></tr>
<tr><td colspan="5">Plenary 1<br>Pioneering Geriatric Care in the Country</td></tr>
<tr><td colspan="5">Dr. Lasantha Ganewatte<br>President, Sri Lanka Association of Geriatric Medicine and Consultant Physician, New District General Hospital, Matara, Sri Lanka</td></tr>
<tr><td colspan="5">1.30pm – 3.00pm</td></tr>
<tr><td colspan="5">Symposium 1<br>Personalizing Elderly Care: Using Geriatric Assessments to Guide Treatment Decisions</td></tr>
<tr><td>Comprehensive Geriatric Assessment – MDT Approach<br><br>Dr. Barana Millawithana<br>Consultant Physician, Base Hospital, Wathupitiwala, Sri Lanka</td><td>Dysphagia Assessment and Management<br><br>Mr. Christoph Palli<br>Senior Lecturer, Institute of Health and Nursing FH Joanneum, University of Applied Sciences, Austria</td><td>Assessment and Management of Low Back Pain in Older Adults in Australia<br><br>Dr. Chathurani Sigera<br>The Institute for Musculoskeletal Health University of Sydney, Australia</td><td>Pulmonary Assessment for Older Adults<br><br>Prof. Sonia Souto<br>Department of Physiotherapy, Medicine and Biomedical Sciences, University of A Coruña, Spain</td><td>Unveiling Motor Cortical Plasticity in the Ageing Brain: Insights from Non-invasive Brain Stimulation<br><br>Prof. Monica Christova<br>Department of Physiotherapy FH Joanneum, University of Applied Sciences, Austria</td></tr>
<tr><td colspan="5">Q & A Session</td></tr>
<tr><td colspan="5">Evening Tea | 3.00pm to 3.30pm</td></tr>
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| MONDAY, 18TH FEBRUARY 2025 \| CAPAGE CONFERENCE - DAY 01 \| Main Auditorium-UCFM Tower | | | | |
|---|---|---|---|---|
| **3.30pm – 4.00pm** | | | | |
| **Plenary 2**<br>**Recognizing and Diagnosing Depression in Older Adults: Key Indicators and Strategies** | | | | |
| **Dr. Malsha Gunathilake**<br>*Secretary, Sri Lanka College of Psychiatrists,*<br>*Consultant Old Age Psychiatrist, Colombo South Teaching Hospital, Kalubowila, Sri Lanka* | | | | |
| **4.00pm – 5.30pm** | | | | |
| **Symposium 2**<br>**From Diagnosis to Prevention: Frailty, Sarcopenia, and Falls** | | | | |
| **Assessment of Frailty, Sarcopenia and Falls in Elderly**<br><br>**Prof. Nirmala Rathnayake**<br>Professor in Nursing<br>Department of Nursing, Faculty of Allied Health Sciences<br>University of Ruhuna, Sri Lanka | **Haematological Disorders in the Elderly Patients**<br><br>**Prof. Claudia Bodner**<br>Lecturer, Biomedical Laboratory Scientist<br>Institute of Biomedical Science<br>FH Joanneum, University of Applied Sciences, Austria | **Personalized Fall Prevention Strategies: Tailoring Interventions to Individual Needs**<br><br>**Dr. Asha Wettasinghe**<br>Senior Lecturer in Physiotherapy<br>Department of Allied Health Sciences<br>Faculty of Medicine, University of Colombo, Sri Lanka | **Exercise Therapy for Seniors: What Exercise is more Appropriate for Older Adults?**<br><br>**Prof. Zeltia Naia**<br>Professor in Physiotherapy<br>Faculty of Physiotherapy<br>University of A Coruña, Spain | **"VintAGEING + Feliz program: Portuguese experience of intervention in the senior community for active and healthy ageing"**<br><br>**Prof. Cristiane Silva**<br>Professor in Nursing<br>Santa Maria Health School,<br>Porto, Portugal |
| **Q & A Session** | | | | |

| MONDAY, 19TH FEBRUARY 2025 | CAPAGE CONFERENCE - DAY 02 |
|---|---|
| **Morning Tea \| 8.00am to 9.30am** | |
| **8.30am-9.30am** | |
| **Intermediate Area – Level 01 \| UCFM Tower** | |
| **Poster Presentations** | |
| **9.30am-11.30am** | |
| **Main Auditorium \|Ground Level \| UCFM Tower** | |
| **Oral Presentation Session – A (OP1 – OP10)** | |
| **Lecture Hall 2 \| Level 10 \| UCFM Tower** | |
| **Oral Presentation Session – B (OP11 – OP20)** | |

| MONDAY, 18TH FEBRUARY 2025 \| CAPAGE CONFERENCE - DAY 02 \| Main Auditorium-UCFM Tower | | | | |
|---|---|---|---|---|
| **11.30am – 1.00pm** | | | | |
| **Symposium 3**<br>**Holistic Perspectives on Cognitive and Mental Health in Ageing: Tools, Interventions, and Cultural Insights** | | | | |
| **Cognitive Changes in Ageing: Recognizing Early Signs of Dementia**<br><br>**Prof. Chathurie Suraweera**<br>Professor in Psychiatry<br>Department of Psychiatry, Faculty of Medicine<br>University of Colombo, Sri Lanka | **Cognitive Assessment Tools and Techniques**<br><br>**Prof. Laura Lorenzo-López**<br>Department of Biomedical Sciences, Medicine and Physiotherapy<br>University of A Coruña, Spain | **Interdisciplinary non-pharmacological Interventions in Dementia**<br><br>**Prof. Duarte Pereira**<br>Professor in Physiotherapy<br>Santa Maria Health School, Porto, Portugal | **Effects of Meditation on Ageing Brain**<br><br>**Prof. Dilshani Dissanayake**<br>Professor in Physiology<br>Department of Physiology, Faculty of Medicine<br>University of Colombo, Sri Lanka | **Special Issues in Health Counselling from a Nordic Perspective**<br><br>**Dr. Kristina Grahn**<br>Lecturer in Social and Health Care Management<br>JAMK University of Applied Sciences, Finland |
| **Q & A Session** | | | | |
| **Lunch \| 1.00pm to 2.00pm** | | | | |

| 2.30pm to 3.30pm | | | | |
|---|---|---|---|---|
| **Symposium 4**<br>**Navigating Complexities: Current Challenges and Innovations in Geriatric Management** | | | | |
| **Rehabilitation Approach for Older Adults**<br><br>**Dr. Chamara Jayathunga**<br>Consultant in Rehabilitation Rheumatology and Rehabilitation Hospital, Ragama, Sri Lanka | **Prehabilitation – Starting Rehabilitation in Elderly People before Rehabilitation Starts**<br><br>**Prof. Rudi A. Steenbruggen**<br>Senior Lecturer Physiotherapy & Topic Research Expert<br>Saxion University of Applied Sciences, Netherlands | **Intermediate Care for Older Adults in Sri Lanka: Way Forward**<br><br>**Dr. Chamila Dalpatadu**<br>Senior Lecturer in Physiology<br>Department of Physiology, Faculty of Medicine<br>University of Colombo, Sri Lanka | **Person-centered Care for Older People**<br><br>**Prof. Damayanthi Dassanayake**<br>Professor in Nursing<br>Department of Nursing, Faculty of Allied Health Sciences<br>University of Peradeniya, Sri Lanka | **The Basics, Challenges and Development Targets of Older People's Home Care**<br><br>**Ms. Eija Janhunen**<br>Specialist in Multidisciplinary Rehabilitation<br>Institute of Rehabilitation<br>JAMK University of Applied Sciences, Finland |
| **Q & A Session** | | | | |

## CLOSING REMARK- Main Auditorium

**3.30pm – 4.00pm**

| | |
|---|---|
| **3.30pm** | **Arrival of Invitees** |
| **3.35pm** | **Awards Ceremony** |
| **3.45pm** | **Address by Dean, Faculty of Medicine, University of Colombo – Vidya Jyothi Senior Prof. Vajira Dissanayaka** |
| **3.50pm** | **Vote of Thanks – Dr. Subhashini Jayawardana, Head, Department of Allied Health Sciences, FOM, UOC** |
| **4.00pm** | **End of the Closing Remark** |

**Evening Tea | 4.00pm to 4.30pm**

| LIST OF ORAL PRESENTATIONS | |
|---|---|
| OP 01 | Relationship between Physical Activity and Health-related Quality of Life in elderly people with Type 2 Diabetes Mellitus<br>*M.F. Noordeen, A.H. Wettasinghe* |
| OP 02 | Knowledge, Confidence and Exercise Prescription for Fall prevention in community-dwelling older adults among Sri Lankan physiotherapists<br>*F.M.D. Chellapillai, T.D. Dissanayaka, A. Tiedemann, K.D. Hill, A. Kariyawasam* |
| OP 03 | Prevalence and Impact of Low Back Pain-related Disability and Disease Severity among older adults with Parkinson's Disease in Sri Lanka<br>*Thakshila Y.S., Kalyani H.H.N.* |
| OP 04 | Impact of Cognitive Functions on Mobility and Functional Independence in Stroke survivors<br>*S.A.T. Harini, D.C. Munasinghe, E.A.P.N. Madushani, S. M. Y. M. Gimhan, K.K. Vithanage, A.H. Wettasinghe* |
| OP 05 | Caregiver Burden and Quality of Life among Family Caregivers of the Elderly in Nuwara Eliya, Sri Lanka; A Descriptive Cross-Sectional Study<br>*W.M.I.T Wijekoon, M.S.R Sirisena, W.G.H.M.C.D Herath, I.S.K Galisapitiya, C.B.M.K.K.K Jayawardana, K.N Rathnakumari, H.S Sandakumari* |
| OP 06 | Comparison of Static Balance, Dynamic Balance and Quality of Life of older adults who practice yoga and do not practice yoga in selected settings in Colombo district<br>*A.M.D. Lakmali, C. Ranasinghe* |
| OP 07 | Geriatric Physiotherapy: Clinical teaching experience in Physiotherapy Degree at University of A Coruña<br>*J. Vivas-Costa, M. Chouza Insua, I. Raposo Vidal* |
| OP 08 | Assessing the impact of lower limb muscle strength and dorsiflexor and plantar flexor muscle activity on balance among institutionalized elderly in Kandy district, Sri Lanka<br>*F.S.M. Nijam, G.T.S. Priyadarshana, K.M.K. Priyangani, M.R.F. Rashfa, R.M. Risam, S.M.I.M. Samarathunga, W.A.D.D. Sathyanga, A.M.M. Rikas, S.I. Wadugodapitiya* |
| OP 09 | The Effect of Music as a Complement to Aerobic Exercise in the Elderly: Analytical Cross-Sectional Study in Portugal<br>*D.R.S. Pereira, C.F.B. Crasto, A.L.A. Salvador, P.A.T. Ribeiro* |
| OP 10 | Nutritional Health and Comorbidity among Older Adults at Colombo South Teaching Hospital: A Cross-Sectional Analysis<br>*Silva F.H.D.S., Rajaratnam K., Perera S.* |
| OP 11 | Demographic and disease-specific clinical determinants of physical activity level in older adults with type 2 diabetes mellitus attending selected hospitals in Colombo District<br>*Sandeepani W.A.N.R., Wettasinghe A.H.* |
| OP 12 | Associations of Glycaemic control and Nutritional status with Frailty in elderly patients with Diabetes Mellitus attending to an Outpatient Diabetic clinic, Colombo<br>*R.A.M.D. Ranatunga, D.C. Munasinghe, N.W.W.P.G.K.S. Senanayake, A. Wettasinghe* |

| | |
|---|---|
| OP 13 | Prevalence and factors associated with frailty among hip fracture patients admitted to National Hospital, Galle, Sri Lanka<br>*H. Dias, N. Rathnayake, T. Abeygunasekara, S. Lekamwasam* |
| OP 14 | The prevalence of falls risk and falls-associated risk factors on patients with knee osteoarthritis over 60 years old at the National Hospital of Sri Lanka<br>*M.H. Basnayake, I. Atukorala, M. Wijedasa, A. Jayawardena* |
| OP 15 | Impact of knee osteoarthritis complications on activities of daily living in older adults attending the National Hospital of Sri Lanka<br>*N.T.K. Arachchige, A.H. Wettasinghe* |
| OP 16 | Non-adherence to Physical Activity and Associated Factors among Patients with type 2 Diabetes in the Diabetes Clinic in District General Hospital, Matara, Sri Lanka<br>*H.M.D.A. Janani, D.G.S.K.L. Jayawardhane* |
| OP 17 | Injury severity and associated risk factors for falls in elderly people admitted to National Hospital, Sri Lanka<br>*L.J.J. Gamage, A.H. Wettasinghe* |
| OP 18 | Attitude of Nursing Officers toward Caring for Older Adults at Teaching Hospital Jaffna<br>*A.M. Hazeem, M.K.I. Mathusnka, L. Kamalarupan, K. Thanujanan* |
| OP 19 | Attributes of positive ageing among community-dwelling older adults in a selected Grama Niladhari division in Galle district, Sri Lanka<br>*K.L.K.T.D. Sandharenu, K. Abhayasinghe* |

| LIST OF POSTER PRESENTATIONS | |
|---|---|
| PP 01 | Comparison of frailty among elderly people living in the community and long-term care homes in Matara District, Sri Lanka<br>*G.G.O.Rashmi, A.H.Wettasinghe* |
| PP 02 | Effects of fall prevention interventions in community-dwelling older adults in low-and middle-income countries; a systematic review and meta-analysis<br>*F.M.D. Chellapillai, T.D. Dissanayaka, I. Weerasekara, A. Tiedemann, K.D. Hill, S. Sivarasa, A.M.M. Rikas, D.L.G.H.M. Samarasekara, Z.M.F.Z. Safinaz, A. Kariyawasam* |
| PP 03 | Prevalence of falls and comparison of health-related physical fitness factors among institutionalized older adults in Kandy district, Sri Lanka<br>*W.I.S.M. Ihalage, V.R.C.S. Wijebandara, W.M.B.D. Wickramasingha, D.G.W.S. Wickramakumari, R.M.R.K. Sampath, M.M.J.P. Manchanayake, E. Liyanage* |
| PP 04 | Effects of Mind-Body Exercises on Falls Prevention, Fear of Falling, and Freezing of Gait in Parkinson's Disease: A Systematic Review and Meta-analysis Protocol<br>*P.A. Bogahawatta, A.H. Wettasinghe W.D.N. Dissanayake* |
| PP 05 | Fear of Falling, Balance, Mobility and Functional Independence in Stroke Survivors in the National Hospital of Sri Lanka: Fallers vs Non-fallers<br>*S.A.T. Harini, D.C. Munasinghe, E.A.P.N. Madushani, S. M. Y. M. Gimhan, K.K. Vithanage and A.H. Wettasinghe* |
| PP 06 | Prevalence of falls and fear of falling in older adults with Chronic Obstructive Pulmonary Disease attending tertiary care in Sri Lanka<br>*C.A. Sooriyaarachchi, and A.H. Wettasinghe* |
| PP 07 | Association between frailty and diet quality in older adults having Diabetes Mellitus – A study protocol<br>*J.F. Zimra, A. Chandrasekara* |
| PP 08 | Effectiveness of Otago exercise programme in reducing fall risk in stroke survivors; A case study<br>*R.A.M.D. Ranatunga, N.W.W.P.G.K.S. Senanayake, D.C. Munasinghe* |
| PP 09 | Aquatic Therapy on Gait and Fall Risk in Older Adults: A Literature Review<br>*J. Vivas-Costa, S. Rivas Neira* |
| PP 10 | The proportion of frailty, falls and their associated factors among older-adults living in elders' homes in Colombo district - A preliminary study<br>*M.F.F. Ruzna, W.G.K.G. Anuruddha, H.S. Galappaththi, H.D.H. Kandamby, V.G.S.S. Epa, S. Manjika, C.S.E. Goonewardena, S. Silva* |
| PP 11 | Mechanisms and Factors Associated with Falls Among Frail Elderly Patients in a tertiary care hospital in Colombo, Sri Lanka<br>*Thilakarathna P., Silva F.H.D.S.* |
| PP 12 | The critical role of nutrition in elderly with non-communicable diseases and risk of sarcopenic obesity: a case study<br>*M.S. Haseena Banu, R.A.M.D. Ranatunga* |

| | |
|---|---|
| PP 13 | Transnational Interdisciplinary courses on healthy aging: The Franciscan Missionaries of Our Lady University and Santa Maria Health School "International Healthy Aging Course"<br>*D. Pereira, D. Simões, C. Simoes, L. Mullins, J. Thompson, K. Nelson, A. Bates, C. Schneider* |
| PP 14 | Nature-based interventions targeting older age health and wellbeing: An evidence map<br>*G. Catissi, G. Gouveia, R.M. Savieto, C.P.R. Silva, R.S. de Almeida, G.B. Borba, K.A. Rosário, E.R. Leão* |
| PP 15 | The Relationship of The Willingness to Forgiveness with The Quality of Life in Older People in Portugal and in Spain.<br>*C.P.R. Silva, J.I.R. Rodríguez* |
| PP 16 | Study protocol of a quasi-experimental controlled trial assessing the effectiveness of culturally- adapted resistance training programme on muscle strength, respiratory function and physical performances in institutionalized older adults in Sri Lanka (IOA)<br>*G.A.D. Perera, H. Waidyasekera, P. Hettiarachchi, A. Balasuriya, S. Shanmugam* |
| PP 17 | A Review of Quality-of-Life Assessment Tools for Older Adults in Sri Lanka<br>*P.N. Kariyawasam, B.I. Wickramarachchi, P.M. Nanayakkara* |
| PP 18 | Impact of Social Support for Enhancing the Wellbeing of Older Adults in Sri Lanka<br>*A. Rathnayake* |
| PP 19 | Association between foot length and static balance in elderly residents of long-term care homes in Matara District, Sri Lanka<br>*C.S Gunarathne, A.D.P. Perera* |
| PP 20 | Relationship between self-efficacy and mobility of residents of selected elderly homes in Kurunegala district, Sri Lanka<br>*M.I.F. Amani, H.H.N. Kalyani, A.H. Wettasinghe* |
| PP 21 | Relationship of Chronic Musculoskeletal Pain in the lower extremities with Physical Activity level and Lower Extremity Function in older adults<br>*K.J.Y.P. Jayasooriya, H.W. Dilanthi* |
| PP 22 | Prevalence and factors associated with musculoskeletal pain among tea pluckers: A study in Galle District, Sri Lanka<br>*J.L. Pandikorala, D.C. Ranasinghe* |
| PP 23 | Associations of Handgrip Strength and Physical Activity Level among Older Adults in Selected Elderly Homes in Kalutara District, Sri Lanka<br>*A.I.M. Waidyarathne, S S.Y. Withanage* |
| PP 24 | Effectiveness of Modified Constrained Induced Movement Therapy on Activities of Daily Living in Post-Stroke Patients: A Randomized Controlled Pilot Study<br>*L.G.O. Pramodhya, G.A.D. Perera, T.P.N.G. Kumara* |
| PP 25 | Sleep quality among institutionalized older adults in Colombo district, Sri Lanka - Preliminary findings from a cross-sectional study<br>*U.G.N. Priyadarshani, I.M.P.S. Ilankoon, S.S.P. Warnakulasuriya, C.S.E. Goonewardena* |

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| PP 26 | Knowledge on dementia and its associated factors among the Sinhala-speaking nursing undergraduates in three selected state universities in Sri Lanka<br>*U.H.M. Nasmil, S.S.P. Warnakulasuriya* |

# ABSTRACTS
# OF
# ORAL PRESENTATIONS

# Relationship between physical activity and health-related quality of life in elderly people with type 2 diabetes mellitus

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**Introduction**: Number of elderly people with type 2 diabetes mellitus (T2DM) is rapidly increasing, significantly impacting their quality of life (QoL). Engaging in regular physical activity (PA) is crucial for managing diabetes, as it improves glycaemic control, reduces the risk of complications, and enhances physical fitness. This study aimed to investigate the relationship between PA and QoL in elderly individuals with T2DM.

**Methods**: A descriptive, cross-sectional study was conducted among 60 T2DM older adults, aged over 65 years, and with T2DM for more than five years. They were selected from diabetes clinics, at National Hospital, Sri Lanka using a non-probability convenient sampling method. Demographics and diabetes-related medical indicators were recorded using an interviewer-administered questionnaire. “International Physical Activity Questionnaire (IPAQ)” and “36-Item Short Form Survey (SF 36)”, were used to assess the PA and QoL respectively. Independent samples T-test was used for analysis.

**Results**: Study sample consisted of 60 participants with T2DM (mean age= 71.8±4.0 years) with 50% (n=30, age=72.0±3.4 years) males and 50% (n=30, age=71.5±4.6) females. Among the study subjects, 15.0% (n=9) were physically inactive, 66.7% (n=40) were minimally active, and 18.3% (n=11) were health enhancing physically active (HEPA). Mean PA score was significantly higher in females compared to males (females=2355.8±1496.8 MET-min; males=1416.9±1106.3 MET-min, p=0.008). Mean QoL score of the sample was 69.6±16.3, with males reporting significantly higher QoL scores compared to females (males=75.7±12.4, females=63.4±17.6, p=0.003). No significant relationship was found between PA and QoL in elderly people with T2DM (p=0.104).

**Conclusion**: The majority of the T2DM participants were minimally active. There was no significant relationship between PA and QoL in older adults with T2DM. Female older adults with T2DM were significantly physically active compared to males. Male older adults with T2DM had significantly higher QoL compared to females.

**Keywords**: Physical activity, Quality of Life, T2DM

# Knowledge, Confidence and Exercise Prescription for Fall prevention in community-dwelling older adults among Sri Lankan physiotherapists

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**Introduction:** Understanding the current practice of Sri Lankan physiotherapists regarding fall prevention is crucial, as this could inform training needs and support improvements in future practice and outcomes. Therefore, the aim of this study was to assess physiotherapists' knowledge, confidence and exercise prescription behaviour for fall prevention in community-dwelling older adults.

**Methods:** Data were collected on knowledge, confidence, and exercise prescription behaviour using a questionnaire developed by the education program's original team. Physiotherapists answered nine questions on fall risk assessment and prevention to assess their knowledge. Confidence was rated on a 0–10 scale for identifying older adults at fall risk, prescribing exercises, and improving balance and strength in older age. They also provided details about exercises they prescribe to prevent falls among older adults.

**Results:** 165 Sri Lankan physiotherapists (mean-age 32.4±6.7, 73.33% female) participated in the survey. The mean knowledge of the physiotherapists on fall prevention for community-dwelling older adults was 65.8±18.8 (Score-range: 11.11 – 100). On a scale from 0–10 the mean confidence in identifying older adults at a risk of falling, prescribing exercises for fall prevention, improving balance and improving strength in older age were respectively 6.4±2.3, 6.6±1.9, 6.6±1.9, 6.4±2. The types of exercises prescribed for falls prevention were balance and coordination training (65%), lower-limb strengthening exercises (52%), walking (51%), core-strengthening exercises (10%), range of motion exercises (5%), stretching (4%), gym-ball exercises (4%), upper-limb strengthening (3%) and aerobic exercises (2%).

**Conclusion:** Sri Lankan physiotherapists have an average level of knowledge and confidence on fall risk assessment and fall prevention. The most commonly prescribed exercises for fall prevention were balance and coordination training, and lower limb strengthening. Results highlight the need for fall prevention training tailored to improve knowledge, confidence and exercise prescription based on novel evidence.

**Keywords:** Fall prevention interventions, community-dwelling, older adults, Sri Lanka, knowledge, confidence

# Prevalence and Impact of Low Back Pain-related Disability and Disease Severity among older adults with Parkinson's Disease in Sri Lanka

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**Background:** Parkinson's Disease (PD) is a progressive neurodegenerative disorder among the elderly. Low Back Pain (LBP) is a major complaint by PD patients and exacerbates their decline in motor symptoms, by affecting their quality of life significantly. LBP has been defined as "pain and discomfort, localized below the costal margin and above the inferior gluteal folds, with or without leg pain". This study aimed to determine prevalence of LBP and impact on LBP-related disability and disease severity among individuals with PD in Sri Lanka.

**Methodology:** A cross-sectional study was conducted using a convenient sampling method with patients with PD, attending the movement disorder clinic at National hospital of Sri Lanka, Colombo. An interview-administered questionnaire including pain location, pain characteristics and Oswestry Disability Index (ODI) was used to identify LBP and disability. Pain intensity measured subjectively using Numerical Pain Rating Scale (NPRS). Descriptive and chi-square analysis were done using SPSS 25.0. The level of significance considered was $p<0.05$. LBP characteristics were considered as independent and disease severity was considered as dependent variables.

**Results:** Among 101 participants (mean age= 67.31±7.42) years, the majority of participants (61.39%, N=62) were in Hoehn Yarr stage of bilateral involvement without impairment of balance. LBP was reported by 67.3%(N=68) of the participants with 38.6% (N=39) experiencing pain for more than 12 weeks. Among individuals reporting LBP, 61.8% (N=42) experienced localized pain. The mean pain score was of 5.78 (SD=2.09) indicating moderate level of pain. The mean of the total ODI score reported was 24.7 (SD=9.07) explains severe disability on a 0-50 score scale. Moreover, 33.82% and 26.47% patients experienced moderate and severe disability, respectively. The LBP correlated with disease severity in a significant manner ($X^2=28.83$, $p=0.004$).

**Conclusion:** The majority of PD patients suffer from LBP. The LBP-related disability exacerbates the disease severity. Therefore, Management of PD should be focused on pain management and therapeutic exercises, promoting the health of low back region.

**Key words:** Low Back Pain, Parkinson Disease, Disability, Oswestry Disability Index

# Impact of cognitive functions on mobility and functional independence in stroke survivors

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**Introduction:** Stroke is a major cause of death and disability worldwide, with survivors often facing long-term cognitive and physical impairments that hinder their mobility and functional independence. Post-stroke cognitive deficits can severely affect the activities of daily living (ADLs), yet there is limited data from Sri Lankan stroke survivors. This study aims to evaluate the relationship between cognitive function, mobility, and functional independence in stroke survivors in Sri Lanka.

**Methods:** A cross-sectional study was conducted at the National Hospital of Sri Lanka from April to August 2024, involving stroke survivors aged 40 years and above, in their post-stroke period, between 3 to 12 months. Cognitive functions were assessed with Montreal Cognitive Assessment (MoCA), while mobility and functional independence in ADL and instrumental activities of daily living (IADL) were assessed with Timed Up and Go (TUG) test, Barthel Index (BI), and Lawton IADL scale, respectively. Spearman's rank correlation test was used to identify the relationship between cognitive functions, mobility, and independence in SPSS version 23 software.

**Results:** Ninety-two stroke survivors (male; n=62, female; n=30), with a mean ±SD age of 61 ±6.9 years participated in the study. MoCA scores (mean ±SD; 17.87 ±4.2) and TUG scores (mean ±SD; 18.15 ±6.6) demonstrated a statistically significant negative correlation ($r = -0.45$, $p < 0.01$), indicating that cognitive impairment was associated with reduced functional mobility. Positive correlations were found between MoCA scores and both BI ($r = 0.52$, $p < 0.01$) and Lawton IADL scores ($r = 0.46$, $p < 0.01$), suggesting better cognitive functions are linked to greater independence in both ADLs and IADLs.

**Conclusion:** These results confirm that cognitive impairment following stroke is significantly associated with reduced mobility and functional independence in ADLs. These findings underscore the importance of improving cognitive functions for better mobility and functional independence.

# Caregiver Burden and Quality of Life among Family Caregivers of the Elderly in Nuwara Eliya, Sri Lanka; A Descriptive Cross-Sectional Study

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**Introduction:** Globally, the increasing number of older adults has resulted in an increased call for family caregivers. Frequently, family caregivers suffer from vast amounts of burden that may significantly jeopardize their quality of life. These factors are essential for the creation of interventions that will promote caregiver well-being and enhance quality care for the elderly. The present study aimed to determine caregiver burden and quality of life among family caregivers of the elderly in the Nuwara Eliya District of Sri Lanka.

**Methodology:** Descriptive cross-sectional study was carried out among caregivers in selected MOH areas Walapane and Hanguranketha of Nuwara Eliya. The current study recruited 166 caregivers using a convenience sampling method. Data were collected through pretested questionnaires, which were administered by interviewers. The questionnaires included both the Sinhala and Tamil versions of the 22-item Zarit Burden Interview and the Adult Carer Quality of Life Questionnaire. The Zarit Burden Interview categorizes scores into the following ranges: 0-21 (indicating no to mild burden), 21-40 (representing mild to moderate burden), 41-60 (denoting moderate to severe burden), and ≥61 (reflecting severe burden). Quality of life scores are interpreted as; 0-40=low quality of life, 41-80 mid-level quality of life and ≥81=high quality of life, with five subscales. Ethical approval was obtained from the Ethics Review Committee of KAATSU International University. Data was analysed using SPSS version 25

**Results:** Most caregivers were female (69.3%), with a mean age of 51.23 ± 0.87 years. Most were married (90.4%) and unemployed (50.6%). About 60.2% had received an Ordinary Level education, and 66.3% reported a monthly family income between 10,000 and 100,000 LKR. Most of the caregivers (54.8%) had been in a caregiving role for one year, and 30.7% were caring for their mother. The number of hours spent caregiving per week averaged 31.42 ± 1.86. A high proportion of caregivers (58.4%) reported a moderate to severe level of burden, while 67.5% reported a mid-level quality of life. No significant association between caregiver burden and overall quality of life was observed ($r = -0.049$, $p > 0.05$).

**Conclusion:** The findings highlight a significant burden among family caregivers in the Nuwara Eliya District. However, the relatively high levels of quality of life reported suggest a level of resilience among caregivers despite the challenges faced.

**Keyword** - Caregiver Burden, Quality of Life, Elderly Care, Sri Lanka

# Comparison of Static Balance, Dynamic Balance and Quality of Life of older adults who practice yoga and do not practice yoga in selected settings in Colombo district.

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**Introduction:** Yoga is an ancient practice, enhances strength, balance, flexibility, and mental health worldwide. This study aims to compare the impact of regular yoga practice on static balance, dynamic balance and quality of life, between yoga practitioners and non-yoga practitioners aged 65 years or older in Sri Lanka.

**Methods:** A cross-sectional study was conducted at Sethsanda Yoga Academy in Maharagama and 330 National Houses scheme in Colombo 8, Sri Lanka from August to September 2024 involving yoga practitioners and non-yoga practitioners aged 65 years and above. Static balance was assessed using the Single Leg Stance Test, while dynamic balance was evaluated with the Timed Up and Go (TUG) Test. Quality of life was assessed using the SF-36 Questionnaire, which covers physical, emotional, and social dimensions. Mann-Whitney U test was used to identify the significant difference between yoga practitioners and non-yoga practitioners in SPSS version 22 software.

**Results:** Fifty yoga practitioners (male; n=11, female; n=39), with a mean ±SD age of 67.5 ± 2.7 years and fifty non-yoga practitioners (male; n=11, female; n=39) with a mean ±SD age of 67.4 ± 3.3 years participated in the study. Results indicated a statistically significant difference between balance and quality of life scores among the groups. A significant difference was observed in static and dynamic balance scores between yoga practitioners and non-yoga practitioners with $p= 0.000$ ($p < 0.05$). In the TUG test, yoga practitioners (mean ±SD: 10.6 ± 2.1) showed faster times than non- yoga practitioners (mean ±SD: 14.3 ± 3.0), indicating better dynamic balance. Quality of life (SF- 36) showed higher scores in yoga practitioners across various domains with $p= 0.000$ ($p< 0.05$).

**Conclusion:** Yoga practitioners showed enhanced balance abilities and higher quality of life scores compared to non-yoga practitioners. These findings suggest that regular yoga practice positively impacts to improve physical and emotional well-being.

**Keywords:** Yoga, Static Balance, Dynamic Balance, Quality of Life, Single Leg Stance Test, Timed Up and Go (TUG) Test.

# Geriatric Physiotherapy: Clinical teaching experience in Physiotherapy Degree at University of A Coruña

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**Introduction:** Third-year students of the BSc in Physiotherapy degree programme receive clinical training within the Clinical Internship I subject, which contains eleven teaching-care units. The accreditation date of the Degree is December 17, 2019. During the Physiotherapy unit for disabilities associated with aging, students apply the physiotherapy care process in the clinical field, bringing the concept of the life cycle closer to healthy aging and promoting well-being. The objective of this report was to analyse the acquisition of knowledge and experience satisfaction by students, as well as share a clinical teaching experience for physiotherapy training in geriatric educational setting.

**Methods:** The methodologies used for the teaching-learning process were by: seminars, case studies, problem-based learning, and clinical practices (comprehensive assessment, group and individual therapeutic exercise programs). The practice experience duration was four weeks, totalling sixty hours of training in 2 centers dedicated to institutionalized older adults. The analysis the knowledge acquisition (competences) and the response to this experience was made through a continuous assessment recorded through a "Rubric for student evaluation" that assessed the acquisition of the competences and learning outcomes related to the subject and distributed into three blocks: Physiotherapy care process and Clinical reasoning, Teamwork and relationship with the environment and Delivery of clinical documentation. Additionally, a qualitative analysis of student's satisfaction and their subjective experiences was made through a semi-structured individual written questionnaire, recorded in the "Clinical Practice Notebook" and an individual meeting with each student at the end of stay.

**Results:** Once the internship period was over, the analysis of the continuous assessment and the student assessment rubric yielded excellent results. A high percentage of students have achieved a grade of notable or outstanding. Through continuous assessment we have observed improvements in clinical reasoning as well as in the section of "teamwork and relationship with the environment" especially in the therapist-patient relationship, practical scope of communication skills and planning of activities. This was related to what was expressed by the students in the clinical practice notebook where they highlight the experience as very positive, identify as strong points their attitude, empathy, motivation, enthusiasm and joy transmitted to the elderly. It was confirmed the scope of competencies not only in the procedural area, but also those related to the promotion of the search for information and the updating of knowledge and skills.

**Conclusion:** This clinical teaching process seems to offer an enriching and positive experience that allows the student to achieve specific competencies for physiotherapists in older adult health care like professional, scholar, organizer and health and welfare advocate roles. Also, this learning experience allows that student gets closer to the reality and needs of older people who live or attend an institution. Moreover, the high level of student`s satisfaction also indicate that the methodologies applied could stimulate motivation and the engagement

of students with patients. Bringing future professionals closer to the environment in which their care practice will be carried out is highly important.

**Keywords:** clinical teaching, physiotherapy, geriatrics, older adult, aging.

# Assessing the impact of lower limb muscle strength and dorsiflexor and plantar flexor muscle activity on balance among institutionalized elderly in Kand y district, Sri Lanka

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**Introduction:** Maintaining balance is critical for reducing fall risk in elderly populations residing in institutions. This study aimed at investigating the role of lower limb muscle strength and the activity of dorsiflexors and plantar flexors on static and dynamic balance in institutionalized older adults in the Kandy district of Sri Lanka.

**Method:** A total of 159 older adults aged 60 years and above were recruited from five elderly care homes using a randomized cluster sampling method. All participants completed the Single-Limb Stance Test (SLST) to assess static balance and the Four-Square Step Test (FSST) to assess dynamic balance of both lower limbs. Electromyographic (EMG) activity of the dorsiflexors and plantar flexors was measured during these tests. The maximum voluntary isometric contraction of the lower limb muscles was tested using the hand-held dynamometer. Pearson's correlation test was employed to determine correlations.

**Results:** Mean age of the sample was 73.3 years. A statistically significant positive correlation was found between the maximum duration of maintaining balance in single limb stance and strength of hip flexors ($r = 0.287$, $p = 0.000$). The strength of hip extensors ($r = 0.357$, $p = 0.000$), hip abductors ($r = 0.201$, $p = 0.011$), hip adductors ($r = 0.160$, $p = 0.044$), knee flexors ($r = 0.222$, $p = 0.005$) and knee extensors ($r = 0.189$, $p = 0.017$) also showed notable linear relationships with the maximum time spent in single limb stance. However, EMG activity of plantar flexor and dorsiflexor has not shown a relationship with the static and dynamic balance.

**Conclusion:** The observed correlation between the strength of hip flexors, hip extensors, abductors, adductors, knee flexors, and knee extensors with single-limb stance time suggests that balance improvement interventions should prioritize these muscle groups. Furthermore, the absence of a significant relationship between dorsiflexor and plantar flexor muscle activity and single-leg balance ability indicates that enhancing activation of these muscle groups may not be essential for balance-focused programs.

**Keywords:** Institutionalized older adults, Muscle activity, Muscle strength, Static balance, Dynamic balance

# The Effect of Music as a Complement to Aerobic Exercise in the Elderly: Analytical Cross-Sectional Study in Portugal

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**Introduction:** The ageing population has been increasing significantly, with Portugal standing out as one of the countries with higher rates of global ageing worldwide. Studies indicate that aerobic exercise plays a crucial role in promoting health and preventing diseases in the elderly, improving cognitive, motor, and cardiovascular functions. The use of music as a complement to aerobic exercise has become an increasing interest, however, evidence is insufficient, especially in the elderly population. The aim of this study is to analyse the effect of music on speed, time, and adherence of aerobic exercise in the elderly (≥65 years).

**Methodology:** This is an analytical cross-sectional observational study. The sample consisted of 52 participants, with an average age of 80, who performed an average distance of 263 meters, in three assessment conditions: without music (NM), with rhythmic music (RM), and with preferred music (PM). The outcomes assessed included speed, time on the cycle ergometer, and adherence to aerobic exercise until a perceived level 6 effort on the Modified Borg Scale. Data analysis was performed using the t-test for two paired samples and the t-test for a single sample, with significance levels of $\alpha = 0.05$.

**Results:** Aerobic exercise with the influence of music was statistically higher in terms of adherence (NM_RM: p<0,001; NM_PM: p<0,001; RM_PM: p= 0,247), speed (NM_RM: p= 0,008; NM_PM: p= 0,333; RM_PM: p= 0,003) and time (NM_RM: p<0,001; NM_PM: p<0,001; RM_PM: p= 0,093). Additionally, greater speed [distance/time (seconds)] during aerobic exercise with rhythmic music was observed (mean±SD), although not statistically significant (NM 0,67±0,29; RM 0,75±0,32; PM 0,70±0,30).

**Conclusion:** The incorporation of music in aerobic exercise in the older persons (≥ 65 years) can be an effective strategy to increase adherence, duration, and intensity. Among the musical styles analysed, rhythmic music showed benefits in exercise performance, particularly in its duration.

**Keywords:** Ageing, Aerobic Exercise, Rhythmic Music, Preferred Music, Physiotherapy.

# Nutritional Health and Comorbidity among Older Adults at Colombo South Teaching Hospital: A Cross-Sectional Analysis

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**Introduction:** Understanding the prevalence of comorbidities and nutritional status in older adults is essential for crafting effective healthcare interventions to enhance their overall well-being. This study aimed to assess the associations of comorbidities and nutritional status among individuals above 60 years who were attending medical clinics of Colombo South Teaching Hospital.

**Methods:** A cross-sectional study was conducted with 150 participants who were aged above 60 years, recruited consecutively over two months from medical clinics. A structured questionnaire was utilized, including assessments of comorbidity using the Charlson Comorbidity Index (CCI), and nutritional status evaluation using both the Short Nutritional Assessment Questionnaire (SNAQ) and Geriatric 8 (G8) questionnaire. Descriptive statistics, as well as associations (significance level of $p<0.05$), were used for analysis using SPSS version 25.

**Results:** The study included 101 younger old adults (60-74 years) and 35 older old (>85 years) adults. The mean CCI score was 4.79 (SD±1.75), while the mean SNAQ and G8 scores were 12.35 (SD±2.65) and 9.66 (SD±2.73), respectively. Most of the participants had their BMI in the normal range (62.24%), with about 20% classified as overweight. Underweight and obese individuals were relatively few. Positive correlations were found between SNAQ and G8 scores (0.55, $p=0.03$). BMI showed positive correlations with both SNAQ (0.65) and G8 scores (0.59, $p<0.05$). In contrast, CCI showed negative correlations with SNAQ (-0.46) and G8 (-0.52) scores ($p<0.05$).

**Conclusion:** Maintaining a healthy BMI was associated with improved nutritional outcomes. The findings highlighted the negative impact of comorbidities on nutritional health, underscoring the need for integrated healthcare approaches that address both comorbidities and nutritional needs to support the well-being of older adults in clinical settings.

**Keywords:** Nutritional assessment, Frailty, Malnutrition, Comorbidity

# Demographic and disease-specific clinical determinants of physical activity level in older adults with type 2 diabetes mellitus attending selected hospitals in Colombo District

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**Introduction**- Physical inactivity is a major cause of morbidity and mortality in patients with type 2 diabetes mellitus (T2DM). Engaging in regular physical activity helps to manage and prevent T2DM. Our study aimed to assess the physical activity (PA) level and to evaluate its association with demographic and disease-specific clinical determinants in older adults with T2DM.

**Methods**- A descriptive cross-sectional study was conducted among 180 participants with T2DM aged 60 years and above. Participants were recruited from diabetes clinics of the National Hospital of Sri Lanka and Colombo East Base Hospital using non-probability method until the sample size is achieved. Demographic and clinical data were assessed using an interviewer-administered questionnaire. PA was assessed by the International Physical Activity Questionnaire- Short Form (IPAQ-SF). Chi-square, Spearman correlation and Mann-Whitney U tests were used for data analysis in SPSS version 20.0.

**Results**- Mean age of the study sample was 66.1(±5.35) years (range=60-84) with 38.3%(n=69) of males and 61.7%(n=111) of females. The median weekly total energy expenditure was 1355.5 MET-minutes/week. The majority of the participants were moderately physically active (n=124, 68.9%), followed by 20.0%(n=36) with physically inactive and 11.1%(n=20) with highly physically active. PA score was not significantly different between males (median=1236.0 MET-minutes/week) and females (median=1359.0 MET-minutes/week, p=0.702). There was a significant difference in employment status (p=0.008) among the three PA groups. There were no significant differences among the three PA groups in fasting blood glucose level (p=0.895), gender (p=0.503), ethnicity (p=0.450), marital status (p=0.898), treatment modality of T2DM (p=0.071), polypharmacy (p=0.781) and multimorbidity (p=0.842). There was a significant negative correlation between age and PA (p<0.001), duration of diabetes and PA (p=0.025).

**Conclusion**- Our study found that PA decreased with increasing age and duration of diabetes. In addition, the unemployed were more inactive compared to the employed. Therefore, healthcare providers need to motivate older adults with T2DM to engage in physical activities as they get older.

**Keyword**- Physical activity, Type 2 diabetes mellitus, Metabolic equivalent of task, IPAQ-SF

# Associations of glycemic control and nutritional status with frailty in elderly patients with diabetes mellitus attending to an outpatient diabetic clinic, Colombo

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**Introduction:** Diabetes Mellitus (DM) is a chronic metabolic disorder with a growing prevalence worldwide, particularly among elderly population. Nutritional status and frailty are critical considerations in care of elderly with DM. Frailty is a pre-disability state characterized by reduced physiological reserves and increased vulnerability. This study aimed to determine the associations of glycemic control and nutritional status with frailty among elderly with diabetes mellitus.

**Methods:** A cross-sectional study was conducted among 170 elderlies with diabetes mellitus at outpatient clinic, Colombo. Pretested structured questionnaire was used to collect the information on sociodemographic characteristics and treatment information on diabetes. Frailty was assessed using Fried's frailty criteria (FFS); unintentional weight loss, exhaustion, low levels of activity, weakness and slowness. Nutritional status was evaluated by using Mini Nutritional Assessment (MNA). Details of most recent glycosylated haemoglobin (HbA1c) levels were collected from health records. Data were analysed by descriptive statistics, Chi square test and one-way ANOVA test in SPSS v.23.

**Results:** Out of 170 outpatients (mean age 67.2±3.5 years), 46 subjects (27.05%) were within robust category, 56 (32.9%) were considered frail and 68 (40%) were pre-frail. Among frail and pre-frail patients, 37.5% and 25.1% were at risk of malnutrition and 14.0% and 1.2% were malnourished, respectively. 51% of the subjects were found to have their glycaemic status under control. All the MNA items that indicate malnutrition and total scores were significantly higher in frailty and pre-frailty groups than in the robust group ($p<0.05$). Age ($p=0.01$), gender($p=0.001$), marital status($p=0.02$), poor glycaemic control($p=0.001$) and nutritional status($p=0.003$) were found to be significantly associated with frailty.

**Conclusion:** The poorer glycaemic control is a crucial factor associated with frailty. Malnourished elderlies are more at risk of developing frailty. Screening for early detection of frailty and importance of providing dietary counselling to ensure adequate intake, should be considered in geriatric care.

**Keywords:** diabetes mellitus, frailty, glycaemic control, nutritional status, elderly

# Prevalence and factors associated with frailty among hip fracture patients admitted to National Hospital, Galle, Sri Lanka

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**Introduction:** Frailty is a common geriatric syndrome associated with the decline in health, bodily functions and a leading cause of falls and fractures among older adults. This study assessed the prevalence and factors associated with pre-fracture frailty among hip fracture (HF) patients admitted to National Hospital, Galle, Sri Lanka.

**Methods**: A total of 209 consecutive patients with incident HF, aged 40 years or more were enrolled in this cross-sectional study. Pre-fracture frailty and sarcopenia were assessed soon after admission using the locally validated Frail Non-Disabled (FiND) questionnaire and SARC-F tool. Information related to health and physical function immediately before the fracture were also gathered. Chi square test and independent t- test were used to identify the association between the factors.

**Results**: Among 209 subjects admitted between May 2023 and May 2024, 119 (72%) were females while 138 (71.8%) were married. The mean age (±SD) of HF patients was 73.8 (±11.3) years and 107 (51.2%) were disabled before fracture. Of those non-disabled (n=102), 99 (97%) have been frail at the time of fracture. Among the patients with pre-fracture frailty, 52 (29.7%) were sarcopenic whereas 52 (85.2%) of those with pre-fracture sarcopenia (n=61) were frail. Female gender (p=0.006), living alone (p=0.003), low BMI (p<0.001), poor nutritional status (p=0.004), Mini-mental score (p=0.02), pre-fracture mobility status (p=0.024), and activities of daily living (p=0.03) showed statistically significant associations with pre-fracture frailty whereas age and American Society of Anaesthesiologist (ASA) scoring did not show statistically significant associations (p>0.05).

**Conclusion:** A considerable proportion of patients admitted with hip fracture would have been either physically disabled or frail at the time of fracture. This information could be used in recognizing those with a higher fracture risk and these modifiable risk factors should be included in rehabilitation programs of older adults in the community.

**Keywords**: Associated factors, Frailty, Hip fracture, Prevalence

# The prevalence of falls risk and falls-associated risk factors on patients with knee osteoarthritis over 60 years old at the National Hospital of Sri Lanka

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**Introduction:** Falls increase morbidity and mortality in older adults. Knee osteoarthritis (KOA) also further increases the risk of falls in adults. Therefore, identifying these risk factors will help in the prevention of falls in this high-risk population.

**Methods:** The descriptive cross-sectional study was carried out at the Rheumatology physiotherapy clinics at the National Hospital of Sri Lanka from 23rd October 2023 to 10th November 2023. The 152 patients were recruited according to the simple random sampling technique. An interviewer-administered questionnaire was used to examine demographic data, falls history within the previous 12 months, footwear types, and duration of using footwear/being barefoot. The Time-up and go test (TUG), Tandem stance test, Berg balance scale (BBS), Hand-held dynamometer, and International Physical Activity Questionnaire-Short Form were used to assess falls risk, static balance, dynamic balance, quadriceps muscle strength (QMS), and physical activity level (PA), respectively. The descriptive statistics, the spearman correlation test, and the chi-square test were used to analyze the data.

**Results:** Among 152 patients (mean age = 67.17 ±5.69 years), 96.1% were female. The majority of patients (84.9%) had bilateral KOA. 17.8% of patients experienced falls during the previous 12 months. The majority of patients (65.1%) had a high risk of falling (TUG test score > 13.5s). 59.4% of patients had high levels of PA. Most of the patients (34.21%) were in the obese 1 category. Most of the patients had poor static (59.9%, the tandem stance position <10s) and poor dynamic balance (65.1%, BBS score <45/56). There was a significant relationship between falls risk and PA level, static balance, dynamic balance. There was no significant relationship between falls risk and body mass index, footwear types. There was a negative correlation with a significant association between falls risk and QMS, the time duration of wearing footwear. There was a positive correlation between falls risk and time duration of being barefoot.

**Conclusion:** QMS, PA level, time duration of wearing footwear/being barefoot, static and dynamic balance were associated with falls risk among older adults with KOA. Therefore, strategies to improve muscle strength /flexibility and balance are advocated for older adults with KOA to reduce their falls risk and falls.

**Key words:** knee osteoarthritis, balance, falls risk, quadriceps muscle strength, physical activity level.

# Impact of knee osteoarthritis complications on activities of daily living in older adults attending the National Hospital of Sri Lanka

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**Introduction:** Knee osteoarthritis (KOA) is a degenerative joint condition characterized by pain, stiffness, swelling, and reduced mobility, which affects activities of daily living (ADL). This study evaluates the impact of KOA complications such as diminished physical performance, kinesiophobia, pain, and altered proprioception on ADL in older adults.

**Methods:** A cross-sectional study was conducted at the National Hospital of Sri Lanka from August to September 2024, involving older adults aged 65 years and above with grade 3 KOA. ADLs were assessed using the Barthel Index (BI), while physical performance was tested with the Timed Up and Go (TUG) test. Proprioception and kinesiophobia were evaluated through the lower limb position sense test of physiological profile assessment using an acrylic sheet, and Tampa Scale for Kinesiophobia respectively. Pain was assessed using the visual analog scale (VAS). Spearman's rank correlation test was used to identify the relationship between KOA complications and ADL in SPSS version 22 software.

**Results:** This study included 246 older adults with KOA, comprising 226 females (91.87%) and 20 males (8.13%). The participants had a mean age of 69.3 ± 3.8 years. A statistically significant negative correlation ($r = -0.42$ $p < 0.01$) between TUG scores (mean ± SD: 14.63 ± 3.3) and BI scores (mean ± SD: 85.89 ± 6.4). Additionally, BI scores were negatively correlated with the Tampa Scale for Kinesiophobia ($r = -0.35$, $p < 0.01$) and the pain scale scores ($r = -0.34$, $p < 0.01$). Furthermore, a statistically significant negative correlation was observed between proprioception and BI scores ($r = -0.22$, $p < 0.01$).

**Conclusion:** Results confirm that diminished physical performance, kinesiophobia, pain, and altered proprioception in older adults with KOA are significantly associated with reduced functional independence in activities of daily living (ADLs), highlighting lower physical performance is linked with reduced independence. Identifying these complications in KOA can help mitigate their impact and improve functional independence.

**Keywords:** Knee Osteoarthritis, Activities of daily living, Physical performance, Kinesiophobia, Pain, Proprioception.

# Non-adherence to Physical Activity and Associated Factors among Patients with type 2 Diabetes in the Diabetes Clinic in District General Hospital, Matara, Sri Lanka

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**Introduction:** Type 2 diabetes is a growing public health concern especially among middle aged and older individuals. However, individuals with type 2 diabetes continue to face a significant challenge in following advised physical activity regimes. This study was aimed at assessing the non- adherence to physical activity and associated factors for non-adherence among type 2 diabetes patients.

**Methods:** A cross- sectional study was conducted with 206 individuals aged between 45 and 65 diagnosed with type 2 diabetes attended at the diabetes clinic in District General Hospital, Matara, Sri Lanka. Physical activity adherence was assessed using Global Physical Activity Questionnaire (GPAQ). Pre-tested semi-structured questionnaire was used to assess the associated factors for non- adherence to physical activity.

**Results:** The average age of participants was 54.71 years (SD ± 6.28). Most of the participants were female (74.3%). Out of 206 patients, 51.9% were non-adherence to physical activity. Age ($p< 0.001$), marital status ($p= 0.003$), nationality ($p= 0.006$), occupation ($p= 0.006$), monthly income ($p= 0.014$), BMI ($p= 0.034$), comorbidities ($p< 0.001$), types of medication for diabetes ($p< 0.001$), amount of missed treatment appointments ($p= 0.002$), availability of written exercise instructions ($p= 0.039$) and accessible opportunity for physical activities ($p= 0.042$) were significantly associated with non-adherence to physical activity. However, gender ($p= 0.881$), smoking ($p= 0.567$), alcohol usage ($p= 0.242$) and period of time living with diabetes ($p= 0.323$) did not show significant associations with physical activity adherence.

**Conclusion:** Most patients with diabetes did not adhere to physical activity. These findings highlight the need for targeted interventions considering socio- demographic, economic, and logistical factors to improve adherence to physical activity among diabetic patients.

**Keywords:** Type 2 Diabetes, Non- adherence, Physical activity

# Injury severity and associated risk factors for falls in elderly people admitted to National Hospital, Sri Lanka

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**Introduction:** Falls are a significant global health concern, ranking as the second most common cause of unintentional injury deaths among elders those aged 60 years and above. Falls contribute to three percent of all traumatic injury deaths in Sri Lanka. The elders are particularly vulnerable to falls due to the higher prevalence of co-morbidities, age-related physiological changes and delayed functional recovery. This study aimed to evaluate injury severity, associated risk factors for falls injuries and to assess the fear of falling (FOF) in elderly people admitted to the National Hospital of Sri Lanka due to fall injuries.

**Methods:** One hundred and thirty-two inward patients admitted due to fall injuries, aged 60 years and above were recruited for the study. Demographic and fall-related data were collected using an interviewer-administered questionnaire. Injury severity was assessed using the Abbreviated Injury Scale and Injury Severity Score. FOF was assessed with the Iconographical Falls Efficacy Scale. Descriptive statics, Mann Whitney U test and Chi square test were used for data analysis in SPSS version 20.

**Results:** The majority of participants (48.5%) had severe non-life-threatening injuries, with fractures being the most common injury type (79.5%), followed by moderate injuries (43.2%). Fall-related fractures were significantly associated with acute medical conditions, diabetes mellitus, hypertension, number of medical conditions, number of drugs taken per day, foot deformities and sideway falls ($p<0.05$). Female gender, diabetes mellitus, type of footwear, number of medical conditions, number of drugs taken per day and backward falls were significantly associated with superficial injuries ($p<0.05$). Females exhibited a significantly higher level of FOF compared to males ($p=0.001$).

**Conclusion:** Most elderly individuals experience fractures due to falls. To reduce fall-related injuries, it's essential to review medications, educate on managing conditions like diabetes and hypertension, teach techniques to minimize body contact during falls and provide comprehensive fall prevention instruction. Future studies should focus on targeted interventions for elderly populations, especially those with comorbidities linked to fall related injuries. This research indicates that females have a higher FOF, suggesting a need for gender-specific investigations to examine how psychological and behavioural factors influencing FOF among elderly women. Examining polypharmacy's impact on balance and injury severity is crucial. Biomechanical research is needed to understand how different types of falls lead to specific injuries and to improve body mechanics to reduce injury severity. Overall, these findings could lead to more effective, evidence-based interventions to reduce falls and injuries, ultimately enhancing health outcomes and quality of life for the elderly.

**Keywords:** Falls, elderly, injury severity, risk factors for falls injuries, fear of falling.

# Attitude of Nursing Officers toward Caring for Older Adults at Teaching Hospital Jaffna.

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**Introduction:** Population ageing is a critical impact worldwide, hence, it's crucial to give more focus on caring for them. Nursing officers are one of the key players among the multidisciplinary team who work with older adult patients. Nursing officers with a positive attitude towards elderly may tend to give compassionate care. This study aims to assess the attitude of nurses toward caring for older adults at Teaching Hospital Jaffna.

**Methods:** This was a hospital-based descriptive, cross-sectional study, conducted among 216 nursing officers, working at Teaching Hospital Jaffna from May 2023 to August 2024. Ethical clearance was obtained from Ethics Review Committee of Faculty of Medicine, University of Jaffna. A pre-designed and validated thirty five item self-administered questionnaire was used to collect the data. Univariate analysis was used to assess the attitude of nurses.

**Results:** The respondent rate was 93.1%. Age range was 25 to 57 years old. Majority of them were female (70.4%). Nearly half were Sri Lankan Tamil (52.8%) and Hindus (46.7%). Majority were diploma holders (63.9%). Majority had a positive attitude (90.3%) and negative attitude (9.7%), by using 50% as the pre-determined cut off value. Poor attitude on few areas were also recorded; priority of care to be given to younger than older adults (50%), not necessity to give individualized care (18.5%), not important to maintain privacy (19.9%), quality of care not needed for the elders on end of life (19.4%) or in disorientation state (19%) and feeling of irritable while caring cognitive impaired older adults (24.1%)

**Conclusions:** Majority of the nursing officers had a positive attitude on care of older adults. However, few of them had poor attitudes in a few areas. Conducting a special in-service education program on geriatrics to improve the attitudes of nursing officers is recommended to provide better understanding on ageing.

**Key words:** Caring for older adults, Nurses, Attitude, Teaching Hospital Jaffna.

# Attributes of positive ageing among community-dwelling older adults in a selected Grama Niladhari division in Galle district, Sri Lanka

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**Introduction:** Population ageing is a critical issue worldwide. Sri Lanka, the fastest ageing country in South Asia, faces challenges in meeting the healthcare, social, and emotional needs of older adults to enhance their quality of life. Positive ageing, the process of optimizing opportunities for health, participation, and security has been recognized as a model for enhancing quality of life as people age. Therefore, a qualitative study was conducted to explore the attributes that influence positive ageing through the lived experiences among a group of community-dwelling older adults living in Imaduwa, Galle district.

**Methods:** A descriptive qualitative approach was used. Twelve in-depth, semi-structured interviews were conducted with a purposive sample of older adults (both men and women) aged 60 years and above resided in the selected setting. The researcher chose this GN division as the rural areas have unique socio-economic and environmental factors that can provide valuable insights into the challenges faced by these populations. Thematic analysis was used to analyse data. Ethical approval was obtained from the ERC- KIU.

**Results:** Findings emerged under three themes: health and wellness, meaningful connections, and active social engagement. Findings show maintaining physical and mental well-being is key to positive ageing, with participants actively adopting self-care practices, such as managing age-related illnesses, regular exercises, healthy eating, and spiritual and leisure activities that provide relaxation, inner peace, and happiness. According to participants, maintaining connections with family, friends, and their communities enhanced the feelings of belongingness and togetherness that bring purpose and fulfilment of life. Older adults appeared to achieve a deep sense of connection, dignity, independence and social security when engaging in community activities such as shared routines, volunteering, mutual support, taking part in welfare or elderly societies and social gatherings. Older adults needed support and encouragement to adjust their current lifestyles and perceptions of ageing.

**Conclusion:** Findings highlight the need for a holistic approach to address positive ageing that may be achieved through making connections among individual, family and community level care. Community-based interventions must be designed to empower older adults to transform lifestyles that promote positive ageing.

**Keywords:** Positive ageing, lived experiences, older adults

# ABSTRACTS
# OF
# POSTER PRESENTATIONS

# Comparison of frailty among elderly people living in the community and long-term care homes in Matara District, Sri Lanka

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**Introduction -** Frailty is a common condition, with both physical and psychosocial aspects among the elderly, characterized by decreased physiological reserves and increased vulnerability to adverse health outcomes including, increased risk of falls, hospitalization and mortality. This study aimed to compare the prevalence and severity of frailty between elderly individuals residing in community settings and those living in long-term care homes. This comparison is crucial for developing targeted interventions to improve the quality of life and health outcomes for elderly individuals, regardless of their living situation.

**Methodology**- This cross-sectional study enlisted 130 elderly participants aged 65 years and above, including 55 community-dwelling individuals and 75 residents of long-term care facilities. Demographic data and fall history were collected using interviewer-administered questionnaires. The Clinical Frailty Scale (CFS) was deployed to evaluate the frailty. Statistical analyses were performed using independent samples t-tests and SPSS version 20.

**Results** - The study population comprised 47 males (36.2%) and 83 females (63.8%), with the majority (n=128, 93.8%) identifying as Sinhalese. The mean age of all participants was 71.77 ± 6.66 years. Among community-dwelling participants (mean age 70.44 ± 6.77 years), 89.1% (n=49) were classified as non-frail and 10.9% (n=6) as frail, with a mean CFS score of 2.76 ± 1.48. Conversely, among residents of long-term care facilities, 53% (n=40) were not-frail and 47% (n=35) were frail, with a significantly higher mean CFS score of 4.65 ± 2.18. A statistically significant difference in frailty levels was observed between community-dwelling elderly and those residing in long-term care facilities ($p < 0.001$).

**Conclusion –** This study demonstrated a significantly higher prevalence of frailty among elderly people residing in long-term care facilities than their community-dwelling counterparts. This finding underscores the critical need for targeted interventions to mitigate frailty in this vulnerable population.

**Keywords** – elderly, falls, frailty, community, long-term care homes

# Effects of fall prevention interventions in community-dwelling older adults in low-and middle-income countries; a systematic review and meta-analysis

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**Introduction:** Falls are a major health issue among older adults, which negatively affects their quality of life and independence. Different types of fall prevention interventions are practiced worldwide to minimize falls and fall-related consequences among older adults. The objective of this systematic review is to identify and assess the effect of fall prevention interventions on community-dwelling adults aged above 60 years living in low- and middle-income countries (LMICs).

**Methods:** Databases including Medline, Embase, the Cochrane library, Scopus and CINAHL were searched to identify quantitative and qualitative studies published from inception until January, 2024. Studies were included if they involved an intervention aimed at preventing falls or fall-related consequences in community-dwelling older adults living in LMICs. Screening of titles, abstracts, full texts, and assessment of study quality were performed by two independent reviewers, with conflicts resolved by a third reviewer. Data extraction was done by two independent reviewers and studies which had adequate data were included for meta-analysis.

**Results:** A total of 1282 studies were retrieved from the search, and among them, 21 studies from 13 LMICs were included in this review. Three studies (n=399) from Philippines, Thailand and Turkey were eligible for meta-analysis. Based on the findings of the meta-analysis, exercise had no effect on fall risk factors, including mobility (p=0.29, mean difference=-0.80[-2.29,0.69]) and fear of falling (p=0.43, mean difference=0.57[-0.84,1.97]). However, the narrative synthesis depicts that interventions such as exercises, Tai Chi, and education programs may have an impact on falls and fall risk factors.

**Conclusion:** Exercise and education programs are commonly practiced fall prevention interventions in LMICs. However, the evidence supporting the effectiveness of these interventions in minimizing falls or fall risk factors is uncertain based on the included studies.

**Keywords:** Fall prevention interventions, community dwelling, older adults, low- and middle-income countries

# Prevalence of falls and comparison of health-related physical fitness factors among institutionalized older adults in Kandy district, Sri Lanka

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**Introduction:** Falls have become a significant health problem among older adults which should be effectively addressed due to population ageing. Deterioration of health-related physical fitness with ageing is a fact. Therefore, this study aimed to assess the prevalence of falls and to compare health-related physical fitness among institutionalized older adults in Kandy district.

**Methods:** A sample of 172 institutionalized older adults in Kandy district aged 60 years or above were included in this descriptive cross-sectional study by using cluster random sampling. Prevalence of falls was determined by the fall history of the past 12 months. Health-related physical fitness was assessed using bioelectrical impedance analysis, back scratch test, chair sit and reach test, hand grip strength, 30-second sit to stand test, 2-minute walk test and Body Mass Index (BMI) measure. These physical fitness factors were compared among non-fallers, fallers and frequent fallers using a one-way ANOVA test. Finally, Scheffe test was conducted for the pairwise comparison. An individual who had at least one fall in the past year is classified as a faller, while someone who experienced two or more falls in that time is classified as a frequent faller.

**Results:** 47.1% of the study sample had experienced falls during the past 12 months. Among them 28.5% were fallers while 18.6% were frequent fallers. A significant difference was observed in BMI ($p=0.044$), lower body flexibility ($p=0.009$) and cardiovascular endurance ($p=0.009$) between the faller categories. The difference in upper body flexibility, body fat percentage, lower body muscle strength and hand grip strength was not statistically significant. Cardiovascular endurance was significantly lower among frequent fallers compared to non-fallers and fallers ($p=0.017$). A significant difference in lower body flexibility was observed among frequent fallers and non-fallers ($p=0.010$).

**Conclusion:** The findings of the study suggest that BMI, lower body flexibility and cardiovascular endurance should be specifically addressed using appropriate interventions to reduce the prevalence of falls among institutionalized older adults.

**Keywords:** Institutionalized older adults, Falls, Health-related physical fitness, Falls history

**Acknowledgement:** We would like to extend our heartfelt gratitude to all the participants.

# Effects of Mind-Body Exercises on Falls Prevention, Fear of Falling, and Freezing of Gait in Parkinson's Disease: A Systematic Review and Meta-analysis Protocol

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**Introduction:** Parkinson's disease (PD) affects 1–2% of individuals over 65 years, with prevalence expected to double by 2050. One of the most challenging symptoms is freezing of gait (FOG), which impairs mobility, and increases falls and fear of falling (FOF). While previous meta-analyses have focused on the effects of mind-body on motor and non-motor symptoms, evidence for their role in fall prevention, FOF, and FOG remains limited. This meta-analysis aims to quantify the effects of mind-body exercises on falls prevention, FOF, and FOG in people with PD.

**Methods:** A systematic search will be conducted in the PubMed, PEDro, and Cochrane Library databases for randomized controlled trials on any mind-body exercises for falls prevention compared to usual care in adults with PD from inception to May 18, 2024. The primary outcomes are fall incidence, FOF, and FOG. Secondary outcomes include balance, mobility, muscle strength, motor symptoms, cognitive function, and quality of life. Studies not published in English and those without full-text papers will be excluded. Two independent reviewers will screen studies and extract data using predefined templates. Conflicts will be resolved through team discussion. The risk of bias will be assessed using the Cochrane risk-of-bias tool 2. Data synthesis and analysis will be performed using RevMan Web Version. Data will be synthesized using either a fixed-effects or a random-effects model according to a heterogeneity test or the number of studies included in the meta-analysis. The review will adhere to the Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) guidelines. This protocol was registered in PROSPERO (CRD42024535734).

**Discussion:** This review will provide specific evidence on the effectiveness of mind-body exercises in falls prevention in PD. These findings will provide insight for future research and guide clinicians and policymakers in designing and implementing such interventions for individuals with PD.

**Declaration of interest:** The authors have no conflicts of interest to declare

**Keywords:** mind-body exercises; falls prevention; fear of falling; freezing of gait; Parkinson’s disease

# Fear of Falling, Balance, Mobility and Functional Independence in Stroke Survivors in the National Hospital of Sri Lanka: Fallers vs Non-fallers

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**Introduction:** Falls following a stroke remain a debilitating event that negatively affects the mobility and functional independence of affected individuals. This study aims to assess and compare the fear of falling (FoF), balance, mobility and functional independence between fallers and non-fallers among stroke survivors in the National Hospital of Sri Lanka.

**Methods:** This cross-sectional descriptive study was conducted at the Neurology Clinic of the National Hospital of Sri Lanka from April to August 2024. We have included consented participants, with first-time stroke, who were in their post-stroke period of 3 to 12 months. Individuals with communication and comprehension difficulties and those who cannot walk independently were excluded. Data was collected using a non-probability sampling method. An interviewer-administered questionnaire assessed the socio-demographic details and fall frequency over the preceding 3 months. FoF, static standing balance, mobility, functional independence in activities of daily living (ADL) and in instrumental activities of daily living (IADL) were measured using the falls efficacy scale, four-stage balance test, (TUG) test, Barthel index (BI) and Lawton IADL scale, respectively. Data was analysed with the Mann-Whitney U test in SPSS version 23 software.

**Results:** Fifty-eight participants (male; n=39, female; n=19) aged above 60 years were recruited for this study. Thirty-two participants (55.2%) experienced falls following stroke, while 23 participants (39.7%) experienced multiple falls in the previous three-month period. Compared to the non-fallers, fallers had a statistically significant relationship with increased FoF ($p=0.037$) and decreased functional independence in ADL with low BI scores ($p=0.023$). However, there were no statistically significant differences ($p>0.05$) in functional independence in IADL, static standing balance and mobility between the two groups.

**Conclusions:** Functional independence in ADL and FoF remain highly significant factors for falls, suggesting the need for tailored interventions to address these modifiable risk factors and prevent falls in elderly stroke survivors.

**Keywords:** Stroke, balance, falls, functional independence

# Prevalence of falls and fear of falling in older adults with Chronic Obstructive Pulmonary Disease attending tertiary care in Sri Lanka

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**Introduction:** Chronic Obstructive Pulmonary Disease (COPD) is the third most common cause of death globally. Older adults with COPD have a greater risk of falling and fear of falling (FoF) than their healthy peers**,** yet there is limited data from Sri Lankan COPD patients. This study aimed to determine the prevalence of falls and to identify the associated factors for FoF in patients with COPD, attending selected tertiary care hospitals, Sri Lanka.

**Methods:** A cross-sectional study was conducted at the Central Chest Clinic, Colombo, and the National Hospital for Respiratory Diseases, Welisara from August to September 2024, involving COPD patients aged 60 years and above. FoF was assessed with the Falls Efficacy Scale-International (FES-I), and falls were retrospectively evaluated during the past 12 months. Descriptive statistics were used to analyse the prevalence of falls. Independent sample t-test and Pearson's correlation test were used to identify the relationship between FoF and gender, age, and duration of COPD. Statistical Package for Social Science (SPSS) version 22 software was used for statistical analysis.

**Results:** The study recruited two hundred and twenty-nine (n=229) COPD patients (male; n=177, female; n=52), with a mean age of 70 ±6.8 years and 51.5 ±35.0 months of mean COPD duration. Prevalence of falls was 24.9%. Females had a higher mean FES-I score (34.02±9.3) than males (32.97±8.9), despite not having a statistically significant relationship (p=0.465) between gender and FoF. There was a statistically significant positive correlation between FES-I score and age (r=0.402, p<0.05). However, no statistically significant correlation was found between the FES-I score and the duration of COPD (r= -0.048, p>0.05).

**Conclusion:** The prevalence of falls among patients with Chronic Obstructive Pulmonary Disease (COPD) was notably higher in this cohort compared to healthy older adults. Furthermore, FoF demonstrated a significant increase with advancing age, underscoring the critical need for targeted interventions to prevent falls and mitigate FoF in older adults with COPD. However, the severity or progression of COPD alone may not directly influence FoF.

**Keywords:** Chronic Obstructive Pulmonary Disease, fear of falling, older adults, prevalence of falls

# Association between frailty and diet quality in older adults having Diabetes Mellitus – A study protocol

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**Introduction:** Diabetes mellitus (DM) and frailty are considered modern and often twin. Frailty can negatively affect diabetic patients. Diet is a modifiable risk factor of DM. This study aims to identify the association between diet quality and frailty level of older adults having diabetes compared to non-DM older adults.

**Methods:** This descriptive cross-sectional study will be conducted among 250 subjects recruited conveniently; 130 with DM and 120 without DM. Subjects will be recruited from private hospitals and geriatric clinics at government hospitals in Colombo district after obtaining informed written consent. Ethical clearance was obtained from Wayamba University of Sri Lanka (Certification registration number – 202411H25). Adults aged ≥ 60 years, having body mass index (BMI) between 18.5 $kgm^{-2}$ – 30 $kgm^{-2}$ and who could perform their daily activities independently will be selected. Those with bone diseases, dementia or Alzheimer's disease, Parkinson's disease or other neurological diseases, on antidepressants, being bed or chair bound and critically ill will be excluded. A general questionnaire will be used to identify socio demographic characteristics, health status and lifestyle practices. Diet quality will be assessed using a 24-hour recall and a semi quantitative food frequency questionnaire (FFQ). Fried phenotype of frailty assessment (FPFA) will be used to assess frailty level; to study weight loss, exhaustion, physical activity, slowness and weakness. Food group score (FGS) and food serving score (FSS) will be generated from FFQ while 24 hour recalls will be analysed using FoodBase2000. Chi square test, binary logistic regression and independent sample t test will be performed using SPSS Version 23. Randomized stratification will be done to address potential confounding factors.

**Conclusion:** Identifying diet quality and frailty level of older adults having DM will be a milestone in implementing targeted dietary and physical activity modifications to improve glycaemic control, functionality and life quality.

Key words: Diabetes mellitus, diet quality, frailty, older adults

# Effectiveness of Otago exercise programme in reducing fall risk in stroke survivors; A case study

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**Introduction:** Stroke is one of the leading causes of long-term disability worldwide. Depending on the affected region of the brain, a stroke can cause a wide range of functional deficits, with motor impairments being among the most prominent. Evaluating balance and gait abnormalities is crucial as post-stroke survivors often experience significant impairments in balance and gait, leading to a high risk of falls and compromised independence. The Otago exercise programme (OEP) focuses on 3 key components; muscle strengthening, balance training and walking. Therefore, this study aimed to investigate the effectiveness of the OEP on reducing the fall risk in stroke survivors.

**Case:** A 68-year-old male patient with right sided ischemic stroke presented to the clinic with difficulties in standing with eyes closed and narrow base of support, tandem stance with eyes open and closed, single leg stance, turning around and walking on heels and toes. The patient underwent 8 weeks of rehabilitation, attending 45-minute physiotherapy sessions for 3 days per week. The OEP included 5 strengthening exercises, 12 balance exercises and a walking programme. The outcome measures were taken on first day, last day of $4^{th}$ and $8^{th}$ week. The outcome measures were evaluated using 30 Second Chair Stand Test (CST), Four-Stage Balance Test (FSBT), Timed Up and Go test (TUG) and Dynamic Gait Index (DGI). Post-intervention, 30 Second CST, TUG test, and DGI scores were improved by 7 points (from 15s to 8s), 7 points (from 17s to 10s) and 6 points (from 13/24 to 19/24), respectively. Patient could perform standing with eyes closed and a narrow base of support, turning around and standing on one foot, and walk on toes, and heels after 8 weeks.

**Conclusion:** This case study concludes that Otago exercises programme can be beneficial and safe for stroke survivors in reducing fall risk and improving balance and gait.

**Keywords:** Fall prevention, balance, Otago exercises, stroke, weakness

# Aquatic Therapy on Gait and Fall Risk in Older Adults: A Literature Review

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**Introduction:** Falls are the second leading cause of death from unintentional injuries worldwide. Older adults, experience the highest rates of fatal falls, and each year, 37,3 million falls are severe enough to require medical attention. Preventive strategies should focus on education, training, creating safer environments, conducting targeted research, and implementing effective policies to mitigate fall risks. This study aims to investigate the evidence regarding the utilization of aquatic therapy for gait training and fall risk of older adults. Secondarily to explore the evidence supporting the use of aquatic therapy supporting clinical practice.

**Methods:** A search was first conducted in international databases (Cochrane Library Plus, Cinahl, PubMed, and Scopus). The main search strategy was: ((older adults) AND (falls)) AND (aquatic therapy) OR (water-based). The eligibility criteria were: case reports, meta-analyses, clinical trials, randomized controlled trials, systematic reviews, on healthy older adults aged 65+, published in English from 2008 to 2023 and available in a full-text format. A backward citation search was also performed. Studies that did not use aquatic interventions or procedures related to gait were excluded. The variables of interest were participant profiles, program characteristics, treatment dosages, and outcomes related to gait and fall risk.

**Results:** Fifty-seven studies were identified across all databases. After the initial screening and elimination of duplicates, 14 articles were deemed potentially suitable for inclusion. Following a full-text review, 8 articles were selected, and after the backward citation search, a total of 13 studies were included. The findings reveal that aquatic programs enhance mobility, balance, flexibility, and strength in older adults, which in turn reduces fall risk and improves gait stability. These multicomponent programs, seem to offer a safe, low-risk environment.

**Conclusion:** The evidence suggests that aquatic therapy is an effective strategy for gait training and possibly reducing fall risk. Health professionals could consider this option as a reasonable alternative when developing programs for preventing falls in older adults.

**Keywords:** aquatic therapy, water-based therapy, gait, accidental falls.

# The proportion of frailty, falls and their associated factors among older-adults living in elders' homes in Colombo district - A preliminary study

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**Introduction:** The health and wellbeing of older-adults especially those residing in elders' homes has increased in recent years with the significant increase in the ageing population worldwide. The objective was to describe the proportion of frailty, falls and their associated factors among older-adults living in elders' homes in the Colombo district.

**Methods:** A descriptive cross-sectional study was conducted among 200 older-adults aged 60 years and above living in 10 elders' homes in the Colombo district using a random sampling method. Older-adults with severe cognitive impairment, communication difficulties and receiving psychological treatment were excluded. An interviewer-administered questionnaire was used with the Fried frailty phenotype to assess frailty. A composite physical frailty score was generated by constituting five major components and those who scored three or higher were classified as frail. Descriptive and inferential statistics were calculated using SPSS package version 25 with significance taken as $p<0.05$. Ethical clearance was obtained from the Faculty of Medical Sciences, University of Sri Jayewardenepura.

**Results:** The majority of older-adults were more than 70 years (n=117,58.5%) and females (n=107,53.5%). Less than half were married (43.5%) and most had studied AL and above (65.5%). The majority (> 85%) had one or more diseases and were on medications. Hypertension, diabetes, mental diseases, visual problems, and dementia were seen among 54%, 41.5%, 37%, 34.5%, and 31.5% respectively. The proportion of frailty and falls among elders was 24.5% and 58.5%. Falls were significantly associated with those diagnosed with diabetes and dementia, those taking oral hypoglycaemic drugs, using crutches for support when walking and those wearing footwear ($p<0.05$). Frailty was associated with those diagnosed with stroke and those without arthritis ($p<0.05$).

**Conclusion:** There is a considerable prevalence of frailty and falls among older-adults in elders' homes in the Colombo district, with various health conditions as well as factors like reliance on assistive devices and certain medications. These findings highlight the need for comprehensive geriatric care and targeted preventive strategies tailored to reduce the burden. Furthermore, health education and training and policy advocacy along with the

implementation of regular mechanisms of detection in at-risk individuals may enhance the quality of life and well-being.

**Keywords:** Frailty, Falls, Elders, Elders homes

# Mechanisms and Factors Associated with Falls Among Frail Elderly Patients in a tertiary care hospital in Colombo, Sri Lanka

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**Background:** Falls among the elderly are a prevalent health issue, particularly in frail individuals, and are associated with significant morbidity and mortality. In Sri Lanka, where the elderly population is growing rapidly, there is limited data on fall mechanisms, associated geriatric syndromes, and environmental and medical risk factors in hospital-admitted elderly patients. This study investigates these aspects to inform targeted fall-prevention strategies.

**Methods:** A descriptive cross-sectional study was conducted among elderly patients aged 65 and above admitted with fall-related injuries to the Accident Service Department of Colombo South Teaching Hospital. Data were collected using a structured interview and questionnaire, to assess the socio-demographic characteristics, frailty, comorbidities, medications, fall circumstances, and environmental factors. Statistical analyses were performed using SPSS to identify significant associations ($p<0.05$) by Chi square test.

**Results:** Among participants (n=275), 98.7% reported at least one fall within the past year, and less than half experiencing recurrent falls. The mean age was 74.2 (±10) years, and 73.9% were classified as frail (Clinical Frailty Scale ≥5). The factors associated with frailty were found as polypharmacy (>4 drugs) ($p = 0.047$), cognitive impairment, and medical comorbidities including diabetes mellitus, ischemic heart disease ($p = 0.049$), and low sodium levels ($p = 0.036$). Environmental hazards such as objects were common, with 57.2% of falls occurring at home. Notably, the majority (77%) required assistance to rise after a fall while 7.6% experienced a "long lie" (>2 hours), increasing their risk of complications.

**Conclusions:** Frailty, polypharmacy, cognitive impairment, and specific comorbidities where significant fall were found as the factors. The high proportion of unassisted falls highlights the need for comprehensive fall-prevention strategies, including medication review, cognitive assessment, and caregiver support, tailored to the frail elderly in both hospital and home environments.

**Keywords**: Falls, Falls risk factors, Frailty, Polypharmacy

# The critical role of nutrition in elderly with non-communicable diseases and risk of sarcopenic obesity: a case study

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**Introduction:** Nutrition is focal in managing non-communicable diseases (NCDs) among the geriatric population. Proper dietary guidance is essential to improve quality of life and manage chronic conditions. Adequate nutrition not only assists in managing NCDs but also minimizes the risk of complications in older adults, thus supporting both longevity and functionality.

**Case History:** X, a 70-year-old male, was presented with reduced oral intake and a complex medical history that includes type 2 diabetes mellitus (T2DM), hypertension, and diagnosed with decompensated chronic liver cell disease (CLCD) due to previously undiagnosed liver cirrhosis secondary to non-alcoholic fatty liver disease (NAFLD). His poorly controlled diabetes, reflected by an HbA1c of 7.8%, and hypertension have contributed to the progression of CLCD with mild ascites. Biochemical Investigations showed a decreased albumin level of 2.9 g/dL, elevated total bilirubin at 2.5 mg/dL, and significantly high liver enzymes (AST 116 IU/L, ALT 109 IU/L, ALP 328 IU/L, GGT 434 IU/L), indicating liver dysfunction. His weight of 80kg and BMI of 29.4kg/m² signify obese status meanwhile, his Strength, assistance with walking, rising from a chair, climbing stairs, and falls (SARC-F) questionnaire score of 5/10 (high risk >4) indicates a high risk of sarcopenia. The nutritional intervention included a diabetic-specific, low-salt, low-fat, high-protein diet and strategies to improve nitrogen balance to support liver health, by meeting the minimum daily protein requirement (114g protein; 1.5g/kg) and 70% of his energy requirement (2660kcal; 35kcal/kg) along with high-protein, medium chain fat rich oral nutrition supplement tailored to achieve nutrition stability. He was reviewed after a month and showed an improved albumin level of 3.4 g/dL and a 4/10 SARC-F score.

**Conclusion:** This case underscores the critical role of nutrition intervention to provide a balanced diet, enhance glycaemic control, and manage liver complications, alongside recommendations for physical activity to improve overall health and prevent functional decline. Effective nutrition and exercise are key strategies to optimize health outcomes.

**Keywords:** Geriatric nutrition, diabetes mellitus, sarcopenic obesity, Chronic liver cell disease

# Transnational Interdisciplinary courses on healthy aging: The Franciscan Missionaries of Our Lady University and Santa Maria Health School "International Healthy Aging Course"

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**Introduction:** The knowledge of physiological, social, and physical changes associated with aging is essential to promote the well-being, quality of life, productivity, and sustainability of populations in different national and international contexts. Interdisciplinary and international collaborations, such as the "International Healthy Ageing Course", a partnership of The Franciscan Missionaries of Our Lady University (FRAN-U) and Santa Maria Health School (ESSSM), are essential to understand and develop competences in the field of positive, active and healthy aging, respecting each country specific needs and realities.

**Methods:** The International Healthy Ageing Course is a 5 day interdisciplinary course (physiotherapy and nursing) with both academic faculty members and student participation (both from Portugal and USA), that is performed each year, alternately, in the US and Portugal. The course includes expositive methodologies, followed by active methodologies, to simulate the student's participation on theorical-practical presentations, group work and discussions, promoting critical thinking and creativity. Course includes contents regarding older adult's assessment, management and treatment/rehabilitation, with major focus on healthy and active ageing. Outside the classroom, several institutional visits are performed to hospitals, nursing homes, rehabilitation centers, day and activity centers related to older adults and aging. A final assignment is implemented regarding the assessment, planning and evaluation of health care for an older adult clinical case. Course feedback assessments were applied.

**Results:** We completed 3 courses editions: 2 in Portugal, 1 in the USA. 11 academic staff members, 27 physiotherapy and 19 nursing students enrolled in the courses. All participants were approved in the final assignments. Excellent outcome measures in terms of the course feedback evaluation by the participants were obtained: 100% of the participants were "very satisfied" and "very likely" would suggest this course to other students. Participants identified course impact mainly by improving healthy aging competences (86,7%), professional attitudes (80%), and interdisciplinary approaches (80%).

**Conclusions:** This transnational project seems to allow the improvement of the knowledge and competences of our students in healthy and active aging, with an international, multicultural, and multidimensional perspective.

**Keywords:** Healthy Aging; Interdisciplinarity; Transnationality; Physiotherapy; Nursing.

# Nature-based interventions targeting older age health and wellbeing: An evidence map

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**Introduction:** Healthy aging encompasses more than the absence of disease, emphasizing the preservation of functional abilities for increased well-being and quality of life. Nature-based interventions are scientifically proven contributors to healthy aging. The objective was to develop an evidence map showing nature-based interventions targeting the health and well-being of older individuals.

**Methods:** The evidence map was developed through critical analysis of systematic reviews and clinical trials using the AMSTAR2 and CONSORT tools. A systematic search covering the past decade was carried out in the following databases: Cochrane, SCOPUS, PubMed, Web of Science, Embase and LILACS. The authors included systematic review articles and randomized controlled trials that focused on nature-based interventions in a variety of modalities focused on the health and/or well-being of older adults (≥60), English and Portuguese, 2012-2022.

**Results:** Among the 10,379 articles retrieved by the initial search strategy, only 12 articles met the eligibility criteria for this review. Nature-based interventions such as forest bathing, hiking, therapeutic gardens, virtual reality, and forest sounds were identified. The outcomes were categorized into physical (cardiovascular and pulmonary; neuro-immuno-endocrinological) and mental/behavioural aspects. The final map integrated interventions, results, and quality assessments.

**Conclusions:** The research highlights the positive impact of nature-based interventions on the health of the elderly. This study provides insights in several domains, fostering the development of nature-based management programs and policies to promote healthy aging. With regard to health care, it stimulates the discourse of professionals on the integration of nature-based practices for equitable care, both at the individual and collective levels. In addition, it highlights the need for research in the Southern Hemisphere, particularly in Brazil, where the study was carried out.
**Keywords:** healthy aging; health promotion; nature; quality of life.

# The Relationship of The Willingness to Forgiveness with The Quality of Life in Older People in Portugal and in Spain.

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**Introduction:** The willingness to forgive can positively influence the quality of aging and can be developed or improved with the help of professional interventions. The objectives of this study were to describe, understand and correlate the willingness to forgive (of oneself, others and uncontrollable situations) with self-perception of quality of life, including the components of the quality of physical health and mental health**.**

**Method:** The convenience sample was composed of 30 older people, ≥ 65 years old, with preserved cognitive abilities, with schooling ≥ four years, living in Portugal and Spain. A 12 Short-Form Health Survey (SF-12) was used to assess self-perceived quality of life, and the Heartland Forgiveness Scale (HFS) was used to measure willingness to forgive. The instruments used were previously validated for both Portuguese and Spanish languages.

**Results:** There was a direct positive correlation between the willingness to forgive and the perception of quality of life, especially in the mental component. Individuals with a greater willingness to forgive had better mental health scores and, to a lesser extent, physical health. Although there were no statistically significant differences between the groups in Portugal and Spain, it was found that schooling and work activity influence the willingness to forgive, being higher among those with more schooling and those still in work.

**Conclusion:** Forgiveness plays an important role in the emotional well-being of the elderly, standing out as a potential target for interventions aimed at promoting mental health in this population. Strategies to develop forgiveness can benefit the active aging process, contributing to improved quality of life in older people.

**Keywords:** quality of life; older adults; forgiveness

# Study protocol of a quasi-experimental controlled trial assessing the effectiveness of culturally- adapted resistance training programme on muscle strength, respiratory function and physical performances in institutionalized older adults in Sri Lanka (IOA)

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**Introduction**: Continuous loss of muscle mass and muscle strength are crucial factors for physical performances in older adults. Institutionalized older adults are characterized by low levels of physical activity compared to their peers in the community. The aim of the present study is to evaluate the effect of culturally-adapted resistance training programme on muscle strength, respiratory function and physical performances in institutionalized older adults

**Methods**: The study will be started in March 2025. There are two phases in the study. Phase I is a qualitative study. Semi-structured interviews will be used to collect the data. Older adults who are in elders' homes, caregivers, administrators, and stakeholders in the elders' homes in Piliyandala and Dompe MOH areas will be considered for the study. A culturally adapted resistance training programme will be developed and incorporated with outcomes of the semi-structured interviews. Phase II is an intervention study. This is a quasi-experimental controlled trial including older adults between 60-75 years living in elderly homes at selected Medical Officer of Health (MOH) areas in two administrative districts. A cluster sampling method will be used; an elderly home will be considered as a cluster. The clusters will be randomly allocated to the intervention group ($n$ = 30) and to the control group ($n$ = 30) by simple random technique. Older adults in the intervention group will be offered a supervised culturally-adapted resistance training programme to both lower limb muscles twice a week; 45–60 min over six months individually, while the control group will receive usual care facilities. The outcome measures include lower limb muscle strength, respiratory function and physical performances which will be assessed at the baseline, and the1$^{st}$, 3$^{rd}$ and 6$^{th}$ month. Relevant parametric and non-parametric tests will be used for data analysis as appropriate.

**Conclusion:** The current **s**tudy investigates the changes in lower limb muscle strength, respiratory function and physical performances due to culturally adapted resistance training programme over a six months period. Results of the study will contribute to the development of effective physical activity protocols for institutionalized older adults.

**Keywords**: Culturally adapted. Resistance training, Elderly homes, Physical performances, Older adults.

# A Review of Quality of Life Assessment Tools for Older Adults in Sri Lanka

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**Introduction:** With Sri Lanka's population ageing rapidly, assessing Quality of life (QoL) among older adults has become crucial in geriatric care. Multiple tools have been employed in the Sri Lankan context to capture different QoL dimensions. It is important to study various QoL assessment tools that offer valuable insights into the well-being of this population. The study aimed at evaluating the QoL assessment tools used in the Sri Lankan context for older adults.

**Methods:** An integrative review was conducted across PubMed, Scopus, and Google Scholar targeting studies in English from 2015–2024 related to QoL factors and assessments in older adults aged 60 and above in Sri Lanka. Keywords included “quality of life,” “assessment tools,” “measurements,” “older adults,” “elders,” and “Sri Lanka.” Out of 20 full-text studies identified, nine met inclusion criteria and were reviewed.

**Results:** Based on the review, four QoL instruments were identified. The WHOQOL-BREF is the widely used general tool that assesses physical, psychological, social, and environmental domains. EQ-5D-3L is another general tool that assesses mobility, self-care, activities, pain/discomfort, and anxiety/depression. OPQOL-35 is a specific tool tailored for older adults appeared in one study that covered life overall, health, independence, control over life and freedom, home and neighborhood, psychological and emotional well-being, financial circumstances, leisure and activities. Quality of Life Instrument for Young Elderly in Sri Lanka (QLI-YES), validated in Sinhala, was noted, although no studies reported its use.

**Conclusion:** Instruments tailored for older adults offer comprehensive insights into their unique needs. OPQOL-35’s breadth across multiple domains renders it valuable for future QoL research in Sri Lanka’s older adult population. Notably, no use of the Elderly QoL Index (EQOLI) in Sri Lanka was found, suggesting an area for further exploration.

**Keywords:** Assessment, Older adults, Quality of life, Sri Lanka

# Impact of Social Support for Enhancing the Wellbeing of Older Adults in Sri Lanka

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**Introduction:** Sri Lanka is experiencing a demographic shift marked by an increasing elderly population due to improved healthcare and life expectancy. This transition poses significant challenges in maintaining the well-being of older adults. Social support—including emotional, instrumental, informational, and affectionate dimensions—plays a crucial role in enhancing their physical and mental health. The objective of this study is to examine the impact of social support on the well-being of older adults in Sri Lanka.

**Methods:** A qualitative methodology was employed, utilizing narrative analysis to document the author's professional observations, anecdotes, and ten randomly selected case studies conducted with consent. Thematic analysis was applied to identify recurring themes and patterns. Additionally, the Multidimensional Scale of Perceived Social Support and the Warwick-Edinburgh Mental Well-Being Scale were used to measure social support and well-being.

**Results:** The findings indicate that older adults who received consistent emotional and practical support from family, friends, and significant other networks reported higher levels of overall well-being. Key benefits included reduced feelings of loneliness, better management of chronic health conditions, and improved mental health. Conversely, individuals with limited social interaction were more likely to experience social isolation and related adverse health outcomes.

**Conclusion:** This study underscores the essential role of social support in enhancing the well-being of Sri Lanka's older population. Strengthening social support systems through targeted policies, intergenerational programs, and community-based initiatives is vital. These efforts can foster resilience and improve the quality of life for elderly individuals. Collaboration among stakeholders, including government bodies, healthcare providers, and community organizations, is essential to develop sustainable support structures that adapt to the changing social landscape.

**Keywords**: social support, elderly well-being, Sri Lanka, aging population

# Association between foot length and static balance in elderly residents of long-term care homes in Matara District, Sri Lanka

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**Introduction:** The length of the foot is an essential factor in maintaining the static balance of the human body. Poor static balance is a common contributor to balance impairments and reduces the quality of life in the elderly population. This study aims to evaluate the relationship between foot length and static balance in elderly people living in selected long-term care homes in Matara district. Investigating this relationship is crucial for developing targeted interventions to improve the quality of life in the elderly population.

**Methodology:** This cross-sectional study involved 114 elderly participants aged 60 years and above from four selected long-term care homes in Matara district. Demographic data were collected through an interviewer-administered questionnaire. Foot length was measured using a measuring tape. The Romberg test was used to assess the static balance. Descriptive statistics, Pearson's correlation test and SPSS version 25.0 were used for statistical analysis.

**Results:** Of the 114 participants, 34.2% (n=39) were males and 65.8% (n=75) were females, with the majority of 88.6% (n=101) identifying as Sinhalese. The mean age of all participants was 70.22±6.67 years. The mean foot length was 22.1 ± 1.40cm whereas the mean values for static balance in eyes open and eyes closed were 34.47±20.40s and 17.23±21.79s respectively. The findings revealed that there was a significant association between foot length and static balance ($p<0.05$), while the static balance with eyes open reported a weak positive correlation and eyes closed reported a weak negative correlation.

**Conclusion:** The current study concluded that foot parameters were important to maintain the static balance of the elderly population to enhance their quality of life as increased foot length is associated with better static balance with eyes open in elderly people.

**Keywords:** foot length, static balance, elderly, long-term care homes

# Relationship between self-efficacy and mobility of residents of selected elderly homes in Kurunegala district, Sri Lanka.

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**Introduction:** As populations' age rapidly, maintaining mobility is crucial for preserving independence and quality of life. Similarly, self-efficacy, the belief in one's ability to perform tasks motivates older adults to stay active. Sri Lanka, with its growing elderly population, lacks sufficient data on how self-efficacy may affect mobility. This study investigates the relationship between self-efficacy and mobility of elderly residents in Kurunegala district, Sri Lanka.

**Methods:** A cross-sectional study was conducted at selected elderly homes in Kurunegala district, Sri Lanka in August 2024, using the convenient sampling method involving the elderly population aged 60 years and above. Self-efficacy and mobility were measured using the General Self-efficacy (GSE) scale and Timed Up and Go (TUG) test respectively. Spearman's rank correlation test was used to identify the relationship between self-efficacy and mobility in SPSS version 22 software.

**Results:** One hundred and two older adults (n=102: age 75 ± 8.3 years) including 64 (62.7%) females were recruited in the study. GSE scores (30.48 ±6.6) and TUG time (20.80 ±12.5) demonstrated a statistically significant negative correlation ($r = -0.25$, $p=0.011$). On average, females had a higher TUG time and slightly higher GSE scores compared to males, but the difference was not statistically significant ($p>0.05$).

**Conclusion:** According to the findings, higher self-efficacy is significantly associated with better mobility highlighting the potential of self-efficacy as a modifiable factor in improving mobility among the elderly. Therefore, future research could explore specific intervention strategies to improve self-efficacy that could enhance mobility and quality of life in this population.

**Keywords:** mobility, self-efficacy, Timed up and go test, elderly, quality of life

# Relationship of Chronic Musculoskeletal Pain in the lower extremities with Physical Activity level and Lower Extremity Function in older adults

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**Introduction:** Chronic pain in the lower extremity musculoskeletal system may lead to limited physical activity levels, gait impairments, and disability. This study aimed to assess the relationship between chronic musculoskeletal pain in the lower extremities, physical activity levels, and lower extremity function, as well as to evaluate the severity of functional impairments among adults residing in elderly care homes.

**Methods:** A descriptive cross-sectional study was conducted at five selected elderly homes in Kurunegala district, Sri Lanka. The study included adults aged 60 years and above with lower extremity pain for three months or more. Lower extremity pain, lower extremity function and physical activity (PA) were assessed using the Brief Pain Inventory – Short Form (BPI-SF), Short Physical Performance Battery (SPPB) and International Physical Activity Questionnaire -Short Form (IPAQ-SF), respectively. The Kruskal-Wallis and Spearman Correlation tests were conducted for data analysis using SPSS v22.

**Results:** A total of 96 adults participated in the study, comprising males (36.5%) and 61 females (63.5%), with a mean age of 75.72 years (SD ± 7.76). The prevalence of pain was highest in the knee, affecting 74% of participants, while hip pain was the least common, reported by 22.9% of participants. The mean pain severity score was 3.35 (SD±2.16). The mean walking speed was 0.412 (SD±0.322) meters /second and the mean SPPB score was 5.67 (SD±2.76). A significant relationship was revealed between SPPB and pain severity (p=0.049), with a moderate negative correlation (r=0.341, p=0.001). In contrast, no significant relationship was observed between physical activity levels and pain severity (p=0.309), and the correlation was weak and negative (r=0.170, p=0.098).

**Conclusion:** The study results indicate that chronic musculoskeletal pain in the lower extremities mainly affecting the knee joint, impacts lower extremity function in older adults. These findings highlight the importance of targeted pain interventions to enhance lower extremity function in this population.

**Keywords:** Physical activity, Lower extremity function, Chronic musculoskeletal pain

# Prevalence and factors associated with musculoskeletal pain among tea pluckers: A study in Galle District, Sri Lanka

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**Introduction**: Tea pluckers perform repetitive movements and maintain awkward static postures throughout their workday, leading to musculoskeletal complications. This study aimed to assess the prevalence of musculoskeletal pain and its associated factors among tea pluckers in selected small tea estates within the Grama Sewa Division of Baddegama and Nagoda Regional Secretariat Division in Galle district, Sri Lanka

**Methods:** A descriptive cross-sectional study was conducted among 265 tea pluckers aged 18 -80 years in selected small tea estates in the Galle district. Participants were selected using a simple random sampling method. A pretested interviewer-administered questionnaire was used to collect the socio-demographic details and work characteristics of participants. Musculoskeletal pain prevalence was assessed using the Nordic Musculoskeletal Questionnaire, while pain severity was measured using a numerical pain scale. Pain severity was rated from 0 to 10, without any further classification. Chi-square test was used to analyse data by using the SPSS version 25.

**Results**: The mean age of the participants was 60.31 years (SD±10.14) and most of the participants were females (73.8%). Prevalence of musculoskeletal pain in any region of the body was 92.1% among the participants. The pain prevalence in lower back pain was the highest (64.9%) with 2.84 (SD± 2.53) mean pain severity and neck pain was the least prevalent (18.5%) with 0.78 (SD±1.72) mean pain severity. The most common site of pain for the last 1 year was lower back (57.7%) and for the last 7 days it was knee (48.7%). Gender ($p=0.036$), years of working experience ($p=0.014$) and body mass index ($p<0.001$) showed a significant association with musculoskeletal pain prevalence.

**Conclusion:** Due to the high prevalence of musculoskeletal pain among older tea pluckers, it is recommended to conduct periodic health screening. Studies on access to health care are highly recommended on this population.

**Key words**: Musculoskeletal pain prevalence, Nordic Musculoskeletal Questionnaire, Tea pluckers

# Associations of Handgrip Strength and Physical Activity Level among Older Adults in Selected Elderly Homes in Kalutara District, Sri Lanka

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**Introduction:** Population rapid aging poses a challenge to health and long-term care. The elderly are a vulnerable group with increased health demands. In elderly people, handgrip strength (HGS) predicts declining physical capacity and hand function and the onset of health problems. This study evaluated the association between handgrip strength and physical activity levels among older adults living in elderly homes.

**Methods:** A cross-sectional study involved 126 older adults aged 60 and above in selected elderly homes in Kalutara District, Sri Lanka. Handgrip strength (HGS) was measured using a Jamar dynamometer, while physical activity levels were assessed using the International Physical Activity Questionnaire-Short Form (IPAQ-SF). The Spearman's correlation coefficient and independent sample t-test were used for data analysis in SPSS v23.

**Results:** The study population consisted of 38 males (30.15%) and 88 females (69.85%), with a mean age of 72 years (± 7.98). Regarding physical activity levels, 93.7% of participants were classified as having low physical activity, and 6.3% as having moderate physical activity, while no participants fell under the high physical activity category. There was a significant difference in handgrip strength among males and females ($p<0.01$). The study found a significant positive correlation between handgrip strength and physical activity level ($r = 0.891$, $p < 0.01$).

**Conclusion:** The findings suggest that handgrip strength has an effect on improving physical activity levels in older adults. Less physically active study participants demonstrate weaker handgrip strength than their more active counterparts. Further research is necessary to investigate the underlying mechanisms of how reduced handgrip strength affects physical activity and other aspects of functional health in older adults.

**Key Words:** Sri Lankan older adults, Physical activity, Handgrip strength.

# Effectiveness of Modified Constrained Induced Movement Therapy on Activities of Daily Living in Post-Stroke Patients: A Randomized Controlled Pilot Study

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**Introduction**: Stroke is a leading cause of long-term disability, often resulting in impaired upper extremity functional performance. The upper limb of the affected side of the stroke survivors has great motor dysfunction that seriously affects the quality of the activities of daily living. Modified Constrained Induced Movement Therapy (mCIMT) has been widely recognized for its potential to enhance the use of the affected upper limb in post-stroke patients. This study aimed to evaluate the effectiveness of mCIMT on ADL performance among post-stroke patients.

**Methods**: A randomized controlled trial (RCT) pilot study was conducted at Navajeevana Rehabilitation Centre, Tangalle, Sri Lanka, involving 15 stroke patients selected via simple random sampling. Eligible participants, referred by physicians at least four weeks post-onset, demonstrated the ability to actively extend ≥10° at the metacarpophalangeal and interphalangeal joints and ≥20° at the wrist. The intervention group underwent a 12-week modified Constraint-Induced Movement Therapy (mCIMT) program, including supervised upper limb exercises for one hour, three times weekly, to promote functional use in Activities of Daily Living (ADL). The control group received standard rehabilitation care. Effectiveness was measured using the Motor Activity Log, assessing "Amount of Use" (AOU) and "Quality of Movement" (QOM) before and after the intervention.

**Results**: The mean age of the participants was 63.33± 5.53 years including 21 (70%) males and 9 (30%) females. The study's significance was tested using the paired sample t-test analysis, with a p-value threshold set at <0.05. The mean values of the AOU before and after the intervention were 18±1 and 52.33± 1.8 respectively. The mean values of the QOM before the intervention & after the intervention were 16.20± 1.5 and 47.43± 4.1 respectively. The paired t-test shows a significant improvement over time, indicating the intervention effectively enhanced the "Quality of Movement" (mean difference = -31.23, $p < 0.001$) and "Amount of Use" (mean difference = -31.63, $p < 0.001$). The study revealed a highly significant improvement in the "Amount of Use" and "Quality of Movement" scores for the intervention group. Post-intervention MAL scores demonstrated that mCIMT effectively enhanced upper limb functionality and ADL performance.

**Conclusion**: The pilot study suggests that mCIMT effectively improves upper limb function in post-stroke patients, with significant gains in "Amount of Use" (AOU) and "Quality of Movement" (QOM) enhancing Activities of Daily Living (ADL).

**Keywords:** mCIMT, Activities of Daily Living, Post – Stroke rehabilitation, Motor Activity Log

# Sleep quality among institutionalized older adults in Colombo district, Sri Lanka - Preliminary findings from a cross-sectional study

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**Introduction:** Population aging has become a global trend that leads to institutionalization. Poor sleep quality among institutionalized older adults results in serious negative consequences on their well-being. However, sleep problems in this population have not been adequately explored and treated.

**Methods:** A descriptive cross-sectional study was conducted with the participation of 300 institutionalized older adults in randomly selected residential care facility homes for elders in Colombo district with the objective of assessing the sleep quality. Validated Sinhala version of the Pittsburg Sleep Quality Index (PSQI) was used along with a pretested questionnaire for demographic information. Total PSQI score >5 was considered as poor sleep. Descriptive statistics and inferential statistics including Pearson correlation and Chi-square test were done using SPSS Version 26. Statistical significance was set as <0.05.

**Results:** Majority (62.3%) of the participants were females. The mean± SD age of the sample was 74.21 ± 6.47 years. Mean± SD score for PSQI was 8.69± 3.08. Of the participants, over two third (78.7%) reported poor sleep quality. Based on the components of the PSQI, subjective sleep quality was poor among most (61.3%) of the participants. High percentage (66.7%) of the participants had a sleep less than six hours per day. Poor sleep efficiency was reported by most (65.7%) of the participants. The majority (91.0%) reported that they experienced sleep disturbance more than once a week during the past month. Only a few (10.7%) were using sleep medication. Among the study participants, nearly half (49%) reported daytime dysfunction due to poor sleep. Poor sleep quality showed a significant positive correlation with age (r= 0.144, p=0.012). Further, long-term medication usage showed a significant association with sleep quality (p=0.015) and there was no significant association of sleep quality with other demographic or personal characteristics considered.

**Conclusion:** The prevalence of poor sleep quality among study participants was high. Age has contributed to the changes in quality of sleep. It emphasizes the importance of implementation of interventions to improve sleep quality among institutionalized older adults in Sri Lanka.

**Keywords:** Sleep Quality, Institutionalized, older adults, Sri Lanka

# Knowledge on dementia and its associated factors among the Sinhala-speaking nursing undergraduates in three selected state universities in Sri Lanka

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**Introduction:** Dementia is a syndrome that can be caused by several diseases leading to cognitive function deterioration beyond the consequences of biological aging. Dementia education may increase the nurses' competencies in caring for dementia patients and better understand their needs. The objective of this study was to assess the level of knowledge and its associated factors on dementia among Sinhala-speaking nursing undergraduates in three selected state universities in Sri Lanka.

**Methods:** A descriptive cross-sectional study was conducted among all 237 Sinhala-speaking nursing undergraduates of University of Sri Jayewardenepura (USJ), University of Colombo, and Eastern University of Sri Lanka. A validated self-administered questionnaire was used to collect data. Depending on the median, overall knowledge was categorized as, "Good" and "Poor". Data were analysed using descriptive statistics and inferential statistics with the use of SPSS version 26. The Chi-Square test was used to analyse categorical data. Ethical approval was obtained from the Ethics Review Committee, KAATSU International University, Sri Lanka.

**Results:** The mean age of the participants was 24.66 (SD ± 1.323) years and the majority of the participants were from USJ (36.7%), were females (79.7%), were Sinhalese (98.7%), and, were from 4$^{th}$ year (56.5%). Of all the participants, 1.3% live with a family member who has dementia**,** 65.8% had experience in caring for the dementia people during the clinical placement, 12.2% attended a workshop/awareness programme, and 58.6% had good overall knowledge of dementia. The knowledge of dementia was significantly associated with their age group ($p=0.001$), university ($p<0.001$), academic year ($p<0.001$), and experience in caring for people with dementia during the clinical placement ($p<0.001$).

**Conclusion:** Overall knowledge of dementia was “good” among the majority of the participants, but nearly a considerable proportion of participants had poor knowledge. Therefore, it is essential to arrange educational sessions/workshops on caring for people with dementia to improve their knowledge and skills.

**Keywords:** Dementia, Knowledge, Associated factors, Nursing Undergraduates

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