

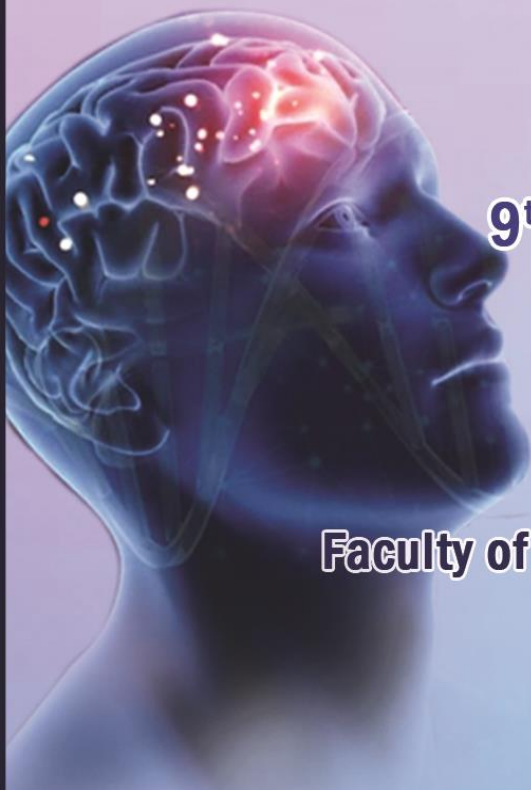
International Conference on Neurodegenerative Disorders

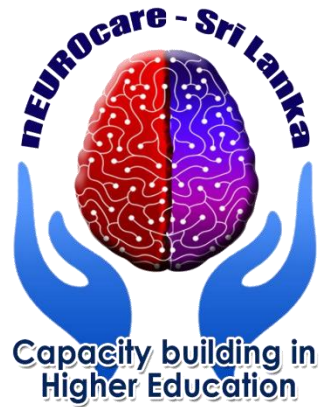
Expanding the Horizon for Neurocare in Sri Lanka

PROCEEDINGS

9th - 10th February 2023

**Organized by the
Faculty of Nursing | University of Colombo
Sri Lanka**





International Conference on Neurodegenerative Disorders

“Expanding the Horizon for nEUROcare in Sri Lanka”

PROCEEDINGS

**FACULTY OF NURSING
UNIVERSITY OF COLOMBO
2023**

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Organizing Committee

- Chairperson** : Prof. Sudath Warnakulasuriya – University of Colombo
- Secretary** : Dr. G. Kisokanth – University of Colombo
- Co-secretaries** : Ms. Shiroma Malkanthi – University of Colombo
Dr. Deepani Pathirana – University of Peradeniya
Dr. K G P Nirmani – University of Ruhuna
Dr. Prasanna Herath – General Sir John Kotelawala Defense
University

Committee Members :

- Ms. Rupa Menike - University of Colombo
Ms. Chandrani Herath - University of Colombo
Ms. Nirmala Priyadarshani - University of Colombo
Ms. Ayesha Medagedara - University of Colombo
Mr. Thimira Amarasinghe - University of Colombo

Message from the Chief Guest



Prof. Håkan Pihl

Vice Chancellor

Kristianstad University

Sweden

At Kristianstad University, we welcome this project. First, neurodegenerative diseases (NDD) negatively affect a large and growing proportion of the population in Sweden and in many other nations. It is a severe challenge to the individuals directly affected, but also to their families, local communities and the whole society. The strategy of our university aims to increase our involvement and contribution to society; therefore, we are proud if we can contribute to this challenge, with our competencies in healthcare and our long tradition of research-based higher education (our nursing education was established in 1893).

Second, projects that can contribute to global challenges, such as NDD require collaborations over the borders of disciplines, institutions, nations, and continents. As a university, we want to increase our participation in such endeavors as part of our strategy and mission. This project provides us with an opportunity to learn and develop new essential relations; it increases our future capacity to contribute to our society.

Message from the Guest of Honor



Dr. Asela Gunawardena

Director General of Health Services

Ministry of Health, Nutrition & Indigenous Medicine

Sri Lanka

Neurodegenerative disorders are age-dependent progressive conditions caused by the degeneration of the central nervous system. Traditionally, these conditions were characterized based on clinical manifestations. With advances in imaging, clinical manifestations of disease can now be attributed to degeneration in specific anatomical regions of the central nervous system, while histopathological analysis and genetic studies further refine the diagnostic process. As a population increases in size and life expectancies continue to rise, so do the number of people diagnosed with neurodegenerative disorders.

The World Bank states in an article published in 2021 that 12.3% of the population in Sri Lanka is aged 60 or older – the country with the highest proportion of older adults in South Asia. In 15 years, it is projected to be more than 25%. This demographic transition to an aging society creates several economic, health and social challenges, with a growing demand for aged-care services in the near future. It is important to prepare the future workforce for jobs in areas such as geriatric medicine, elderly caregiving, healthy aging and eldercare centre administration.

Given this context, I appreciate the contribution from nEUROcare project – a European initiative for capacity building to meet the challenges of caring for people with neurodegenerative disorders in Sri Lanka, which aims for capacity building in the field of higher education. This international conference on neurodegenerative disorders hosted by the Faculty of Nursing, University of Colombo, is the first of its kind to provide wide awareness on neurodegenerative disorders and related management among healthcare students and healthcare professionals.

Undoubtedly, this conference will deliver a unique interdisciplinary experience given the illustrious panel of academics and clinicians – from Sri Lanka as well as overseas – who are to share their expertise over the course of these two days. I believe that this event will be a platform for scientific discourse in the best interest of patient care in this country, sharing innovative findings on emerging trends and future challenges in healthcare related

neurodegenerative disorders in Sri Lanka. I hope it would provide the groundwork necessary to inspire others to follow up with more research on matters pertinent to care provision to those affected with neurodegenerative disorders, their families and their communities.

I congratulate you all in this exciting initiative and extend my best wishes for this conference to be a success.

Message from the Vice Chancellor - University of Colombo



Senior Prof. H.D. Karunaratne

Vice Chancellor

University of Colombo

Sri Lanka

It is indeed a great pleasure and honour to write a message as Vice Chancellor of the hosting University of the first International Conference on Neurodegenerative Disorder 2023. The faculty of Nursing is organizing this conference under the theme of ‘Expanding the Horizon for Neurocare in Sri Lanka’ with the collaboration of the nEUROcare Project-European initiative for capacity building to meet the challenges of caring for people with Neurodegenerative Disorders in Sri Lanka.

I fervently believed that this International Conference on Neurodegenerative Disorders would be the best platform to enhance the knowledge and skill about caring and rehabilitation of patients with Neurodegenerative Disorders by using new strategies and technologies. I am sure that the conference would be beneficial for healthcare professionals especially nursing academics, nursing officers, nursing undergraduates, and other allied health staff. This conference would be facilitated by experts in Neurosciences including Neurosurgeons, Neurologists, and Psychologist from European partner universities as well as from Sri Lanka. Further, I have no doubt that the conference would be the best platform to share the research findings and recommendations on care and rehabilitation for patients with Neurodegenerative Disorders.

I take this opportunity to express my gratitude to other partner local universities including University of Peradeniya, University of Ruhuna and General Sir John Kotelawala Defense University for their immense contributions in conducting this conference a success. Further, I would like to thank the distinguished chief guest, guest of honor, and keynote speaker. I greatly appreciate the organizing committee of the nEUROcare project team headed by project manager and the local partner university coordinator Professor Sudath Warnakulasuriya, Dean of the Faculty of Nursing, and the nEUROcare project coordinator Dr G Kisokanth, University of Colombo for their immense efforts to conduct the conference a success.

Message from the Vice Chancellor - University of Peradeniya



Prof M.D. Lamawansa

Vice-Chancellor

University of Peradeniya

Sri Lanka

I am extremely happy to send this message on the occasion of the international conference on neurodegenerative disorders organized by the Faculty of Nursing, University of Colombo, which is to be held on 9th and 10th February 2023. This is an excellent platform for Sri Lankan academics and professionals in the relevant fields to interact with a galaxy of international experts, especially from Europe.

The establishment of the first dedicated faculty, the Faculty of Allied Health Sciences, with five academic departments at the University of Peradeniya in 2006, energized the development of nursing and allied health sciences in Sri Lanka. Since then, the nursing and allied health care professions have advanced quickly, which is a testament to the dedication of the academics and professionals who work in these fields at various universities in Sri Lanka and state health care institutions. The nEUROcare project, a joint endeavour with European partners, was initiated by their ongoing efforts to explore for bigger prospects. This project intends to increase Sri Lanka's capacity to handle the difficulties of caring for those with neurodegenerative diseases. I am very pleased that the University of Peradeniya, as a partner university, has been able to contribute to this project and also gain experience in this neglected field.

Another event taking place this month as part of the nEUROcare initiative is a two-day workshop in Kandy of academics from partner universities in Sri Lanka and Europe to develop the curriculum of the proposed Master of Science program in neurocare on the 13th and 14th. In addition to the curriculum development workshop, a skill training workshop on care for neurodegenerative disorders for nurses and other health care workers will be held at the University of Peradeniya, conducted by visiting experts from Europe. This is a joint effort with the Kandy Society of Medicine, the premier medical professional body in the central province of Sri Lanka.

On behalf of the University of Peradeniya, I would like to extend my gratitude to the keynote speakers, reviewers, sponsors, and participants. I'd also like to congratulate the organizing committee of the conference and all members of the nEUROcare project for doing a great job with their first international conference.

I am optimistic for the future of the nEUROcare initiative given what has transpired thus far, and I hope each and every one of the attendees of this conference has a fulfilling and unforgettable time.

Message from the Vice Chancellor – University of Ruhuna



Senior Prof. Sujeewa Amarasena

Vice Chancellor

University of Ruhuna

Sri Lanka

As the Vice Chancellor of the University of Ruhuna (UOR), it gives me immense pleasure to write a note on nEUROcare conference 2023 hosted by Faculty of Nursing, University of Colombo organized under the nEUROcare project, on a ERASMUS grant. The project undertaken with collaboration of many universities in Europe and Sri Lanka and UOR is proud to be a partner University of the nEUROcare project.

This education conference would facilitate enhancing knowledge of health care professionals in various disciplines in Sri Lanka on different aspects of caring and rehabilitation of patients with neurodegenerative disorders (NDD) by sharing knowledge and experience of world-renowned experts in the field. Further, it would enable Sri Lankan health professionals to integrate these practices into our health care system and move forward and with new strategies, technology and developments. This conference would also provide a platform to share the knowledge generated through the primary research projects by the young researchers in Sri Lanka and European region on NDD care and rehabilitation that would progress into planning of applications and developments in future.

Although improvements have taken place the NDD care, Sri Lanka is still way behind to the rest of the world in this regard. Specialized care for the elderly with NDD is a huge need for Sri Lanka. Even NDD care for children should improve drastically. Therefore, it is imperative to address this issue with a multidimensional concept which encompasses various disciplines at this stage in the country. This conference would provide the best avenue for it and hopefully it would lead to excellence in NDD care in Sri Lanka, in the near future in educational, economic, social and political perspectives.

I profoundly appreciate the enormous efforts of the organizing committee including the Dean and the nEUROcare project team of Faculty of Nursing, University of Colombo under various constraints. Further, I wish to express my gratitude to Vice-Chancellor of Kristianstad

University and Prof. Martin Persson, the main coordinator of the nEUROcare project for their helping hand to Sri Lanka and its main higher education institutes to enhance their capacity in numerous ways through this project.

I would like to extend my warmest greetings to the nEUROcare conference 2023 and eagerly look forward to witnessing it.

Message from the Vice Chancellor – General Sir John Kotelawala Defence University



Major General M.P. Peiris

Vice Chancellor

General Sir John Kotelawala Defence University

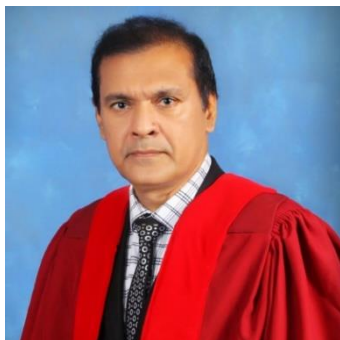
Sri Lanka

I am indeed delighted to pen this message whilst extending my felicitations as the Vice Chancellor of General Sir John Kotelawala Defence University (KDU) at this remarkable scientific conference on Capacity Building in Higher Education (CBHE). We consider it an honour to be a part of this international collaboration which will enhance the quality of education and research on neurodegenerative disorders in Sri Lanka.

Through this collaboration, future health professionals in Sri Lanka will be able to pursue an MSc degree, which will expand horizons for healthcare professionals to set a better platform to come up with effective care towards neurodegenerative disorders.

The evidence-based knowledge disseminated at this nEUrocare conference is quite remarkable as the outcome of this conference is discussed critically, and suitable solutions are taken based on constructive arguments. I fervently believe that this conference will help to enhance the quality of research in neurodegenerative disorders and to go for more collaborations in the future. While appreciating the commitment of the organizers of this conference, I wish you all, the presenters and participants taking part in the conference all the very best.

Message from the Conference Chair



Prof. Sudath Warnakulasuriya

Dean

Faculty of Nursing

University of Colombo

Sri Lanka

It is a great pleasure to write this message as the chair of the conference on the occasion of the International Conference, 2023 on Neuro Degenerative Disorders organized by the Faculty of Nursing, University of Colombo under the theme of “Expanding the Horizon for Neuro-care in Sri Lanka”. This is the first conference organized under the nEUROcare capacity building European project of the Faculty of Nursing to showcase the capacity development work and research that have been carried out by the nEUROcare team during the past two years.

According to the agenda, a large number of experts in Europe, as well as Sri Lanka in the field of neurodegenerative disorders and care will be attending this conference. A special feature of this conference is that a large number of stakeholders in the health care system from all parts of Sri Lanka are invited to attend this conference including multidisciplinary health professionals and undergraduate students in nursing. The renowned keynote speaker professor Zvezdan Pirtošek will offer a thought-provoking framework for neurodegenerative disorders and the module presenters will enlighten the audience on various educational components of neurodegenerative disorders related theory and care management. Further, abstract presenters will share their findings and create an effective scientific discussion. The panel discussion on the second day of the conference with the participation of Sri Lankan experts in Neurodegenerative disorders will create an effective dialogue to discuss the current situation of neuro care in Sri Lanka and the future challenges and possible alternatives with regard to the preparation of health care workforce for facing future challenges in neuro care.

I believe that the historical Neurocare Conference 2023 will continue to attract the health care professionals who are interested in neurodegenerative disorders, leaders from multiple disciplines, undergraduates in healthcare discipline, researchers, scientists, advocates, policy experts, and other key stakeholders from across Sri Lanka. As organizers of the conference,

we are committed to providing informative, innovative, and accessible content through main speakers and presenters of various neuro-care educational modules, oral and poster sessions as well as panel discussions.

In response to this call to action, I hope the conference will serve as a forum to recognize the individual work that is occurring within the neuro-care team of four Sri Lankan Universities and four European universities, celebrate accomplishments, engage in meaningful dialogue on what it will take to achieve, set objectives during the next two years and define the role of the neuro care team in leading the way.

The proceedings of the conference consist of 07 abstracts presented by researchers in the neuro care field and a synopsis of 08 module presenters in partner universities. The quality of the abstracts has been maintained by reviewing them thoroughly and assessed by a panel of university academics in relevant fields. I would like to express my sincere gratitude to the organizing committee of the Neuro care conference, 2023 including the Neuro care team of the Faculty of Nursing and other partner universities for their commitment, hard work, and all efforts to make this event a reality.

Message from the Conference Secretary



Dr. G. Kisokanth

Head/ Senior Lecturer

Department of Clinical Nursing

Faculty of Nursing

University of Colombo

Sri Lanka

I am honoured to give this message for the first-ever International Conference on Neurodegenerative disorders, organized by the Faculty of Nursing, University of Colombo. This conference with the theme “Expanding the Horizon for Neurocare in Sri Lanka” is the right platform to bring various healthcare professionals under one roof to discuss the care and rehabilitation for patients with Neurodegenerative Disorders.

The conference is organized in a way that provides the health care professionals especially nurses, and nursing students a good understanding of Neurodegenerative disorders, care, and rehabilitation as well as new strategies and technologies for management. Moreover, this conference will be facilitated by Neurosciences experts from European universities as well as from Sri Lanka which would provide the opportunity to nurses and students to discuss and share their experiences.

Further, I extend my sincere thanks to the Dean/nEUROcare project manager, Faculty of Nursing, Prof SSP Warnakulasuriya for initiating and encouraging to conduct this first-ever conference on Neurodegenerative disorders in corroboration with nEUROcare Project. In addition, I thank with an appreciation for the enthusiasm and efforts of other organizing committee members of the conference for their consistent effort to make this conference an enormous success.

We, the organizing committee are trying our best to ensure that your time and stay during the conference be one of the most memorable ones and I welcome you to this wonderful gathering and make the maximum out of it. Once again, I thank every one of you who has contributed to the success of the conference and look forward to seeing you all soon.

An introduction to nEUROcare project

nEurocare project is the European initiative capacity-building project for nursing education in Sri Lanka while meeting the challenges of caring for people with Neurodegenerative Disorders in Sri Lanka. This project was established as the first international grant project in the Faculty of Nursing in 2022. The aim of this project is to develop new and innovative courses and methodologies in healthcare, in order to develop human capacities in the field of Neurodegenerative disorders within the four, selected higher education institutions in Sri Lanka.

This timely significant project is mainly coordinated by the Faculty of Nursing, University of Colombo the main partner University from Sri Lanka with Kristianstad University Sweden, the main partner university from Europe. Other partner European universities that are involved in this project include University of Ljubljana in Slovenia, the University of Tartu in Estonia, and Neapolis University Pafos in Cyprus and Triskelion - Norway. On the other hand, the other partner universities invited from Sri Lanka include the University of Peradeniya, the University of Ruhuna, and General Sir John Kotelawala Defence University.

Under this project, there are a series of international workshops and conferences that have been scheduled to develop postgraduate level course modules in nursing care education specializing in Neurodegenerative disorders. The second international workshop was held at Kristianstad University Sweden in May 2022, and the third international workshop was held at the University of Tartu in Estonia from 4th to 9th September 2022. This is the first initiative to develop postgraduate nursing education related to neuro care in Sri Lanka.

nEUROcare team – University of Colombo



Project Manager

Prof. SSP Warankulasuriya
Dean
Faculty of Nursing



Project Member

Dr. G. Kisokanth
Head
Department of Clinical Nursing
Faculty of Nursing



Project Member

Mrs. Rupa Menike
Head
Department of Fundamentals of Nursing
Faculty of Nursing



Project Member

Ms. Shiroma Malkanthi
Senior Lecturer
Department of Fundamentals of Nursing
Faculty of Nursing



Project Member

Mrs. Chanrani Herath
Lecturer
Department of Clinical Nursing
Faculty of Nursing

Programme Outline

Programme of the Inauguration	
Time	
8:30 am - 9:00 am	Registration
9:00 am - 9:10 am	Inauguration and the Lighting the traditional oil lamp
9:10 am - 9:15 am	Traditional cultural dance
9:15 am - 9:20 am	Welcome address by Prof. S.S.P. Warnakulasuriya, Dean, Faculty of Nursing - University of Colombo
9:20 am - 9:25 am	Speech by Senior Prof. H.D. Karunarathne, Vice-Chancellor - University of Colombo
9:25 am - 9:35 am	Introduction to nEUROcare project by Prof. Martin Persson, University of Kristianstad
9:35 am - 9:40 am	Speech by the Prof. Igor Švab, Dean, Faculty of Medicine - University of Ljubljana
9:40 am - 9:45 am	Speech by Prof. Triin Jagomägi - University of Tartu
9:45 am - 9:50 am	Speech by Prof. Marios Argyrides, Dean, Faculty of Health Sciences - Neapolis University
9:50 am - 9:55 am	Speech by Mr. Thomas Nilsen, Director – Triskelion Norway
9:55 am - 10:00 am	Speech by the Guest of Honor, Dr. Asela Gunawardena, Director General of health – Ministry of Health, Sri Lanka
10:00 am - 10:10 am	Speech by the Chief Guest, Prof. Håkan Pihl, Vice-Chancellor - Kristianstad University
10:10 am - 10:55 am	Keynote speech by Prof. Zvezdan Pirtošek - University of Ljubljana
10:55 am -11:00 am	Vote of thank by Dr. G. Kisokanth – University of Colombo
11:00 am -11:45 am	<i>REFRESHMENTS</i>

Programme of the Technical Session – Day 1

Time	Session	Speakers
11.45 – 12.35	Neurology and medical care of neurodegenerative disorders	Dr. G. Kisokanth <i>University of Colombo, Sri Lanka</i>
		Prof. Gorazd Drevenšek <i>University of Ljubljana, Slovenia</i>
12.35 – 13.25	Clinical assessment, evaluation, and outcome measurement	Prof. Zvezdan Pirtošek <i>University of Ljubljana, Slovenia</i>
		Dr. Sarath Rathnayake <i>University of Peradeniya, Sri Lanka</i>
13.25 – 13.50	Oral health and neurodegenerative disorders	Prof. Triin Jagomägi <i>University of Tartu, Estonia</i>
13.50 – 14.00	Group Concept Mapping	Prof. Martin Persson <i>University of Kristianstad, Sweden</i>
14.00 – 15.00	LUNCH	
15.00 – 15.50	Comprehensive care for people with neurodegenerative disorders	Dr. Nirmala Rathnayake <i>University of Ruhuna, Sri Lanka</i>
		Mr. Steve Smith <i>Triskelion, Norway</i>
15.50 – 16.40	Psychology	Prof. Marios Argyrides <i>Neapolis University, Cyprus</i>
		Prof. S.S.P. Warnakulasuriya <i>University of Colombo, Sri Lanka</i>
16.40 – 16.45	Wrap up day one	Prof. Martin Persson <i>University of Kristianstad, Sweden</i>
16.45 onwards	REFRESHMENTS	

Programme of the Technical Session – Day 2		
Time	Session	Speakers
9.00 – 9.05	Welcoming to the Day 2	Prof. S.S.P. Warnakulasuriya <i>University of Colombo, Sri Lanka</i>
9.05 – 9.55	Implementation and evaluation	Prof. Martin Persson <i>Kristianstad University, Sweden</i>
		Dr. H.M.P Herath <i>General Sir John Kotelawala Defense University, Sri Lanka</i>
9.55 – 10.45	Person centered care	Ms. Emma Edberg Matei <i>Kristianstad University, Sweden</i>
		Dr. Damayanthi Dassanayake <i>University of Peradeniya, Sri Lanka</i>
10.45 – 11.15	REFRESHMENTS	
11.15 – 13.00	nEUROcare abstract presentations	
13.00 – 14.00	LUNCH	
14.00 – 14.50	Family and societal perspectives	Mr. Gareth Davies <i>Triskelion, Norway</i>
		Dr. Dinithi Vidanage <i>General Sir John Kotelawala Defense University, Sri Lanka</i>
14.50 – 15.40	Communication	Prof. Marios Argyrides <i>Neapolis University, Cyprus</i>
		Dr. Bimba Wickramarachchi <i>University of Ruhuna, Sri Lanka</i>
15.40 – 16.15	REFRESHMENTS	
16.15 – 16.55	nEUROcare panel discussion - How do we improve neuro care in Sri Lanka?	Prof. Manoji Pathirage <i>University of Peradeniya, Sri Lanka</i>
		Dr. Kapila Ranasinghe

		<p><i>National Institute of Mental Health, Sri Lanka</i></p>
		<p>Dr. Chamila Dalpadatu <i>University of Colombo</i></p>
		<p>Dr. IUK Mudalige, Senior Lecturer, Department of Psychiatry, Faculty of Medicine, KDU</p>
		<p>Mr. Steve Smith Triskelion, Norway</p>
		<p>Prof. Zvezdan Pirtošek University of Ljubljana, Slovenia</p>
16.55 – 17.00	Presentation of best paper	<p>Prof. Gorazd Drevenšek <i>University of Ljubljana, Slovenia</i></p>
17.00 – 17.10	Evaluation and summarizing the conference	<p>Prof. S.S.P. Warnakulasuriya <i>University of Colombo, Sri Lanka</i></p>
17.10 – 17.15	Certificate awarding and Closing remarks	

Introduction to the Keynote Speaker



Prof. Zvezdan Pirtošek

University of Ljubljana,
Slovenia

Professor Zvezdan Pirtošek is Professor of neurology and Professor of cognitive neuroscience and is currently serving as Head of Chair of neurology at the Medical Faculty at the University of Ljubljana, Slovenia. He is Consultant Neurologist and Head of Research Unit at Department of Neurology, University Medical Centre Ljubljana.

He did his postgraduate studies and subspecialisation in neurodegenerative disorders and cognitive neurophysiology at the National Hospital of Neurology Queen Square & amp; University College London Institute of Neurology. In Slovenia, Professor Pirtošek is a co-founder of TREPETLIKA, the Slovene Association of Patients with Parkinson's Disease and current head of The Medical Council of Spominčica, Alzheimer Slovenia. He founded the Centre for Movement Disorders, Centre for Cognitive Disorders, and Laboratory for Clinical Neuroscience at the University Medical Centre Ljubljana.

He is active internationally and serves as a high representative of Slovenia in Managing Board of JPND (EU joint programme on research and treatment of neurodegenerative disorders) with the European Commission. He is the Past President of Slovenian Neurophysiological Society and presently the President of Slovenian Brain Council. In addition, he is the member of Slovenian MD association, Section for Clinical Neurology in Section for Neurophysiology, ex-president; JPND, Member of the Managing Board; Member of the State ethical committee for organ transplantation; European Neurological Society - ENS, Section of Neurology; Honorary Member of the Colombian Neurological Association; member of the Slovenian Ministry of Health Working group for dementia He serves as a peer reviewer for Annals of Neurology, Movement Disorders, Wiener Klinische Wochenschrift, Journal Neural Transm, Eur Journal Neurology, Psychological Reports: Perceptual and Motor Skills, Croatian Medical Journal, Zdravniški Vestnik, Neuropsychobiology.

His main research interests include neurodegenerative diseases, particularly Parkinson's disease and Alzheimer's disease, cognitive neuroscience. Research projects and networks (relevant for the call). He lead or participated in over 30 national and international research projects, among them in many dementia-related projects, such as: DANDEC - Danubian Network for Dementia Education and Care, supported by the German Ministry for Education and Research, INDEED – the initiative „Improving Dementia Care in the Danube Region“, supported by the

INTERREG- Danube and STUDICODE - Transnational Programme and the Erasmus + project
“Stepping Up Digital Competence in Dementia Education”.

For his contribution in the field of dementia, President of the Republic of Slovenia distinguished him with The Order of Merit of Republic of Slovenia.

Abstract of the Keynote Speech

Neurodegenerative disorders – Yesterday, Today, Tomorrow

Professor Zvezdan Pirtošek, MD, PhD

University of Ljubljana, Slovenia

Presently, neurodegenerative diseases are the leading cause of disability in the elderly. Neurodegeneration is marked by the progressive loss of neuronal function and structure leading to various neurological disabilities such as balance, movement, talking, breathing, heart function, and, most frequently, as a cognitive decline in dementia. Although different neurodegenerative diseases (Alzheimer's (AD), Parkinson's (PD) and Huntington's disease (HD), amyotrophic lateral sclerosis (ALS) manifest with different clinical features, the disease processes at the cellular level appear to be similar. Depositions of aberrant protein aggregates in the brain are recognized hallmarks of major neurodegenerative disorders. They may occur due to age, environmental factors or due to genetic mutations which impact CNS cell function. Although presently we have a good understanding of the pathophysiological mechanisms, the cause of neurodegeneration is still unknown. The efficiency of pharmacological treatments varies from satisfactory (but only substitutive, not causative) in PD to disappointingly (HD, AD, ALS). Nonpharmacological interventions, physiotherapy, speech pathology, occupational therapy and psychological support in a multidisciplinary setting improve the quality of life for people with neurodegenerative disorders. For AD, a glimmer of therapeutic hope emerged with the FDA approval of lecanemab, an anti-amyloid vaccine, early in 2023.

Historical overview reveals how a progressive nature of often hereditary neurodegenerative disorders contributed to a widespread stigma against the patients. Stigma has serious consequences on people affected by neurodegenerative disorders and on their families. It may be considered as the weakest link in the chain of disease diagnosis, treatment, prevention and eventual control or elimination.

In the coming years, as we are poised to look deeper into cellular and genetic processes to understand fundamental insights and bring them creatively to the fore, novel therapies will emerge that will delay the onset and even reverse the symptoms of neurodegenerative diseases. Interventions will be personalized on the basis of genetic and biochemical studies and biomarkers such as imaging, blood and electrophysiological tests as well as proteomics and/or metabolomics will be used as screening tools and predictors of subsequent disease; prevention and early intervention will play increasingly important role.



Synopses of the Module Presentations

Neurology and medical care of neurodegenerative disorders Neuroanatomy



Dr. G. Kisokanth

Head/ Senior Lecturer

Department of Clinical Nursing

Faculty of Nursing

University of Colombo

Sri Lanka

Neurodegenerative disorders (NDDs) are traditionally defined as disorders with selective loss of neurons and the common clinical features of NDDs correlate with anatomical involvement (Przedborski, et al., 2003). Further, NDDs occur when nervous system cells in the brain, spinal cord, and/or peripheral nervous system begin to deteriorate or become functionally impaired (Checkoway et al., 2019). The most popular categorization of NDDs is still based on the structure of the predominant lesion of the brain. Further, NDDs of the central nervous system, be first grouped into diseases of the cerebral cortex, the basal ganglia, the brainstem, and cerebellum, or the spinal cord (Przedborski et al., 2003). Prominent NDDs include Alzheimer's disease (AD), Parkinson's disease (PD), Huntington's disease (HD), and vascular dementia (Tong et al., 2017).

AD and PD are common forms of NDDs, and both show the common clinical manifestations of body rigidity, bradykinesia, memory loss, tremor, and related psychological disorders. AD is associated with neuronal cell death between the hippocampus and cortex regions of the brain (Ayeni et al., 2022). Similarly, Parkinson's disease (PD) is characterized by progressive loss of dopamine neurons in the substantia nigra of the midbrain (Wulansari et al., 2021), and Dementia is caused by progressive, irreversible degeneration and atrophy of the cerebral cortex and results in mental deterioration with the gradual impairment of memory, intellect, and reasoning (Waugh and Grant, 2018). Identification of anatomical positions is needed for understanding the early symptoms of NDDs. Brain regions are responsible for symptoms like cognitive decline, dementia, and high-order brain functions alterations whereas basal ganglia, thalamus, and brain stem are mostly responsible for disturbance in body movement (Kovacs, 2016). It is important to understand neuroanatomy which helps to localize the disease-related changes (Apostolova et al., 2007).



Prof. Gorazd Drevenšek

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Slovenia

Neurobiological background of Alzheimer's dementia and microbiota

Alzheimer disease (AD) is the most prevalent among all dementias and among all other neurodegenerative diseases and is considered as one of the most debilitating health conditions. It is highly predictable and evaluated by Clinical Dementia Rating in advanced phases, where behavioural changes are easily detectable. The main goal of diagnosis AD remains early detection and diagnosing of those mild cognitive impairments that may predict Alzheimer's more relevantly. But up to date these methods remain highly unreliable, especially in early stages. Despite several highly reliable methods are available as potential diagnostic markers, i.e. analysing of genetic risk factors, behavioural changes are needed to determine the risk of AD. Several cognitive tests are used for behavioural changes that complement other test results. Also, all other available diagnostic tests are limited in early stages; only comprehensive neurological evaluation remains relevant.

AD is characterized by a cognitive decline that (usually) correlates with the formation of amyloid beta ($A\beta$) plaques and neurofibrillary tangles due to improper posttranslational protein folding. $A\beta$ activation and propagation occurs in the brain-gut axis; thus, the spread of amyloid plaques takes place from neuron to neuron, directly crossing the blood-brain barrier or via astrocytes, fibroblasts, microglia and immune cells. The formation of plaques is related to dysbiosis or dysbacteriosis, i.e. disturbed balance of digestive microbes that are specific for AD patients. The commensal microbiota and its activity, composition and relationships between microorganisms could be the important cause of the development of AD-related dysbiosis. Pathogenic microbiota increases the permeability of the gut-blood barrier, which protects against the entry of microorganisms into the bloodstream, and over activates the immune response, leading to systemic inflammation. Molecular mimicry of bacterial amyloidosis can cause the induction of microglial activation and facilitates the AD advancement. As a proof of microbiota role in AD, the transferred faecal microbiota of healthy animals to diseased ones showed decrease in the formation of amyloid plaques and

neurofibrillary tangles and normalized the activity of macrophages in the colon, reduced the permeability of epithelial cells to microorganisms and regulated inflammatory blood cells. As well, improvement in cognitive ability was increased.

The excessive appearance of inflammatory molecules from the gastrointestinal tract, together with aging and poor nutrition in the elderly accelerates the pathogenesis of AD. Gut microbiota of AD subjects is specifically impoverished. Modifications of the gut microbiota composition based on nutritionally supported therapy or with probiotic dietary supplements as well as other lifestyle improvements represent a potential new preventive and therapeutic opportunity in AD. Changing the gut microbiota can directly affect brain activity and long-term processes in the development of neurodegenerative conditions.

Important preventive approaches in AD remains comprehensive lifestyle changes and maintenance of healthy diets according to the personalized need of individuals as well as to their actual AD stage. As such AD can be seen as a “moving target” for therapeutic approach that is changed from stage to stage of the disease development. Due to that several good practices are needed to be continuously discovered and implemented according to their efficiency and “therapeutic” outcomes.

Clinical Assessment, Evaluation, and Outcome Measurement



Dr. Sarath Rathnayake

Senior Lecturer

Department of Nursing

Faculty of Allied Health Sciences

University of Peradeniya

Sri Lanka

A clinical assessment that includes history taking and physical examinations is the foundation for diagnosing and planning comprehensive care for patients with neurodegenerative diseases: dementia, Parkinson's Disease, Huntington's Disease and Amyotrophic lateral sclerosis. Outcome measures offer researchers and clinicians insight and meaningful data on health status from patients' perspectives on the above health problems. To perform history-taking and physical assessments effectively, nurses and other healthcare professionals should possess the necessary knowledge and skills. Using outcome measures in neurodegenerative diseases requires thorough knowledge of the outcome measures, the methods for using those in clinical practice, the pros and cons of each assessment scale, and their interpretation. Also, it is crucial to recognise the related legal and ethical implications of taking histories, performing physical assessments, and applying outcome measures.

Oral health and neurodegenerative disorders



Prof. Triin Jagomägi

University of Tartu

Estonia

Oral health.

Oral health is part of overall well-being. People with NDD are at increased risk for poorer oral hygiene due to the physical and/or cognitive problems. Regular oral monitoring and instructions for daily supportive oral care are part of the nursing care and can help in early detection and prevention of oral diseases and pathological conditions.

Sleep and neurodegeneration.

Bidirectional relationship has been established in between dementia and sleep disorders. Sleep has a multifaceted role in creating strong bases for good mental and physical health in the long term. Longevity studies have drawn attention to the importance of maintaining good sleep hygiene among other factors.

Treatment of sleep disturbances in patients with dementia should focus on managing specific symptoms, including insomnia or fragmented sleep, excessive daytime sleepiness, alterations in the sleep-wake circadian rhythm, and excessive motor activity during night. Sleep disturbance can become a relevant source for prediction who may be at greater risk for developing dementia.

Communication and swallowing disorders.

Communication and swallowing problems are very common among people with neurodegenerative disorders, including people with intellectual disability, and constitute a serious challenge for nurses. NDD patients have in common the weakness of inspiratory and expiratory muscles and muscles involved in speech, swallowing, and airway protection, thus increasing the risk of aspiration pneumonia. This limits their ability to perform activities of daily living, which further contributes to muscle weakness. That is the reason, why early detection and intervention of NDD by nurses and caregivers is very important.

Comprehensive care for people with neurodegenerative disorders



Dr. Nirmala Rathnayake

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Comprehensive care referred as the coordinated delivery of the total health care required or requested by a patient. It ensures that patients receive comprehensive health care that meets their individual needs and considers the impact of their health issues on their life and wellbeing. Comprehensive care for neurodegenerative disorders (NDD) is imperative aspect of caring older people, since NDD encompasses a wide range of conditions that results from progressive damage to cells and nervous system connections that are essential for mobility, coordination, strength, sensation and cognition. Therefore, maintaining a safe environment, communicating, breathing and circulation, eating and drinking, elimination, maintaining personal hygiene and dressing, controlling body temperature, mobilizing, working and leisure, expressing sexuality, sleeping and resting and dying are major aspects of caring for NDD patients. Therefore, the approach of comprehensive care is important for such patients while addressing the physical and biological factors, psychological factors, sociocultural factors, politico-economic factors, environmental factors influencing the living with NDD.

Sri Lanka has the 3rd highest rate of elderly population in Asia which leads to numerous issues in caring especially those who ended up with NDDs especially in economic and social aspects. The current economic crisis in Sri Lanka would double its impact in future. Therefore, Sri Lankan healthcare professionals should address the coordinated delivery of care for affected elderly while addressing the needs of patients and controlling factors affecting negatively on care and rehabilitation. This can be facilitated by the comprehensive care approach through identifying problems (or issues), setting specific, measurable, achievable goals, specifying interventions and justifying how to evaluate, all in collaboration and agreement with the person receiving care and / or caregivers which are culturally and economically acceptable to Sri Lanka.



Prof. Steve Smith
Triskelion
Norway

Comprehensive care for patients with neurodegenerative disorders (NDD) is challenging. It eventually leads to interdisciplinary team work to work collaboratively with people with NDD and their families. That would be basically involves with caring and rehabilitation of patient's overall wellbeing and identify problems that necessitate professional care input.

Many dilemmas encountered in this area of care that do not have ready-made solutions. Circumstances are complex and the people affected directly or indirectly are unique. Therefore, suitable care responses must be individualized. For example, should a person with an advanced-stage NDD who can no longer communicate personal wishes and can no longer safely eat and drink, be considered for surgical insertion of a percutaneous endoscopic gastrostomy (PEG) and receive nutrition and hydration via a tube to avoid choking or aspiration likely to lead rapidly to pneumonia?

There is no answer that is right for all patients!

There are issues around gaining consent, mental capacity, quality of life and sociocultural acceptability that must be considered along with practical considerations such as whether supply of equipment and formula can be depended on, whether costs can be justified given competing demands on the healthcare system and whether a family will be able to provide the necessary level of care and hygiene.

Therefore, the comprehensive care will direct the caregivers to analyze and reach evidence-based justifiable decision-making for the NDD patients caring and rehabilitation in order to enhance the overall quality of life.

Psychology



Prof. Marios Argyrides

Professor of Counseling Psychology

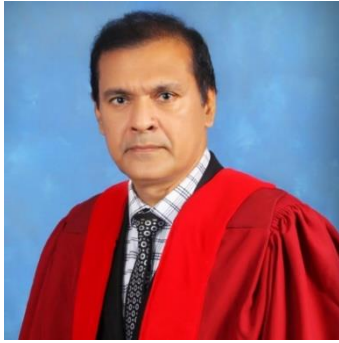
Neapolis University

Pafos

Cyprus

The important role of psychology and Acceptance and Commitment Therapy in dealing with neurodegenerative diseases

The purpose of the presentation is to introduce the audience to the importance of the field of psychology in neurodegenerative diseases addressing the different areas in which psychology can prove imperative in the management of neurodegenerative diseases for both the patients and their families, as well as medical and paramedical staff. In this context, there will be an informative approach to who can benefit from the field of psychology across the spectrum (i.e., patients, family members, medical and paramedical staff). The presentation will end with exposure to the basics and application of Acceptance and Commitment Therapy (ACT) and how it can be helpful in neurodegenerative diseases. Some practical examples of ACT will be illustrated to address how the principles and practice of ACT can be applied by the affected individuals of these diseases.



Prof. S. S. P. Warnakulasuriya

Faculty of Nursing

University of Colombo

Sri Lanka

Psychology is a subject that deals with scientific investigation of behavior and mental process. People with neurodegenerative disorders mainly have problems with behavior and mental processes. In order to properly understand the affected areas of people with neurodegenerative disorders, health care professionals should have clear understanding about the psychological concepts related to contributing factors to develop neurodegenerative disorders and also appropriate strategies to assess those patients, care those patients as well as propose preventive strategies to people for changing their behavior to minimize the risk of developing such disorders . During my presentation I will focus on three models of change the behavior including Transtheoretical model/stages of change, The Health Belief model, and the Commonsense model of Self-regulation.

Implementation and evaluation



Prof. Martin Jens Persson

Kristianstad University

Sweden

Change is a constant factor in our society; at our workplace, we implement new treatments, programs or interventions. But how do we implement change, and how do we know if the change actually improves things or what factors prevent the change from being applied? In order to interpret change and make the right decisions, it is necessary to have theoretical and practical knowledge of implementation and evaluation methods. This short lecture will introduce you to these methods. Afterwards, you will be able to define what implementation is and explain why evaluation is important to understand.



Dr. H M P Herath

Senior Lecturer in Nursing

Department of Nursing & Midwifery

Faculty of Allied Health Sciences

General Sir John Kotelawala Defence University

Sri Lanka

It is not a secret that Sri Lanka was severely impacted by the global economic shifts encountered by the COVID-19 pandemic. This has significantly affected the healthcare system, leading to adverse impacts such as nutritional deficits in children, increased psychological distress in society, escalation of non-communicable diseases, and deficiency in access to healthcare services. Hence, it is critical to develop new approaches, mechanisms, and regulations to mitigate the risk of future public health issues.

Healthcare innovations are examples of social innovations which strive to solve the problems of society. Any improvements, no matter how simple or complex, that result in better health outcomes and patient experiences are referred to as healthcare innovations. According to the World Health Organization (WHO), health innovation improves healthcare productivity, efficiency, reliability, sustainability, security and reduces cost. It is our collective responsibility to restore the healthcare system in Sri Lanka, which claims to have a reputed history in the delivery of good healthcare in South Asia. It is vital to develop programs based on innovative concepts that maximize the sustainable use of available resources. The theoretical and practical knowledge of implementation, including specific activities and interventions which turn policy objectives into sustainable outcomes, is crucial. Furthermore, enhancing the evaluation skills in identifying consequences, both desired and undesirable, expected and unexpected, that have occurred as a result of a policy or program is of utmost importance.

Person-centered care



Ms. Emma Edberg Matei

Lecturer

Kristianstad University

Sweden

In recent decades, care provision has developed from being system-oriented towards person-centered. Person-centered care is nowadays mentioned as a basis of care provision in international policies and steering documents, for example from WHO. The fundamentals of person-centered care were originally developed by Tom Kitwood for persons with dementia during the 1990ies in UK and has thereafter been expanded to involve all health care contexts. One concept that builds on the thoughts by Kitwood is VIPS, defining the core concepts of person centeredness. The concept of VIPS is:

- A Value that asserts the absolute value of human lives regardless of age or cognitive ability.
- An Individualized approach, recognizing uniqueness.
- Understanding the world from the Perspective of the service user.
- Providing a Social environment that supports psychological needs.

The presentation will build on the VIPS concept and give practical examples of how care can be developed and provided accordingly.



Dr. H.D.W.T. Damayanthi Dassanayake

Head /Senior Lecturer

Department of Nursing

Faculty of Allied Health Sciences

University of Peradeniya

Sri Lanka

Nowadays, neurodegenerative disorders have become a challenge for both public health and health care delivery systems, globally. Therefore, in recent years, health care systems have been making efforts to incorporate the perspectives and goals of caregivers and patients in their care instead of the traditional bio medical model. Person-centered care (PCC), a prominent concept in caring of neurodegenerative disorders, is built around the needs of the individual and contingent upon knowing the unique individual through an interpersonal relationship.

Lady Florence Nightingale, the founder of modern nursing identified this concept of differentiating nursing from medicine by its focus on the entire patient rather than the particular disease. Published literature provides evidence for several domains for PCC including (a) holistic or person-centered care, (b) respect and value, (c) choice, (d) dignity, (e) self-determination, and (f) purposeful living.

Numerous models currently can be found in the literature to describe the PCC concept. All of them ensure to incorporate person and family preferences, improve experience of care for persons and families and promote self-management.

Family and societal perspectives



Mr. Gareth Davies

Triskelion

Norway

What should be in place at a socio-political level for NDD patients and their families to deal with the challenges they face? *An international perspective with examples from different countries.*

The presentation will cover the following areas

- **Role of international NGOs**

WHO efforts and recommendations on NDD care strategies

Other international bodies and associations lobbying for integrated societal approach to NDD management

- **Governments**

National policy and development of NDD plans – example of French NDD plan 2013-2019 and subsequent road map

- **National, regional and local NGOs and support groups**

Examples of activities and types of support available in Europe for NDD families and patients. Roles of support groups in this area with case study

At the end of the session, we hope that students will be able to

- a) Discuss how global initiatives can impact on development of NDD care strategies
- b) Understand how government approaches can be formulated in an integrated but impactful way
- c) Identify what specific needs of families can be addressed by NGOs and support groups



Dr. D Vidanage

Senior Lecturer in Nursing

Department of Nursing & Midwifery

Faculty of Allied Health Sciences

General Sir John Kotelawala Defence University

Sri Lanka

Over the last decade, person-centered practices in care for people with neurodegenerative diseases has received significant attention from the health care and social services. Though less attention has been paid to family-centered care, the extent to which family-centered interventions are important in care of people with neurodegenerative diseases need to be explored. Effectiveness of family centered care is guaranteed when the care givers are educated and supported with either government or non-governmental organizations. Many families in Sri Lanka lack formal institutional support and guidance in addition to financial aid and resources. Although there is consensus that high-quality care is person and family focused, strategies to operationalize these principles are lacking. In Sri Lanka, more examples on family-centered care for people with neurogenerative diseases could be provided as ‘informal’ as the caregivers have not been properly trained with specialized care. Therefore, it is vital to identify quality indicators and strategies that may lead to successful family-centered care in this population, which include access to knowledge, services, and supports rendered by the society level.

Communication



Prof. Marios Argyrides

Professor of Counseling Psychology

Neapolis University

Pafos

Cyprus

The purpose of the presentation is to introduce the audience to the importance of communication in dealing with individuals with neurodegenerative diseases, their families, and medical personnel. The presentation will a) describe suitable communication methods towards patients with common neurodegenerative diseases (NDD) and family/caregivers from diverse populations and cultural backgrounds and b) discuss ways that adaptation to (un)expected situations is necessary. Skills will also be presented to address managing emotions (of the self and others), understand families' perspectives, actively listening, creatively utilizing problem solving, and appropriately disclosing difficult information. Finally, the presentation will address another important topic with communication between healthcare providers and family members/caregivers touching on communicating bad news to the patient and family members/caregivers, conveying information with compassion and being aware of possible power dynamics within the family.



Dr. Bimba Wickramarachchi

Head / Senior Lecturer

Department of Nursing

Faculty of Allied Health Sciences

University of Ruhuna

Communication impairments is the one of the key challenges faced by individuals with neurodegenerative diseases. Initial symptoms may not interfere with speech intelligibility or smooth language functions. However, at some point in the disease progression, many patients become unable to communicate effectively, verbally or non-verbally, to pass their messages or ideas to others. Patients with complex communication impairments secondary to neurodegenerative diseases that they suffer, vary significantly depending on which area has been affected, speech, motor skills, language or cognition. Aphasia, Dysarthria and Apraxia are the common communication challenges faced by patients with Neurodegenerative disorders. Augmentative and alternative communication (AAC) technique is a form of communication that are used to express thoughts, needs, wants and ideas by people with such communication barriers. AAC encompasses a variety of strategies, techniques, and devices, ranging from simple yes/no eye blinks to sophisticated computer-based communication systems. Speech-generating devices are available for patients with neurodegenerative disease who present at different stages of communication impairment. Such devices facilitate them to maintain daily communication activities. However, there are socio-economic and cultural factors such as high cost and social acceptance that contribute to select and use an appropriate communication aid. Healthcare professionals should be educated to identify communication deficiencies exhibit by the patients and to assist them in selecting and effective use of communication aids.

Resource persons - Panel Discussion on “How to Develop Neurocare in Sri Lanka



Prof Manoji Pathirage

Faculty of Medicine
University of Peradeniya



Dr. Kapila Ranasinghe

National Institute of Mental Health
Sri Lanka



Dr. Chamila Dalpadatu

Faculty of Medicine
University of Colombo



Dr. IUK Mudalige,
Faculty of Medicine,
KDU



Abstracts of the Presentations

OP1: Factors Associated with the Attitude Towards Caring for Patients with Dementia Among Nurses at the National Institute of Mental Health, Sri Lanka

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Background: Dementia is a syndrome of deterioration in cognitive function beyond what might be expected from normal aging. Caring for patients with dementia is most challenging with the nature of the disease condition. Nurses' positive attitudes towards patients with dementia influence attentiveness, connectedness, friendliness, helpfulness, unobtrusiveness, and respectfulness, while negative attitudes may result in harmful nursing behaviors such as neglecting patients.

Objectives: The study aimed to assess the factors associated with the nurses' attitude toward caring for patients with dementia at the National Institute of Mental Health, Sri Lanka.

Methods: A descriptive cross-sectional study was carried out among volunteered 190 nurses who are currently engaging in patient care among patients with dementia at the National Institute of Mental Health, Sri Lanka. Data were collected by using a validated, self-administered research questionnaire using the Alzheimer's Disease-Related Dementia Attitude Scale (DAS) consisting of subdomains of the attitude of comfort and knowledge on Dementia. The study was ethically approved by the ethical review committee at KIU (KIU/ERC/21/119). Data were analyzed by using descriptive and inferential statistics using SPSS statistical software (version 25).

Results: The mean age of the study sample was 30.96 ±6.46 years old. The majority of the participants were female (74.2%), Sinhalese (98.4%), and married (47.4%). The mean attitude score was 59.60±6.20. Concerning subdomains, the mean attitude score of comfort was 27.84±3.52, and the mean knowledge score was 28.67±3.58. Attitude level was associated with age category (p=0.03), the number of working hours per week (p=0.01), and type of family(p=0.002). Other demographic factors such as gender (0.46), ethnicity (0.11), and religion (0.32) were not associated with the level of attitude.

Conclusion- Nurses' attitude towards caring for patients with dementia is positive. Periodical surveys and strategies such as educational programs on caring for patients with dementia are encouraged to improve the positive attitude.

Keywords – Dementia, Nurses, Attitude, Disease-Related Dementia Attitude

OP2: Knowledge on Dementia among Nursing Undergraduates in Two Universities in Sri Lanka

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Background: Number of people suffering from dementia is overwhelming. There is a need to ensure that the future healthcare workforce has the knowledge and skills to provide high quality compassionate care to the growing number of people living with dementia. Assessing nursing students' knowledge could be an important step in providing evidence for the need to improve dementia care training in the nursing curriculum.

Objective: This study aimed to assess undergraduate nursing students' knowledge on dementia and their willingness to provide care for elderly patients with dementia.

Methods: One hundred and fifty-two undergraduate nursing students from Ruhuna and Colombo universities who were in second year to final year participated in this descriptive cross-sectional study. Data collection was done using a self-administered questionnaire via Google Forms. The questionnaire included 10 statements to assess participants' knowledge on causes, symptoms, diagnosis, risk factors, treatment and prevention. Data was analysed using chi-square test.

Results: The mean knowledge score of nursing students was 6.26 (SD± 1.59) out of 10 points. Percentages of participants who responded correctly for the items assessing knowledge on causes, symptoms, diagnosis, risk factors, treatment and prevention were 22%, 23%, 59%, 48%, 66%, 53% respectively. Only 53% of 2nd year students had adequate knowledge while 3rd years had 81% and 4th year students had 82% of the adequate knowledge (p=0.002). Those who reported prior experience of working with dementia patients had higher knowledge score (79%) compared to those who had no such experience (64%) (p=0.039). Willingness to provide care for the elderly people with dementia indicated by a large number of participants (n=132, 80%).

Conclusion: This study revealed that undergraduate nursing students in both universities had knowledge gaps in causes, symptoms and risk factors of dementia, although their knowledge improves as they advanced in academic year.

Keywords: Undergraduate Nursing students, Knowledge, Dementia, Willingness, Elderly

OP3: Injury Patterns among Elderly Patients Admitted to Accident and Orthopedic Unit in National Hospital of Sri Lanka

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Introduction: Elders are highly vulnerable to injuries and fractures, leading to long term suffering and it has become a worldwide public health burden.

Methods: A descriptive cross-sectional study was conducted to assess the injury patterns among elderly patients with traumatic injuries admitted to the accident orthopaedic unit of National Hospital, Sri Lanka with the participation of 150 elderly patients aged 60 years and above. A pre-tested interviewer administered questionnaire was used as study instrument. Descriptive and inferential statistics performed by using SPSS 23 version.

Results: There were 56% males, and the mean age of the participants was 69 years (SD=±5.19). Nearly 26.3% participants, were educated up to grade five or less. Majority (72%) were living with family members. Among the participants, 68.7% reported that they were getting support from family members for their activities. Of the participants, 10.7% had a past history of stroke and 26.7% were diagnosed with impaired memory. Around 37% experienced the injurious event at night-time. Of the participants around half of them (49%) faced the injuries at home environment while the other half faced the injuries outside the home. Unintentional falls accounted for most (54%) of the injuries followed by road traffic accidents (34.7%). Gender ($p < 0.001$), level of education ($p = 0.031$) and having a diagnosis of impaired memory ($p < 0.001$) showed significant association with the occurrence of unintentional falls. Lower extremity injuries were most common (44.7%) followed by upper extremity (28%) and multiple site injuries (14.7%). Among the types of the injuries, commonest injury type was fractures (49.3%) while only 8% experienced dislocations as the injury.

Conclusion: Most prevalent reason for injuries among elderly people in this study was unintentional falls and lower extremity is the commonest injury site. Gender, educational level and memory impairments had significant impact on falls. Prospective surveys need to be conducted to identify injury pattern and necessary interventions should be implemented to prevent injuries among elders.

Keywords: Injury patterns, elderly, traumatic injuries

OP4: Co-designing a mHealth application for informal carers of people with dementia focusing on managing behavioural and psychological symptoms: A study protocol

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Background: Limited community-based geriatric and mental healthcare services are available for the informal carers of people with dementia in Sri Lanka. They require education and support, particularly in managing behavioural and psychological symptoms of dementia (BPSD) in home-settings.

Objectives: To develop an educational and supportive mHealth application for informal carers of people with dementia to address their information needs in managing BPSD of their care recipients.

Methods: This mixed-method study will co-design an mHealth application based on the “Analysis, Design, Development, Implementation and Evaluation” model. The analysis phase will include an integrative systematic review, a cross-sectional survey with carers, and individual interviews with carers, health professionals and information technologists to explore the carers’ information needs and available mHealth applications. The designing phase will include data triangulation based on the result of systematic review, survey and qualitative interviews that leads to the development of the content framework for the potential application, considering blooms taxonomy and adult learning theory. The content framework will be validated by a panel of health experts/carers. The detailed content will be developed by researchers and validated by a panel of experts. In the development phase, software developers will develop an android application. It will be finalised by the researchers. In the implementation and evaluation phase, a feasibility study will be conducted to assess its usability and users’ satisfaction. In data analysis, narrative, descriptive, and thematic analysis will be performed for integrative review, quantitative findings and qualitative findings, respectively.

Results: The integrative review was completed.

Limitation: This study will develop only a Sinhala Version of the application.

Conclusion: An mHealth application will be developed that addresses informal carers' information needs related to BPSD of their loved ones with dementia. This application has the potential to improve the knowledge of carers, alleviate their burden and improve their well-being. Developing this application for Sri Lankan Tamil-speaking populations is suggested.

Keywords: Behavioural and psychological symptoms, dementia, informal carer, information needs, mHealth

OP5: Attitudes And Associated Factors Towards Caring for Older People Among Acute Care Nurses In Kandy National Hospital, Sri Lanka

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Introduction: In recent decades, the number of older people has increased globally as well as in Sri Lanka. In acute care wards, nurses play an important role to care for older people. Nurses' attitudes towards caring for older people contribute to providing comprehensive care towards older people

Objective: To assess the level of attitudes and associated factors towards caring for older people among acute care nurses in Kandy National Hospital, Sri Lanka.

Methodology: A descriptive cross-sectional study was conducted among a convenient sample of 322 acute care nurses in Kandy National Hospital, Sri Lanka. A self-administrated questionnaire was used in data collection. The questionnaire consists of four sections (1) sociodemographic data, (2) Person-related factors, (3) institutional factors and (4) attitudes towards older people. The Sinhala version of the Kogan Attitudes towards Older People Scale (KAOP) was used to assess attitudes with prior permission. Participants were responded to 6 points Likert-type scale ranging from "strongly disagree to strongly agree". In the analysis, negative items were reverse coded and higher scores indicated positive attitudes towards older people. A score of >102 was considered a positive attitudes and <102 was considered a negative attitudes. Data were analyzed using SPSS software (Version 26.0). A p-value of 0.05 was considered as the significance level.

Result: The sample consisted of 322 acute care nurses (response rate was 83.85%), comprising 110 (34.2%) males and 212 (65.8%) females. Most of the acute care nurses had positive attitudes towards caring for older people (74.5%). The factor associated with attitudes towards caring for older people was gender (P=0.031).

Conclusion: Most of the acute care nurses had positive attitudes towards caring for older people. The factor associated with the attitudes was gender. Most of the female nurses had positive attitudes than male nurses. Institutional factors and Person-related factors were not associated with the attitudes. Further studies are needed with a larger sample size which represents a wide geographical area.

Keywords: Acute care nurses, Attitudes, Older people

PP1: Knowledge Towards and Intention to Work With People with Dementia among Acute Care Nurses in National Hospital Kandy, Sri Lanka

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Introduction: Dementia is one of the common health problems in older people and nurses have an important role in meeting the healthcare needs of people with dementia. Therefore, nurses should prepare with adequate knowledge and intention to provide the above care.

Objective: To assess the level of knowledge towards and intention to work with people with dementia among acute care nurses in National Hospital, Kandy, Sri Lanka.

Methodology: A quantitative descriptive survey was conducted among acute care nurses in Kandy National Hospital, Sri Lanka. In data collection, a self-administrated questionnaire was used. The questionnaire consists of three sections (1) sociodemographic data, including institutional and person-related factors, (2) The Dementia Knowledge Assessment Scale (DKAS), and (3) a single question to assess intention to work with people with dementia. Data were analyzed using SPSS version 25. A p-value of 0.05 was considered as the significance level.

Result: The sample consisted of 328 acute care nurses (response rate was 82.3%), comprising 33 (10.1%) males and 295 (89.9%) females. The mean score for the DKAS score for the participants was 22.77 ± 5.93 out of a maximum score of 50. This study found that most nurses had poor knowledge of patients with dementia. Marital status was significantly associated with dementia knowledge ($p = 0.031$). From the sample, 53.4% of acute care nurses were willing to work in the dementia care unit. Age ($p = 0.023$) and previous experience with caring for patients with dementia ($p=0.029$) were significantly associated with willingness to work in a dementia care unit.

Conclusion: The study results show poor knowledge and positive attitudes of acute care nurses in National Hospital Kandy, Sri Lanka. These results can be used for raising awareness and the need for developing training programmes for nurses in an acute care setting in Sri Lanka. The study suggests gaining organizational support in order to care agreement among acute care nurses.

Keywords: Acute care nurses, dementia, knowledge, willingness

PP2: mHealth applications for information needs of informal carers of people with dementia in managing behavioural and psychological symptoms: a systematic integrative review

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Background: mHealth applications are an effective mode of delivering educational and supportive information in managing chronic diseases of older people. Informal carers of people with dementia manage complex clusters of behavioural and psychological symptoms with dementia (BPSD). However, the specialised information needs of carers in managing BPSD and related mHealth applications were not systematically described to inform the designing of mHealth applications.

Aim: To review and synthesise the informal carers' information needs in managing BPSD and related mHealth applications.

Method: A systematic integrative review was conducted as a part of co-designing an mHealth application, and the framework of Whitemore and Knafl and the PRISMA guidelines were followed. Six databases were searched: Cochrane, CINAHL, Embase, MEDLINE, ProQuest and PsycINFO. The key concepts, including "dementia", "behavioural and psychological symptoms", "informal carers", and ("information need" or "mHealth application"), were searched in peer-reviewed full-text articles published in English from 2000 to 2022.

Results: Out of 3509 articles, 359 were chosen for full-text review. This review included thirty-four studies, including quantitative, qualitative and mixed-method studies. Carers stated limited knowledge of BPSD concerning recognition, progression, and negative impacts on care recipients, delaying BPSDs, managing BPSDs, misconceptions and role performance. They were interested in learning more about the available support systems for managing BPSD: professional support, health care facilities, training resources, social systems/services, institutionalised care, eHealth and legal supports. Carers needed information on managing their well-being, for example, psychological well-being, safety, family conflict, and situational adjustment. However, only one mHealth application that monitors the behavioural issues of people with dementia was reported in the literature.

Conclusion: Informal carers of people with dementia require extensive information in managing BPSD. Available mHealth applications are dearth in the given context. Therefore, we recommend developing multifaceted mHealth applications and assessing their effectiveness. Targeting these information needs in co-designing mHealth may enhance the acceptance and adherence with mHealth applications.

Keywords: Behavioural and psychological symptoms, dementia, informal carer, information needs, mHealth

Short Abstracts from Presenters from European Universities

Oral health in people with neurodegenerative diseases.

Riina Runnel

Lecturer in Oral and Dental Diseases; PhD (Medicine)

University of Tartu, Institute of Dentistry

Oral health is part of overall well-being. People with NDD are at increased risk for poorer oral hygiene due to the physical and/or cognitive problems. Regular oral monitoring and instructions for daily supportive oral care are part of the nursing care and can help in early detection and prevention of oral diseases and pathological conditions.

Communication and swallowing disorders in patients with neurodegenerative diseases.

Andres Köster

Speech Language Therapist; North Estonian medical Center, Tallinn, Estonia

Junior researcher, PhD student; Institute of Dentistry; University of Tartu, Estonia

Communication and swallowing problems are prevalent among people with neurodegenerative disorders, including people with intellectual disabilities, and constitute a severe challenge for nurses and caregivers. NDD patients have in common the weakness of inspiratory and expiratory muscles and muscles involved in speech, swallowing, and airway protection, thus increasing the risk of aspiration pneumonia. This limits their ability to perform activities of daily living, which further contributes to muscle weakness. That is why early detection and intervention of NDD by nurses and caregivers is crucial.

It's all about appreciation": Supporting the psychological wellbeing of individuals with neurodegenerative disorders in the face of impaired body functionality

Elly Anastasiades

Eating and Appearance Research Laboratory Scientist, Neapolis University Pafos

Neurodegenerative diseases affect several body functions including mobility and balance, bladder and bowel function, speech, as well as memory and cognitive abilities. Impairment to body functionality tends to negatively impact one's appreciation for their body as well as their experiences of embodiment, or how they live and experience the world through their body. As such, individuals with neurodegenerative diseases may be particularly susceptible to body image dissatisfaction, and in turn, symptoms of psychological distress (e.g., low self-esteem, social anxiety, and depression). Recent developments in the field of body image have emphasized the role of positive body image in protecting against body image disturbance and promoting psychological wellbeing. One construct which has been found to play a particularly important role in enhancing positive body image is *functionality appreciation* (i.e., appreciating, respecting, and honoring the body for what it is capable of doing). By enhancing functionality appreciation, one can increase their body satisfaction, body appreciation, and overall positive feelings towards the body. Importantly, studies with individuals with impaired functionality due to illness have found that individuals can have high levels of functionality appreciation irrespective of their level of functionality. In other words, one can still feel good about their body despite having impaired bodily functions. This situates functionality appreciation as a relevant, important and useful construct in protecting against body image dissatisfaction for individuals with neurodegenerative diseases. The current presentation highlights the importance of considering declining body functionality in relation to the psychological wellbeing of individuals with neurodegenerative disorders and presents ways in which functionality appreciation can be enhanced despite declining bodily functions.

Neurodegenerative diseases - Palliative care and quality of life

Katarina Galof, PhD, Lecturer in Occupational Therapy

Everyone's life consists of a set of habits, routines, rules and rituals that they go through at all stages of their lives. The changing age structure of the population and the ageing of society are factors contributing to an increase in neurodegenerative diseases. These diseases are often accompanied by distressing symptoms that affect the quality of life of the terminally ill person and his or her family.

The role of professional or nonprofessional caregivers is to enable the person to participate in important activities of daily living and to contribute to the person's quality of life and, consequently, to the quality of life of his or her family through their professional methods and techniques. The person, family members, and professional or nonprofessional caregivers participate in the development of the palliative plan and its implementation. A palliative care plan can already be a useful tool for managing and relieving symptoms, for dealing with family issues, for the process of saying goodbye or dying, and for the grieving process for the person himself and for all his family members and the other members of the palliative care team. One of the most important roles in palliative care is also to support family members during the grieving process before and after the death of the loved one.

Dementia friendly environment

Dr. Anamarija Kejžar, University of Ljubljana

We aim to destigmatize dementia and to recognize it on time by GP and in the local community. There are many countries without written policy on dementia prevention and action plan; there is only estimated data about people with dementia; in sufficient government support to informal carers (e.g. training and post-diagnostic support); palliative care for people with dementia is developing very slowly. The post-diagnostic support lies mainly on Alzheimer Societies and is not formally guided which causes many difficult situation for people with dementia and their carers.

There are lot of opportunities to enhance the quality of life of people with dementia – to live and die in home environment is special challenge, where tele-care and tele-medicine play important role. Sensors and smart devices would enable people to live independent life at home longer.

For those who live in care homes, the staff knowledge on dementia, openness to local community and stimulative activities prevents depression and other symptoms of dementia.

Defining dementia friendly environment covers all areas of life, including spatial adjustments, personalisation of congruent care, nutritional care, stimulative activities, ICT devices, social contacts, palliative dementia care so person with dementia can remain a person, not just another patient.

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