

Symposium Abstract Book



Satellite Symposium:

Breaking Barriers to Oral Nutritional Interventions in Older Adults with Malnutrition

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Agenda



Welcome & Introduction

Chair: Prof. Regina Roller-Wirnsberger, MD, PhD.

Professor of Geriatric Medicine and Competence based Curriculum Development at Medical University of Graz, Austria



Factors Influencing Food Intake in Older Adults: Key Determinants for Improving Nutritional Compliance

Dr. Carrie Ruxton, RD, PhD.

Nutrition Communications, Cupar, Scotland, United Kingdom



Cost-Benefit Analysis of Oral Nutritional Supplements Intervention in the Older Adults with Malnutrition

Dr. Emanuele Cereda, MD, PhD.

Clinical Nutrition and Dietetics Unit, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy.



Effectiveness of High-Protein Energy Dense Oral Supplements on Patients with Malnutrition using Morphofunctional Assessment with AI-assisted Muscle Ultrasonography

Prof. Juan José López-Gómez, MD, PhD.

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Prof. Regina Roller-Wirnsberger, MD, PhD.

Professor of Geriatric Medicine and Competence based Curriculum
Development at Medical University of Graz, Austria

Welcome & Introduction

Speaker biography

Professor Roller-Wirnsberger is a distinguished expert in the field of Geriatric Medicine and Competence-based Curriculum Development at the Medical University of Graz, Austria.

Professor Roller-Wirnsberger has been actively involved in academic research programs focused on geriatric medicine and public health in older adults. As a co-applicant of numerous EU-funded projects, including Horizon Europe and Erasmus+, they have made significant contributions to the field. Professor Roller-Wirnsberger has also played a key role in national and international projects, serving as a stakeholder in the development of guidelines, care pathways, and quality standards.

As the leader of the research unit "Aging and Old Age Medicine" at the Medical University of Graz, Professor Roller-Wirnsberger's primary research focus lies in interdisciplinary complex care management including all aspects of secondary and tertiary prevention for "aging well", also crosslinking projects in an integrated care approach.

Professor Roller-Wirnsberger's contributions to academia are evident through their extensive publication record, which includes over 120 SCI-listed publications. She have also served as the editor of the official textbook for education and training of the European Geriatric Medicine Society (EuGMS) titled "Learning Geriatric Medicine." Additionally, Professor Roller-Wirnsberger has taken on editorial roles for the Austrian National Policy



Briefs on Nutrition in Long-Term Care (2022) and in Hospital (publication 2024), as well as the Austrian Clinical Support Tool for Nutrition in Primary Care for Patients older than 65 Years, released by the Austrian National Health Insurance.

In terms of official positions, Professor Roller-Wirnsberger has held the position of Full Professor at the Medical University of Graz since 2011. They also served as the Vice Chair of the European Nutrition Health Alliance (ENHA) from 2019 to 2021 and as a Board Member of the Reference Site Collaborative Network (RSCN) of the European Union. Furthermore, Professor Roller-Wirnsberger is a member of the Austrian National Advisory Board on Nutrition, appointed by the Minister of Health and Social Affairs. Since 2022, they have been heading the Advisory Board on Nutrition for the Directorate of the Styrian Hospital Trust, overseeing 20 public hospital locations and three long-term care facilities in the province.

Introduction

Dear colleges and partners,

It is my great pleasure to welcome you on behalf of Nestle Health Nutrition to the symposium entitled "Breaking Barriers to Oral Nutritional Interventions in Older Adults with Malnutrition". Today, we gather to explore and address one of the most crucial aspects of healthy aging and clinical care of older people: nutrition.

As our global population continues to age, understanding the unique nutritional needs of the older citizen and patient has never been more imperative. Aging is a complex process that brings about numerous physiological changes. These changes as well as diseases occurring during ageing can significantly impact nutritional requirements and food uptake. This is why food and nutrition is a corner stone of physical and cognitive resilience, even in the presence of multiple chronic diseases. Therefore, proper nutrition in old age extends beyond mere sustenance. It is a cornerstone of maintaining functional independence, preventing acute diseases, and enhancing quality of life. Research has shown that targeted nutritional interventions can mitigate the risks of malnutrition, frailty, and cognitive decline, enabling our older population to lead healthier and more fulfilling lives.



This symposium aims to bring together leading experts from various disciplines to share their latest research findings, innovative strategies, and practical solutions for improving nutritional care in older people/geriatric patients. Our sessions will cover a broad range of topics, including factors influencing food intake in older adults as well as the effectiveness of high-protein energy dense oral supplements on patients with malnutrition. A presentation on cost-effectiveness of oral nutritional supplements intervention in older adults with malnutrition will highlight the system effects of malnutrition and its interventions in older people.

As we embark on this journey of collaborative learning during the symposium in community of expertise, I hope for inspiring and reflective discussion also from the audience's side. The insights and solutions generated through our discussions today will not only advance the field of geriatric nutrition but also pave the way for healthier, more resilient aging populations worldwide.

Thank you and welcome.

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Dr. Carrie Ruxton, RD PhD

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Factors Influencing Food Intake in Older Adults: Understanding the Challenges

Speaker biography

Dr. Carrie Ruxton PhD is a UK-based dietitian with a specialist interest in science-based communication. After qualifying from Queen Margaret University, Edinburgh, Carrie conducted an in-depth survey of children's diets, gaining her PhD in 1994. The results were published in the British Journal of Nutrition. She then worked as a hospital dietitian and university academic before becoming freelance in 2004.

Over the past 20 years, Dr. Ruxton has worked with a wide range of food/nutrition companies and trade organisations to communicate nutrition science for different audiences with the goal of helping more people to follow optimal diets. Carrie also has non-executive roles including serving on the boards of Food Standards Scotland (2015-23), the Nutrition Society (2020-24) and Quality Meat Scotland (2023-).

Dr. Ruxton maintains several areas of research interest including functional foods, fruit juice, eggs, children's nutrition and public health nutrition. She publishes regularly in academic journals and professional magazines and has contributed to TV, radio, print media and podcasts. Her awards include the BDA's Elizabeth Washington Award (2011), Emerald Literature Outstanding Paper Award (2011) and Complete Nutrition's Writer of the Year (2013-14).



Abstract

As the global population continues to age, it is crucial to understand the factors that influence food intake in older adults. Ageing brings about various changes in the body, including alterations in nutritional requirements and bioavailability, disease progression, dentition, and appetite. These changes require special consideration when it comes to the dietary needs of older adults as inadequate nutritional intake increases the risk of malnutrition – a common problem in frail adults. This presentation aims to explore the challenges faced by older adults in maintaining adequate food intake and the factors which contribute to these challenges.

Overview of Factors Influencing Food Intake:

- Physiological Barriers: Reduced appetite, early satiety, altered sensory perception, poor dentition, swallowing issues, gastrointestinal ageing and associated digestive issues.
- Psychological Barriers: Depression, anxiety, cognitive impairment and dementia.
- Social Barriers: Isolation, loneliness, poverty, lack of support, low education.
- Diseases/Treatments Barriers: Acute or chronic diseases, disability, need for therapeutic diets, immobility.

These factors can increase the risk of malnutrition leading to severe consequences for older adults' health and well-being. The result can be increased frailty, decreased immune function, and higher healthcare utilisation. To address this, nutritional interventions are crucial, such as the provision of oral nutritional supplements (ONS).

However, there are challenges associated with ONS compliance which include:

1. Buy-in from patients: Ensuring that the patient understands the benefits of ONS and actively participates in the decision-making process.
2. Support from staff: Healthcare professionals play a vital role in providing guidance, encouragement, and monitoring to improve compliance with supplements.
3. Preferences: Allowing the patient to have a say in choosing the flavor of the supplement can enhance their acceptance and compliance.
4. Low volume: Offering supplements with a smaller volume can make them easier to consume, especially for older adults with swallowing difficulties.



5. High energy-protein dense ONS: Providing concentrated supplements that are rich in energy and protein can help meet the nutritional needs of older adults.
6. Ease of opening: Ensuring that the packaging of the supplements is easy to open, particularly for individuals with limited dexterity.
7. Temperature: Serving the supplements at a preferred temperature can enhance their palatability and acceptance.
8. Setting of delivery: Creating a comfortable and pleasant environment for supplement consumption can positively impact compliance.
9. Monitoring intake: Regular monitoring of supplement intake can help identify any issues or barriers and allow for timely interventions.
10. Texture/Consistency: Offering supplements with different textures or consistencies can cater to individual preferences and swallowing abilities.

In conclusion, understanding the factors that influence food intake in older adults is essential for addressing the challenges they face in maintaining proper nutrition. Nutritional interventions, such as ONS, can help address malnutrition, but healthcare professionals need to ensure high compliance in order to achieve cost effectiveness.



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Cost-Benefit Analysis of Oral Nutritional Supplements Intervention in the Older Adults with Malnutrition

Speaker biography

Dr. Emanuele Cereda graduated as an MD in 2002 and obtained a specialization degree in Clinical Nutrition in 2006, followed by a PhD in "Clinical and Experimental Nutrition" in 2009. Since 2010, he has been working as a physician and research scientist at the Clinical Nutrition and Dietetics Unit of the Fondazione IRCCS Policlinico "San Matteo" in Pavia, Italy. As a lead investigator in numerous clinical trials, his research activities have resulted in a significant number of publications. These publications primarily focus on disease-related malnutrition and its associated complications in various healthcare settings, including oncology, sarcopenia, body composition, wound healing, and neurodegenerative diseases, particularly Parkinson's disease. Dr. Cereda also serves as an Associate Editor of Clinical Nutrition and is a member of the Scientific Committee of the European Society for Clinical Nutrition and Metabolism (ESPEN).



Abstract

In the face of rising costs and decreasing affordability, both public and private resource allocators are actively seeking value in healthcare. The undeniable health benefits of nutritional products and interventions necessitate a careful consideration of their cost within the healthcare system. The body of evidence from health economics and outcomes research studies is expanding and demands attention.

Nutrition care proves to be an effective and cost-efficient approach to improving the health of at-risk or malnourished patients. It serves as a valuable component of healthcare across various settings - from hospitals and nursing homes to rehabilitation centers and community living. Furthermore, it has a significant impact on populations, particularly focusing on older individuals and those with chronic health conditions. The cost-effectiveness of these interventions is evident, with tangible benefits for payers.

However, despite the existing knowledge, there is still a need for further research in this area. Future studies should incorporate relevant analysis to provide better insights to practitioners, institutions, and policy-makers regarding the cost-benefit dynamics of nutritional care. Collectively, these efforts will lead to an improved allocation of resources and facilitate greater access to medical nutrition.

By recognizing the value of nutritional care and continuously investigating its cost-effectiveness, we can strive towards a healthcare system that optimizes resources and ensures equitable access to essential nutritional interventions.

In this lecture, Dr. Cereda will specifically delve into the "Cost-Benefit Analysis of Oral Nutritional Supplements Intervention in the Older Adults with Malnutrition". The focus will be on evaluating the economic implications and potential advantages of incorporating oral nutritional supplements as part of interventions for malnourished older adults. By examining the cost-effectiveness and benefits of such interventions, we aim to provide valuable insights for healthcare practitioners, institutions, and policy-makers.



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Prof. Juan José López-Gómez, MD, PhD.

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Effectiveness of High-Protein Energy Dense Oral Supplements on Patients with Malnutrition using Morphofunctional Assessment with AI-assisted Muscle Ultrasonography

Speaker biography

Dr. López Gómez obtained his Degree in Medicine from the University of Salamanca, Spain, in 2006 and his PhD in Medicine from the University of Valladolid in 2015. He completed his 4-year training period as a Medical Specialist in Endocrinology at the Hospital of León, concluding in 2011. Since 2011, he has been working as an MD Specialist in Endocrinology and Nutrition at the Hospital Clínico Universitario of Valladolid. He held the position of associated professor at the University of Valladolid from 2014 to 2022 and has been working as a Linked Professor in the Department of Medicine since June.

Dr. López Gómez is actively involved in healthcare, teaching, and research activities in the field of Clinical Nutrition. He has authored more than 89 indexed papers in Web of Science and has presented over 30 communications at international and national congresses, focusing on topics such as obesity, nutritional treatment of neurodegenerative diseases, malnutrition diagnosis, morphofunctional assessment, and diabetes. He has edited three



books and contributed as an author to ten others. Additionally, he has participated in more than 25 research projects.

Furthermore, Dr. López Gómez holds positions of responsibility within the "Sociedad Española de Endocrinología y Nutrición (SEEN)" as a member of the Direction Board and the Assessor Committee of the Nutrition Area. He has served on the Scientific Committee of National Congresses and is a Corresponding Academic of the Royal Academy of Medicine of Valladolid. He has received several awards, including the Prize for Best Resident from the Hospital of León in 2011, the Prize for Best Young Investigator from the "Sociedad Española de Nutrición Clínica y Metabolismo (SENPE)" in 2019, and the Best Project in Investigation for Young Investigators from the "Sociedad Española de Nutrición Clínica y Metabolismo (SENPE)" in 2022.



Abstract

Malnutrition is a prevalent condition among older adults and those with chronic illnesses, driven by factors such as the inability to consume adequate nutrients, loss of appetite, early satiety, and dietary restrictions. These issues are often exacerbated by increased energy and protein requirements due to aging or disease, as well as impaired nutrient bioavailability¹.

Malnutrition, whether age- or disease-related, poses a significant risk for functional decline. It adversely affects parameters of functional status, including Activities of Daily Living (ADLs), Instrumental Activities of Daily Living (IADLs), Basic Activities of Daily Living (BADLs), muscle mass, and handgrip strength. The consequences include loss of autonomy, reduced quality of life, high morbidity and mortality rates, increased hospital readmissions, prolonged hospital stays, greater use of healthcare resources, and a heightened risk of long-term care and institutionalization².

For healthy older adults, an intake of 30 kcal/kg body weight per day and 1.0–1.2 g protein/kg body weight per day is generally sufficient. However, clinical guidelines recommend increasing protein intake for older adults with illness or severe injury (up to 2.0 g/kg body weight per day) to preserve or regain lean body mass³.

Despite the availability of various ONS options, individuals at risk of malnutrition often fail to achieve their nutritional targets. Studies indicate that 71% of older adults do not reach the recommended daily protein intake, and up to 32% of ONS are wasted due to noncompliance⁴. Therefore, adults with age- or disease-related malnutrition would benefit from an ONS that not only enhances compliance but also provides high energy and protein density, along with high-quality protein, to help them meet their nutritional goals⁵.

Patients at risk of malnutrition often struggle to meet their energy, protein, and micronutrient requirements through diet alone. Consequently, professional associations recommend the use of Oral Nutritional Supplements (ONS) in addition to their diet. To maximize the nutritional benefits of ONS, good compliance is essential. This can be enhanced by providing concentrated formulas (>2 kcal/mL) in low-volume formats, with an adequate palatability⁶.

Evidence based recommendations for the use of different oral nutritional supplements should be based on the effectiveness on objective variables. It is important to know dietary intake, body composition and functional status to know the changes produced by medical nutrition therapy. This complete evaluation of the nutritional status is named morphofunctional assessment and it's the basis of diagnosis and monitoring of malnutrition and its treatment. Classic body composition variables as anthropometry are not the best



option in disease-related malnutrition, as these variables have many interferences and changes on them are not always visible. Bedside options as bioelectrical impedanciometry can't reliably assess muscle. For that reason, emerging techniques as muscular ultrasonography can help us to evaluate muscle mass and quality⁷. In this sense, image processing by an artificial intelligence method is a promising technique to establish new variables and outcomes in medical nutrition treatment⁸.

In this session, we will present the results of a clinical study that evaluated the effectiveness of an innovative approach combining a concentrated high-protein, high-calorie oral nutritional supplement (≥ 2.1 kcal/mL and 32g of protein per 200mL). This supplement features a blend of fast- and slow-acting proteins (60% whey protein and 40% casein) and significant amounts of branched-chain amino acids and leucine. Advanced assessment techniques, including muscle ultrasonography and cutting-edge Artificial Intelligence (AI) technology, were employed to evaluate the nutritional intervention.

The results of this clinical study demonstrate that this high-protein, energy-dense ONS is effective in improving nutritional intake, muscle mass, and muscle function in patients with malnutrition and advanced age.



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