

EuGMS Congress 2022 - 30th September | 11:00 CEST | 12:00 BST
Satellite symposium on behalf the European Milk Forum

A focus on food: effective nutritional approaches to improve musculoskeletal health in older people

Fractures and falls - prevention through food. Results of a dairy intervention trial for older people in residential care

Dr Sandra Iuliano, University of Melbourne

Muscle health and sarcopenia in the ageing population - the benefits and practical challenges of an intervention combining dietary protein and exercise

Dr Berber Dorhout, Wageningen University

Chair: Prof David J Armstrong



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Fractures and falls - prevention through food. Results of a dairy intervention trial for older people in residential care

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The ageing of the population will see a growing burden of chronic diseases, including fragility fractures. Older adults in aged care homes contribute 30% to the burden of hip fractures yet constitute about 7% of older adults over the age of 65 years. By 2050 it is expected that each year over 220,000 hip fractures will arise from aged care homes.

Anti-fracture interventions targeting this high-risk group would likely reduce the community burden of fractures, but any intervention must be effective, safe, and cost saving. Older adults in aged care homes have inadequate intakes of calcium and protein, risk factors for fractures, so we hypothesised if correcting these inadequacies would reduce risk of fractures. Over the 2-year clustered-randomised trial involving over 7000 older adults, the 30 intervention care homes provided additional dairy foods (milk, yoghurt, and cheese) on the menu, while the 30 control sites continued with their usual menus. The increased dairy intake to 3.5 servings daily in intervention residents was associated with a 33% reduction in fractures, 46% reduction in hip fractures and an 11% in falls.

Compliance with the dairy food was maintained for the two years perhaps as these foods are familiar to residents and the dairy foods provided were based on their preferences. All-cause mortality remained unaltered in intervention residents, so relative to mortality risk the intervention was safe. The cost of the additional dairy foods was less than Euro 0.7 per resident per day. Non-skeletal benefits were also observed. The greatest value of the intervention is its translation into practice. The study provides evidence to support the provision of high-protein, high-calcium dairy foods to older adults as part of a balanced and nutritious menu in aged care homes. The awareness of the value of a food-based approach to healthy ageing in the community is growing. This includes the necessity for aged care organisations to provide nutritious foods to older adults reliant on them for their care. Implementing these food-based strategies may be cost-saving to the aged care and health systems. Over and above these probable cost savings are the direct benefits to the older adults in aged care homes.

Iuliano S et al. Effect of dietary sources of calcium and protein on hip fractures and falls in older adults in residential care: cluster randomised controlled trial. BMJ 2021; doi.org/10.1136/bmj.n2364

Muscle health and sarcopenia in the ageing population - the benefits and practical challenges of an intervention combining dietary protein and exercise

Dr Berber Dorhout, Wageningen University

A major consequence of ageing is sarcopenia, which negatively affects functionality and independence of older adults. In this talk, the focus will be on possibilities of counteracting sarcopenia. Two major factors that contribute to its development are inactivity and an inadequate protein intake. The importance of the amount and source of dietary protein for older people will be addressed, as well as the role of exercise in counteracting sarcopenia.

The additional effects of combining an increased protein intake with resistance exercise will be illustrated with a practical example. This combination has been studied for over a decade in the ProMuscle project. Although many effective interventions have been developed, limited interventions have successfully been implemented. An intervention that was translated across settings is ProMuscle. The ProMuscle in Practice study was a randomised controlled trial conducted in the Netherlands. A total of 168 community-dwelling older adults over the age of 65 were involved, randomly divided among the intervention and control group. During the first 12 weeks, the intervention group participated twice weekly in group-based resistance exercise sessions guided by a physiotherapist and received individual advice from a dietitian aimed at increasing their protein intake. The second 12 weeks were focused on maintaining the adapted lifestyle pattern. The control group received no intervention.

The intervention group significantly increased their protein intake at breakfast from 15g at baseline up to 25g in week 12 and 22g in week 24. Improvements in protein intake during lunch were of similar size. In addition, participants of the intervention group significantly improved their leg muscle strength, lean body mass and physical functioning compared to the control group after 12 as well as 24 weeks. Compliance was rather high; participants attended 84% of the training sessions during the first 12 weeks and >90% of the individual consultations with the dietician. This study shows that a combined resistance exercise training and dietary protein intervention for community-dwelling older adults, implemented in a real-life setting, is effective in increasing protein intake and in improving muscle-related outcomes.

Besides the results of the ProMuscle in Practice intervention, other topics that will be addressed in this talk include the development of the intervention, experiences and challenges of dietitians and physiotherapists with conducting the intervention in practice, and practical challenges for older people such as getting adequate protein intake.

Biographies



Dr Sandra Iuliano

Dr Sandra Iuliano is a Senior Research Fellow in the Department of Medicine, University of Melbourne. Dr Iuliano researches in the area of nutrition and exercise across the lifespan; specifically, to improve musculoskeletal health. Her research includes the effects of exercise and calcium in bone growth in children, vitamin D supplementation to prevent bone loss in adults during prolonged sunlight deprivation, nutrition-based interventions for falls prevention in older adults and studying the cost of fractures and the benefits of fracture identification and secondary prevention through a hospital-based fracture liaison service.

Relative to ageing, her work has focussed on food-based approaches to prevent falls, fractures and malnutrition in older adults in aged-care, involving residential aged-care facilities from most of the key aged-care providers in Australia. Her recent work involved 60 residential aged-care facilities followed for two years to determine the benefits of a food-based approach to enhance the intake of protein and other nutrients to prevent falls and fractures and to reduce the risk of malnutrition, sarcopenia and functional loss.

She provided input into the new single framework quality and safety standards for aged care and was summoned to present evidence at the Royal Commission into Quality and Safety in Aged-Care in Australia regarding nutritional care in residential aged care. She regularly presents her work nationally and internationally. She is a strong advocate for improving nutritional care and quality of life via improved food provision in aged care.



Dr Berber Dorhout

Berber Dorhout is a postdoctoral researcher at Wageningen University in the Netherlands. She was educated as a nutritionist with a specialization in public health. During her Masters, it became evident to her how changes in lifestyle, such as food intake and physical activity, can affect one's health status. In line with this, her research is mainly focused on prevention, muscle health and nutrition in the ageing population.

During her PhD, she studied the effectiveness of a lifestyle intervention for older adults: ProMuscle in Practice. The intervention combines resistance exercise and an increased dietary protein intake, aiming to maintain independence and participation in society of the ageing population. The research focused on studying the effectiveness in terms of muscle health, as well as the feasibility and suitability of offering such a lifestyle intervention in the practice setting.

In line with these practical aspects, she additionally works as a researcher at the University of Applied Science in Utrecht. In this role, she studies the systematic and sustainable implementation of the ProMuscle in Practice intervention, and long-term health behaviour change.

Biographies



Professor David J Armstrong

Professor David Armstrong is a Consultant Rheumatologist and Clinical Lead for Osteoporosis at the Western Health and Social Care Trust (WHST) in Northern Ireland. He is visiting Professor at the Nutrition Innovation Centre for Food and Health (NICHE) at Ulster University.

Professor Armstrong established the Fracture Liaison and Osteoporosis Service at the WHST, and works with NICHE at Ulster University in the fields of lupus, bone health and vitamin D, including supervision of PhD candidates carrying out clinical research. He has a particular interest in bone health in care home residents.

He is Vice Chair of the Clinical Committee of the Royal Osteoporosis Society (ROS) in the UK, and sits on the Effectiveness Working Group of the ROS Bone Academy and the Expert Advisory Group of the National Osteoporosis Guideline Group.

He is also co-host of the award-winning monthly podcast BoneUp, where with Dr Richie Abel from Imperial College he explores all aspects of osteoporosis and bone health. He continues to publish regularly in the fields of vitamin D, bone health and osteoporosis.

About EMF



The European Milk Forum (EMF) is a collection of national and regional dairy organisations from eight European countries - Austria, Belgium, Denmark, France, Ireland, Netherlands, Northern Ireland and Norway.

'Milk, Nutritious by Nature' is a science-based information initiative from EMF addressing issues on dairy and health and engaging in a dialogue with health and nutrition professionals. The aim is to build a clearer understanding of the role of milk and dairy products in a healthy, sustainable diet across Europe

Find more about EMF here

www.milknutritiousbynature.eu/home/