

NEWS RELEASE

Experts highlight the need to integrate and synergise nutrition and exercise to optimise physical function in the elderly

- ***Protein and vitamin D supplementation improve strength and function to help mitigate age-related sarcopenia***
- ***Nutritional screening of the elderly – a start point for intervention against functional decline***
- ***Healthcare professionals encouraged to promote exercise programmes – as therapeutic for the elderly***

Vevey, Switzerland, 16 November 2012 – At a Nestlé Nutrition Institute Satellite Symposium held at the European Society for Clinical Nutrition and Metabolism (ESPEN) in Barcelona, Spain, leading international experts emphasised the value of combining specialised nutrition and targeted exercise activities to help improve physical function in the elderly and reduce the incidence of age-related frailty, chronic conditions and disability.

Sarcopenia is a modifiable cause of frailty in older adults

Francesco Landi, MD, PhD, Associate Professor of Internal Medicine at the Catholic University of Sacred Heart, Rome, Italy, explained that big risk factors for sarcopenia (the age-related loss of muscle, strength, and functionality) are low physical activity and the 'anorexia of ageing', Professor Landi said: "We have a correlation between the nutritional status of anorexia, low food intake and sarcopenia."

Bringing into sharp focus the impact of sarcopenia and the age-related spiral of functional decline, he referred to recently published research of elderly people in a nursing home setting, showing up to 35% of residents suffer from the condition.¹ Those with sarcopenia not only had higher mortality, but also had signs of frailty and were 3.2 times more likely to experience falls.²

Whilst acknowledging the wide variety of physiological and social causal factors associated with sarcopenia,³ he highlighted the significance of insufficient food intake, and of 'selective malnutrition', in particular relating to a lack of protein, specific amino acids, vitamins and minerals. Professor Landi stated, "We know that this selective malnutrition has a negative outcome in terms of function."

Professor Landi drew particular attention to a strong body of evidence supporting the positive role of supplemental nutrition including Vitamin D in muscle function, via anabolic, metabolic and anti-inflammatory effects.^{4,5,6,7,8} Another study showed that providing amino acids, which are typically derived from dietary protein, combined with resistance exercise such as weight training, increases muscle protein synthesis.⁹ He highlighted that enriching the diet in leucine,¹⁰ a particular amino acid naturally abundant in whey protein, has the protective effect on muscle function of increasing protein synthesis. This can benefit in the treatment of people with sarcopenia to ward off the threat of frailty.

Based upon the evidence to date, Professor Landi recommended that therapeutic interventions should be based upon a diet including adequate protein, energy and vitamin D along with

progressive resistance exercise training. “The evidence is clear that there is a synergistic effect between nutritional supplementation and exercise, but further long-term randomized controlled trials are needed to explore and define an optimized approach to treating sarcopenia.” Recent trials have confirmed the benefits of this synergistic approach in frail patients on a long-term basis¹¹.

Identifying risk of decline is key to intervention strategies

Professor Pedro Abizanda Soler, MD, PhD and Chief of Geriatrics at Complejo Hospitalario Universitario de Albacete (Albacete, Spain), reinforced the need for routine screening of older individuals for functional decline and nutritional risk. Screening is the first step in order to improve quality-of-life and better manage the frailty syndrome. He noted, “We all know how old people decline, but we must measure these things because then we are able to intervene.”

Based on data from the FRADEA¹² (Frailty and Dependency in Albacete) study, nutritional risk identified by the Mini Nutritional Assessment (MNA[®]) is a better predictor of ‘incident disability’ (loss of functional ability in the Basic Activities of Daily Life (BADL) – than BMI. He highlighted: “Anorexia, weight loss and mobility impairment are the measures in the MNA most strongly associated with incident disability. I think that the identification of older adults at nutritional risk must be our priority.”

Practical perspective on integrating exercise into the patient care plan

Professor Miriam Nelson, PhD, director of the John Hancock Research Center on Physical Activity, Nutrition and Obesity Prevention at the Friedman School of Nutrition Science and Policy at Tufts University (Boston, USA), shared experience and insights into the practical feasibility and biological outcomes of exercise programmes for older adults in the community.

She drew attention to the success of the StrongWomen initiative for mid-life and older aged women in the USA, currently being implemented in over thirty-five states. The programme is based upon a strength training curriculum implemented by allied professionals and community leaders: “Over a 12-week period participants recorded improvement in chair stand, arm curl, step test, sit and reach, and other physical function measures.¹³”

In appreciation of the need to also address nutritional inadequacies in frail elderly, Professor Nelson mentioned that she looked forward to publishing the results in the near future of the Vitality, Independence and Vigour in the Elderly (VIVE) study, which is supported by Nestlé. This is a programme of strength training, aerobics and balance activities that are combined with post-exercise consumption of a protein- and nutrient-enriched drink.

Professor Nelson, exclaimed, “We need to encourage the healthcare sector to better convey the importance of exercise to patients, like a prescription. It is a therapeutic modality that reduces cardiovascular disease, and also helps with secondary symptoms of cardiovascular disease, type 2 diabetes, blood-glucose management, arthritis, osteoporosis, frailty, falls, breast cancer, colon cancer and many more conditions.”

Considering the various speakers input as a whole, Chairman of the symposium, Professor Yves Boirie, MD, PhD, Clinical Nutrition Department of University Hospital of Clermont-Ferrand, said, “We can see there is growing clarity about the strong relationship between nutrition and physical exercise in the elderly, in particular strength improvement. We must strive to identify at-risk patients and develop targeted interventions on nutrition and muscle training to improve physical function and reduce morbidity and associated health care costs”.

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