SYMPOSIUM ABSTRACT BOOK

Regain Autonomy in the Malnourished Older Adult: THERE IS NO TIME TO LOSE

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Nestlé HealthScience

AGENDA

Welcome

Dr. Anette Järvi. Global Head of Medical Affairs. Nestlé Health Science. Lausanne, Switzerland.

Introduction
CHAIRPERSON

Prof. Dr. Peter Fasching. President of the Austrian Society for Clinical Nutrition (AKE). Medical Division for Endocrinology, Rheumatology and Acute Geriatrics. Clinic Ottakring, Vienna, Austria.

Nutritional facts and functional decline in older people: what we know, what we ignore

Prof. Dr. Rodríguez Mañas. Head of the Department of Geriatrics at Hospital Universitario de Getafe, Madrid. Scientific Director of CIBER of Frailty and Healthy Aging (CIBERFES), Madrid, Spain.

Appetite and weight loss: Data from ICOPE WHO program in France

Prof. Dr. Soto-Martin. Head of Aging and Disability Prevention Team of Gérontopôle, Toulouse University Hospital, France.

Costs and cost savings of optimal nutrition intervention in disease-related malnutrition

Dr. Karen Freijer. Erasmus Medical Centre. Internal Medicine Rotterdam, Netherlands. Past-chair and Founder of ISPOR Special Interest Group (SIG) Nutrition Economics.

Energy and protein-nutrient dense intervention and compliance as key factors of recovery in patients with malnutrition

Prof. Dr. Agathe Raynaud-Simon. Department of Geriatrics, Bichat Hospital APHP. Nord, University Paris Cité, Paris, France.

Dr. Anette Järvi

Global Head of Medical Affairs.
Nestlé Health Science. Switzerland.

Welcome

Malnutrition and Mobility impairment is common in individuals with age-related conditions such as sarcopenia, frailty, falls, and fractures, leading to periods of acute inactivity and reducing the ability to perform activities of daily living and as a consequence impaired quality of life. For this reason, public health policies worldwide are focusing on the promotion of good health and maintenance of autonomy in the elderly population.

At Nestlé Health Science we strongly believe that nutrition has the ability to positively impact people's health and quality of life, and therefore we engage in meaningful scientific partnerships with healthcare professionals, societies, and scientific institutions to further advance this approach.

Improving the health and wellness of patients by supporting them to reach their full potential is our priority. We are absolutely convinced that working together will allow patients to recover better and faster and improve their well-being.

Prof. Dr. Peter Fasching

President of the Austrian Society for Clinical Nutrition (AKE). Medical Division for Endocrinology, Rheumatology and Acute Geriatrics. Clinic Ottakring, Vienna, Austria.

Introduction

CHAIRPERSON

Speaker biography

Prof. Peter Fasching is the President of the Austrian Society for Clinical Nutrition (AKE). He is Head of 5th Department for Endocrinology, Rheumatology and Acute Geriatrics at the Clinic Ottakring, in Vienna, Austria.

Prof. Fasching is specialist in Internal Medicine, Endocrinology and Metabolism, Rheumatology and Geriatrics.

His area of interest and expertise are insulin resistance, Diabetes Mellitus Type 1, endothelial dysfunction, adhesion molecules, sulfonylureas, diabetes in the elderly, metabolic syndrome, geriatric medicine, cognitive impairment, and endocrinology.

He has currently published more 130 articles in peer-reviewed scientific journals and textbooks.

Abstract

Dear Attendees, dear Participants of this Nestlé Health Science Symposium at this 44th ESPEN Congress in Vienna,

As chairman of the Austrian Working Group for Clinical Nutrition ("Arbeitsgemeinschaft für Klinische Ernährung" – AKE), it is a pleasure for me to give you a warm welcome in Vienna and a big honor to serve as moderator in this important scientific session with excellent, highly qualified and known speakers.

Having worked in Geriatrics as a doctor for internal medicine for many years, I am well aware of the big challenges as to adequate nutritional support in elderly and old individuals.

From a clinical and scientific viewpoint, "individualisation" in clinical nutrition is crucial to prevent premature functional loss in aging persons and to fight against overt malnutrition at high age with its tremendous consequences such as frailty, the need of care, and death.

Most important in this aspect is multi-disciplinary awareness and patient-centered cooperation through all disciplines for adequate nutritional therapy which is also underlined in the "Vienna Declaration 2022" which shall be proclaimed during this congress.

The current symposium will present the latest data published on the role of the global nutritional status (malnourished/at risk/well-nourished) and incident of frailty, disability, and mortality. Data on the large-scale implementation and feasibility of the ICOPE program in clinical practice will be presented too. Finally, the cost savings and benefits of energy and protein nutrient-dense intervention to encourage clinicians to implement protocols to improve the nutritional status of malnourished older adults will be presented and discussed by renowned experts in the field.

Prof. Dr. Rodríguez Mañas

Head of the Department of Geriatrics at Hospital Universitario de Getafe, Madrid. Scientific Director of CIBER of Frailty and Healthy Aging (CIBERFES), Madrid, Spain.

Nutritional facts and functional decline in older people: what we know, what we ignore

Speaker biography

Prof Leocadio Rodríguez Mañas is Head of the Geriatrics Service of the Getafe University Hospital (Madrid), Scientific Director of the Spanish Center for Biomedical Research on Frailty and Healthy Aging (CIBERFES) (Ministries of Health and of Economy and Competitiveness), and Co-Director of the Toledo Study on Healthy Aging, carried out in 2,895 elderly people followed over 9 years.

He is the Director of the Global Aging Research Network of the International Association of Gerontology and Geriatrics (GARN-IAGG) since July 2017. He has led more than 40 publicly-funded research projects, many of them focused on frailty and functional decline in older people, including the Joint Action on Frailty (ADVANTAGE) funded by DGSANTE-European Union.

He has published more than 350 originals in indexed journals peer-reviewed articles and written books and book chapters on various aspects of aging, frailty, and diabetes in older people. He has participated in the preparation of technical reports on these topics for national organizations (Ministry of Health, Scientific Societies, Research Organizations, and Agencies) and international organizations (WHO, PAHO, DG-SANTE, DG-Research, IAGG, Governments of Mexico, Costa Rica and Chile, etc) and is an international advisor to WHO and PAHO.

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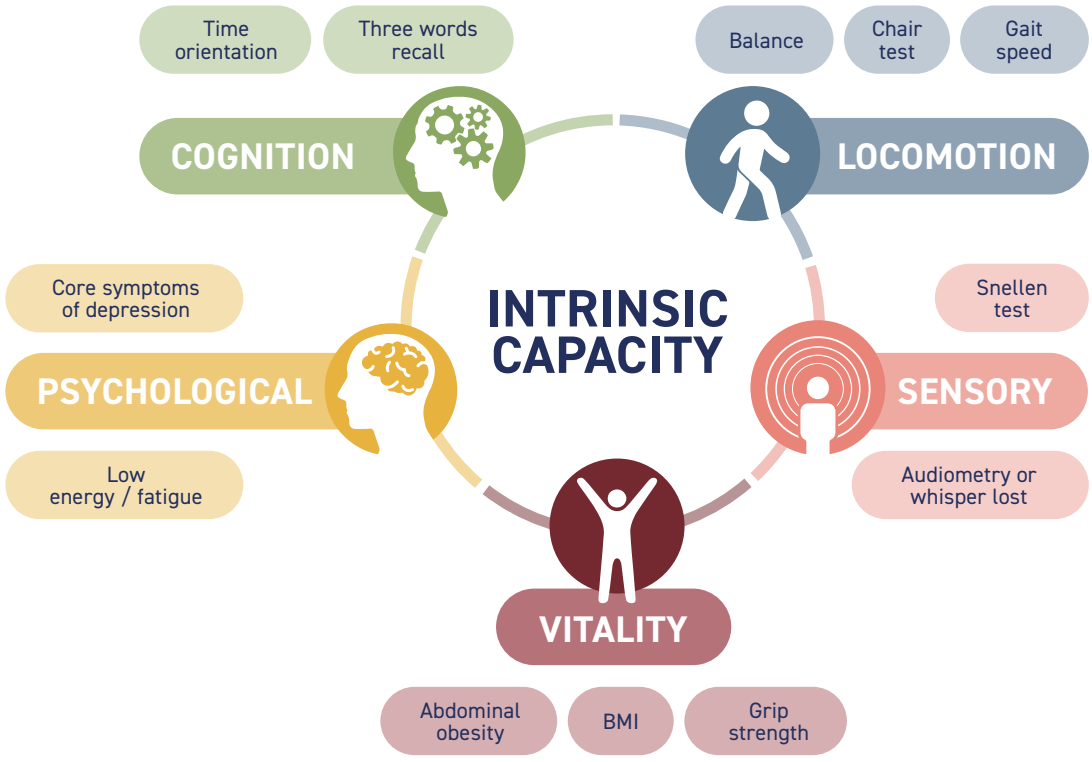
Abstract

As we age, the determinants of our health change, as it does its main components. These changes embrace the manifestation of the diseases, the aim of care, the prognostic significance of several factors, the progressive importance of functional status, and the comparative relevance of disease and life-styles in determining that functional status.

Accordingly, a change in the paradigm of healthy aging has come, promoted not only by international associations (WHO, EU) but also by groups of researchers[1]. According to this paradigm, healthy aging is a concept linked to functioning more tigthly than to the abscence or control of diseases, and the aim of promotion, prevention, and treatment is oriented to maintain functional independence as much and as long as possible. So, according to World Health Organization (WHO), heatlhy ageing is "the process of developing and maintaining the functional ability that enables well-being in older age" (WHO, 2021). Intrinsic capacity (IC) has recently been proposed by the WHO as a multidimensional indicator of health. IC framework comprises five domains: Cognitive, Psychological, Sensory (vision and hearing), Locomotor,Vitality/nutrition. All of them are are crucial to: meet basic needs; learn, grow and make decisions; be mobile; build and maintain relationships; and contribute to society.



Inside this conceptual framework, factors associated to the maintenance of functional status or its recovey when it has been lost are of the utmost relevance. Three main factors must be taken into account[2]: primary aging, with a strong genetic influence, comorbidities, with a moderate role in determinig functional status, and lifestyles, with a high predominance of physical activity and nutrition. The interaction among these three factors will lead the changes in function, and at the same time, the diseases will be increasingly manifested by functional changes[3].

What do we know about the role of nutrition in determining maintenance or impairment in functional status?. Nutrition has been a classical factor considered when this topic has been addressed. However, the major part of the research has been focused on people with clinical malnutrition/undernutrition) and in specific settings where the prevalence of malnutrition is high but does not represents the usual setting where older people are (own homes, or with family members /community). Thus, data about nutritional factors associated with functional status in older people living in the community are very scarce. Moreover, until very recently, the majority of the studies were cross-sectional, not allowing to discriminate relationships of causality among the different factors shown to be associated.

A good example of this assertion is a systematic review published in 2017[4], where they only found 19 studies assessing the relationship between nutrition and frailty, being only 5 among them longitudinal ones. Two topics are worthy to be considered when analysing this relationship.

The first one is the role of the global nutritional status (malnourished/at risk/ well-nourished) and incident of frailty, disability, and death, and the second is the association between of some aspects of the diet, ranging from type of diet to the analysis of several micronutrients.

I will review the available data in older people living in the community focused in these two aspects. The role of overweight and obesity will not be mentioned.

Concerning the role of nutritional status as a risk factor for incident of frailty our study (n=1660 older adults; 98% community-dwelling) and a systematic review conducted by Lorenzo-Lopez et at, showed a significantly and positively association between malnutrition and the probability of being frail[4,5]. Regarding disability, the results are quite controversial. Moreover depending upon the criteria used to assess nutritional status (BMI, abdominal perimeter, waist-to-hip ratio), there is a tendency to find a positive association between undernutrition and incident disability. Data on the effect of being at-risk are more scarce indeed.

Finally in regard to mortality, the Toledo Study showed that Malnutrition was associated with a higher mortality using the Global Leadership Initiative on Malnutrition (GLIM) criteria[5]. These findings highlight the importance of assessing the nutritional status of community-dwelling older adults.

It is noteworthy that in contrast with the few studies analyzing the role of nutritional status in the community, there are many studies analyzing the role of different types of diets, components of he diets, and micronutrients on incident frailty. In summary, different types of a healthy diet (including Mediterranean and Atlantic diet, DASH and some others), virgin olive oil, resveratrol, wine (if taken according to the so-called Mediterranean pattern), and vegetables have shown to protect from frailty.

The role of proteins is controversial. Several studies have shown a short-term benefit while a long-term study found that proteins were associated to the risk of frailty. Three recent studies have thrown some light to this controversy showing a protective role, in combination with physical exercise, of a higher potein intake (Newcastle 85+ study), but conferring this benefit to the consume of protein of vegetal origin, while protein intake comimg from red meat increases the risk (Nurses Health Study)[6].

It is time to integrated care to help older adults maximize their Intrinsic Capacity and Functional Ability in the community. The ICOPE guidance for person-centred assessment helps community health and care workers put the recommendations outlined in the ICOPE Guidelines into practice. THERE IS NO TIME TO LOSE to regain autonomy in the malnourished older adults.

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Prof. Dr. Soto-Martin

Head of Aging and Disability Prevention Team of
Gérontopôle, Toulouse University Hospital, France.

Appetite and weight loss data from ICOPE WHO program in France

Speaker biography

Prof. Maria Eugenia Soto Martin, MD, PhD, is geriatrician and head of the Alzheimer's clinical and research center in the Department of Geriatric Medicine at the Toulouse University Hospital in France. She is also head of the Aging and Disability Prevention Team of the Gerontopole, a WHO-collaborating centre for Frailty, Clinical Research and Geriatric Training. Currently, she leads with Prof Bruno Vellas the implementation of ICOPE WHO program in the region of Occitanie in France.

After graduating from the Seville University College of Physicians (Spain), obtaining his medical degree in 2000, she completed his clinical training and internship as resident in the Department of Geriatrics at the Getafe University Hospital of Madrid (Spain) where she obtained her specialization degree in Geriatrics in 2005. In the same year, she moved to the Department of Geriatric Medicine at the Toulouse University Hospital in France. She is member of the Research Aging Team MAINTAIN (CERPOP UMR 1295). In 2009 she obtained a Master M2 degree in statistics and epidemiology from the Paul Sabatier University of Toulouse. Pr. Soto has a PhD in Alzheimer's disease and cognitive progression from the same University.

Abstract

In 2017 the World Health Organization (WHO) published "Integrated care for older people (ICOPE)" guidelines which outlined evidence-based interventions to clinical care for older people. Rather than a focusing on the diseases, this approach emphasizes the optimization of intrinsic capacity (the composite of all the physical and mental capacities of an individual) as the key to "healthy" aging and thus to reducing the number of care dependent older people.

The ICOPE care pathways is based on the assessment and monitoring at regular intervals of six core domains of intrinsic capacity (mobility, vitality/nutrition, vision, hearing, cognition, psychology) and aims at improving, maintaining or slowing declines in intrinsic capacity (IC).

While consistent with similar approaches to preventing frailty, the IC construct differs by being framed as a dynamic continuum and its trajectory can potentially be monitored across the life course to shed interesting light on the effectiveness of clinical actions, as well as in public health, on the needs of populations.

On the other hand, evidence based has shown how weight loss and further malnutrition lead into frailty and later in dependency among elderly. Therefore, screening and managing this domain of IC is crucial in general population.

Since January 2020, the Gérontopôle of the Toulouse University Hospital (France), a WHO collaborating Center on Frailty, Clinical Research, Geroscience and Training in Gerontology, has been implementing ICOPE in routine clinical practice in a large territory (Occitania region). This deployment, called the ICOPE CARE program, uses digital tools for screening allowing the routine collection and monitoring of data on IC by healthcare professionals over time. This program has been implementing in primary care. The ICOPE approach proposes a pathway composed of 5 steps: screening of participants for potential declines in one or more of the 6 domains of IC (Step1), in-depth assessment of participants in domains of interest identified by screening as having deficits, (Step2) and development of a "personalized care plan" considering declines in IC, associated diseases, socio-environmental needs and most importantly goals and preferences of older person (Step3). Step4 recommends the monitoring of IC every 6 months and of the implementation of the personalized care plan proposed. Step5 concerns the involvement of communities and support for caregivers. **Concerning screening for nutrition IC domain two questions are asked to the participant:**

1) Have you lost appetite in the past three months? and,

2) Have you involuntary lost weight in the past three months?

If at least one of these answers is "yes" the screening is positive and the Step2 in-depth assessment is indicated.

Between January 1, 2020 and November 18, 2021, 10,903 older persons (participants) and 2,714 professionals joined the ICOPE CARE program via the digital tools. The mean age of participants was 76.0 ± 21.1 and 60.8% were female. 1,536 participants (14.1%) completed their first self-assessment Step1 and 9,367 (85.9%) were assessed by a professional. In total, 18,301 step 1 were completed including 10,903 initial screenings and 7,398 follow-up. 94.3% of participants (n = 10,285) had potential declines in at least one IC domain at the first screening, suggesting potential declines in vision (68.1%), cognition (59.5%), hearing (50.6%), psychology (38%), mobility (34.6%) and vitality/nutrition (18.7%). A 6-month follow-up screening was performed for 70.4% of participants who had an initial screening test.

In total, 1,232 Step2 in-depth assessment were recorded in the database for all the potentially abnormal Step1. Most of the Step2 assessments (95%) were performed within two days of an abnormal Step1. Of 958 participants who received an initial Step2, 90.3% (n = 865) had at least one impaired capacity confirmed by the Step2. The mean age was 80.4 ± 7.6 years and 68.6% (n = 657) were female. According to Fried's criteria, 15.8% were robust, 42.9% pre-frail and 27.4% frail. 117 (12.2%) had an abnormal Amsler grid. The mean MMSE score was 24.8 ± 4.6. **Concerning the nutritional status, median MBI was 25.9 ± 4.9, according to the MNA® questionnaire, 275 (28.7%) were at risk of malnutrition and 65 (6.8%) had a probable malnutrition.** At the end of the Step2, the majority of the recommendations proposed within the framework of the Step3 concerned the domain of mobility for 86.4% of the Step2 (n = 674) followed by vitality/nutrition (n = 740, 77.2%). These recommendations were as follows: nutritional advices (67.0%), weight monitoring (31.1%), fortified diet and oral nutritional (20.5%) and referral to the dentist (8.5%).

This data shows that ICOPE approach seems to detect early deficits in IC nutrition domain (by step1 and 2) allowing an early intervention (by step3) to prevent malnutrition and all its devastating health-related negative outcomes mainly dependency.

In conclusion, In the ICOPE CARE program, the WHO ICOPE approach is being implemented in primary care clinical practice using digital tools, setting up a new care pathway integrated with prevention of care dependence. In fact, this program allows early detection of declines in intrinsic capacity, such as nutrition status, and allows to implement fast and personalized intervention to prevent loss of autonomy in elderly 60 and over years old in primary care.

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Dr. Karen Freijer

Erasmus Medical Centre. Internal Medicine Rotterdam, Netherlands. Past-chair and Founder of ISPOR Special Interest Group (SIG) Nutrition Economics.

Costs and cost savings of optimal nutrition intervention in disease related malnutrition

Speaker biography

Dr Karen Freijer is trained as a dietitian/nutritionist and obtained her PhD in 2014 as a nutrition scientist on the topic of Nutrition Economics - a newly established field. Together with two health economists and another nutrition scientist, she has been able to have this new field officially recognized within the International Society for Health Economics and Outcomes Research (ISPOR). The first and only nutrition item within this primarily pharma focused society.This Society's mission is to promote HEOR excellence to improve decision making for health globally.

For more than 20 years she has been giving lectures, training courses and webinars about health and disease (internationally), with a focus on the role of (mal)nutrition, always including the role of exercise and behavior as they are interrelated factors.

Since September 2019, she is working as a general manager for Partnership Overweight Netherlands (PON). This partnership is an umbrella organization of medical and paramedical professional associations, patient organizations, scientific and public health organizations and health insurers. The PON is committed to tackle overweight and obesity and advises the government on policy in the field of overweight and obesity in the Netherlands.

Abstract

Without nutrition, life is not possible. Already in the womb sufficient nutrition is needed for the embryo to evolve. From that time, we have to eat and drink every day to provide our body with the nutrients needed to meet the requirements to prevent illness as well as to manage metabolic stress situations. Disease, injury, trauma or surgery are examples of such stress situations in which there is an increased need for specific nutrients to activate our immune system and recovery among others. Whenever this increased need for specific nutrients is then not fully met by the daily nutritional intake, a nutritional imbalance will be the result: malnutrition is then a fact.

Literally malnutrition means 'poor' (mal) nutritional status, relating to the needed quality and/or quantity of available nutrients in the body, in which both over-nutrition (too many nutrients) and under-nutrition (insufficient nutrition) are forms of malnutrition. The synonym for malnutrition in the clinical setting is therefore undernutrition.

Disease-related malnutrition (DRM) is the type of malnutrition that is triggered by illness or disease. It is the primary reason for malnutrition in developed countries and is still a major public health problem with a high prevalence and deleterious consequences on patients across different healthcare settings leading to a high clinical as well as economic burden to society. With adults at the age of 65 years and older being 33% more likely than younger adults to experience malnutrition, the aging of the population will increase the worldwide burden of malnutrition. This increase will be further enhanced by the so called 'double burden of malnutrion' now facing many countries worldwide. The World Health Organization (WHO) has recognized this growing coexistence of undernutrition along with overweight, obesity or diet-related noncommunicable diseases (NCDs).

This session is about DRM as a whole (with or without inflammation) which is leading to health impairment associated with high (health care) cost; 2-3 times greater than for a non-malnourished patient.

A cost of illness analysis estimated an additional total cost of disease related malnutrition (DRM) in elderly of € 1.5 billion compared with the well-nourished which is about four times higher than for patients in the age category of >18 and < 60[1]. Another study showed additional costs of malnutrition in nursing homes alone of € 279 million per year[2].

Also in other countries, cost of illness studies have been done and an estimate shows that malnutrition costs €170 billion a year to European countries[3].

Preventive or therapeutic strategies, including oral nutritional supplements, should be considered to improve nutritional status and will save costs. But what does the evidence say about the cost of nutritional interventions? Are they cost-effective?

While nutrition economic analyses are increasing but yet limited, several studies in elderly have been conducted to evaluate the cost-benefit and cost-effectiveness of the total dietary treatment (inc. medical nutrition) of DRM.

One of the studies we have performed in The Netherlands, showed that the use of oral nutritional supplements (ONS) for the treatment of DRM in community-dwelling older adults reduces the annual total cost of DRM from € 275.643 to € 262.657 million; a total national cost saving of about € 13 million in 2012. The additional costs of ONS were balanced due to re-/hospitalization reduction in DRM patients[4].

Another analysis showed that the use of medical nutrition with sick and malnourished elderly persons results in net benefits between € 1,433 and € 3,105 per person. For each euro that is invested in the treatment of a malnourished person society saves € 1.90 to € 4.20[5].

Elia et al. demonstrated that the use of ONS in older malnourished care home residents is cost effective relative to dietary advice[6].

Another important aspect of cost effective nutritional management of patients is the fact that dietitians are more efficient as well as more (cost) effective in nutritional counseling than other members of the healthcare professionals; after all it is their profession in which they were educated and trained. Physicians indeed have reported that they lack the time and knowledge to provide patients with appropriate nutrition advice[7,8].

The integral role that food and nutrients play in the etiology and progression of DRM is pushing health care decision makers to consider the cost and value of nutrition interventions. Improving health care through the delivery of optimal nutrition may contribute to the efficiency and sustainability of health care systems.It is important to understand the direct and indirect economic implications of nutritional interventions on the health care system and society.

During this session, the burden of DRM – with a focus on the elderly – together with cost savings of optimal nutrition intervention in this undernutrition and the importance of nutrition economics, will be shown and explained.

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Prof. Dr. Agathe Raynaud-Simon

Department of Geriatrics, Bichat Hospital APHP.
Nord, University Paris Cité, Paris, France.

Energy and protein-nutrient dense intervention and compliance as key factors of recovery in patients with malnutrition

Speaker biography

Prof Agathe Raynaud-Simon heads the Geriatrics Department of Bichat, Beaujon and Bretonneau APHP hospitals and she is Professor of Gerontology and Geriatrics in Paris Cité University. She is now president of the Food and Nutrition committee of APHP hospitals, vice-president of the French Nutrition Federation and treasurer of the association Collectif Dénutrition that organizes Malnutrition Week in France. She coordinated the drafting of the French High Health Authority guidelines on nutrition in the elderly in 2007 and 2021 and contributed to the ESPEN guidelines on clinical nutrition and hydration in geriatrics in 2019. She is author of more than 80 papers in peer reviewed journals.

Abstract

Older patients with malnutrition usually have low appetite, and this challenges optimal nutritional care and recovery. Several strategies are proposed to meet their nutritional requirements and increase food intakes, such as dietary modifications, food fortification, snacks, texture-modified food, and professional help during meals[1,2].

These nutritional interventions do favor recovery from malnutrition and may positively influence clinical outcomes, including autonomy, but not all individuals will improve their nutritional status and other clinical outcomes.

Professional associations such as ESPEN, BAPEN, the Royal College of General Practitioners or the Royal College of nursing, recommend the use of oral nutritional supplements (ONS) in addition to the diet for the management of malnutrition in older adults, patients with disease-related malnutrition (DRM), patients with polymorbidity and patients hospitalised in intensive care units[1,3-7].

Evidence is lacking to support the treatment of DRM with dietary advice or snacks only. The combination of dietary advice plus ONS has shown to be more effective than dietary advice alone for the treatment of malnutrition and improve QoL[8-10], consequently, ONS is one of the most common treatments for DRM.

To maximise the nutritional benefits of ONS (hence clinical and economic) good compliance is essential to ensure patients meet their energy and protein daily requirements, improve nutritional status, reduce hospitalisation and mortality, and as well as to minimise wastage. Unfortunately, data published demonstrate that patients usually do not take the whole volume of the ONS . Hubbard et al, showed in a systematic review of 46 published trials that the noncompliance rate ranged from 19.1% to 32.8% depending on the healthcare setting[11]. Our group reported a similar rate of ONS compliance in older people living at home[12].

So, there THERE IS NO TIME TO LOSE to identify all modifiable factors that can affect ONS compliance (Figure 1) and implement strategies to IMPROVE NUTRITIONAL STATUS and REGAIN AUTONOMY IN THE MALNOURISHED OLDER ADULTS.

Figure 1: **Factors that can affect ONS compliance[11,13-18]**

PATIENT- AND DISEASE-RELATED FACTORS	THERAPY-RELATED FACTORS	HEALTHCARE SYSTEM AND ECONOMIC FACTORS
• Advanced age • Low educational level, health literacy, patient knowledge • Physical inability to take ONS • Lack of family support • Forgetfulness, low motivation, anxiety, depression • Loss of appetite • Medications that affect the patients' sense of taste or smell • Difficulty eating due to symptoms from diseases • Severity of disease	• Monotonous or unsatisfactory flavour, taste, texture • Large volume/portion, patient unable able to finish volume/portion • Format: powder supplements that needs to be reconstituted before consumption • Long duration of treatment • Treatment complexity • Medication side effects • Non-tolerance of oral nutrition • Timings of administration • Lack of knowledge about benefits of ONS and reasons for prescription	• Lack of accessibility • Difficulty in getting prescriptions filled (reimbursed) • High costs • Long waiting time • Inability to take time off work

One of the strong positive factors of the success of nutrition care is to prescribe energy and protein-dense intervention in older malnourished patients. Our study demonstrated that high compliance to high energy and protein ONS dense (⩾ 500 kcal/day and ⩾30 g of protein/day) improve appetite, reduces of risk of hospitalisation, and significantly reduced health care costs (p=0.042) in home-living elderly people older subjects[12].

This lecture will focus on a) patient-related and b) intervention-related factors that influence compliance, recovery from malnutrition, and other clinical outcomes in older malnourished patients.

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