Nutritional status assessment in geriatrics: Consensus declaration by the Spanish society of geriatrics and gerontology nutrition work group

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ABSTRACT

Ongoing population ageing is one of the factors influencing the increase in the prevalence of undernutrition, because elderly people are a vulnerable group due to their biological, psychological and social characteristics.

Despite its high prevalence, undernutrition is underdiagnosed in the geriatric sphere. For this reason, the aim of this consensus document is to devise a protocol for geriatric nutritional assessment. A multidisciplinary team has been set up within the Spanish Society of Geriatrics and Gerontology (in Spanish *Sociedad Española de Geriatría y Gerontología*, SEGG) in order to address undernutrition and risk of undernutrition so that they can be diagnosed and treated in an effective manner.

The MNA-SF is a practical tool amongst the many validated methods for nutritional screening. Following suspicion of undernutrition or after establishing the presence of undernutrition, a full assessment will include a detailed nutritional history of the patient. The compilation of clinical-nutritional and dietetic histories seeks to aid in identifying the possible risk factors at the root of a patient's undernutrition. Following this, an anthropometric assessment associated to laboratory data, will describe the patient's physical and metabolic changes associated to undernutrition. Currently, the tendency is to further nutritional assessment through the use of non-invasive techniques to study body composition in association with functional status. The latter is an indirect index for nutritional status which is very interesting from a geriatrician's point of view. To conclude, correct nutritional screening is the fundamental basis for an early undernutrition diagnosis and to assess the need for nutritional treatment. In order to achieve this, it is fundamental to foster research in the field of nutritional geriatrics, in order to expand our knowledge base and to increasingly practice evidence-based geriatrics.

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1. Introduction

An ongoing demographic change has been taking place in developed societies over recent decades; the population is getting older. Forecasts for Spain suggest that by 2025 the population above 50 years of age will grow from almost 16 million to over 21 million [1]. Important bio-psycho-social changes take place in this phase of life, making the elderly population a group at risk of suffering nutritional alterations which, in turn, negatively affect the course of illness, in terms of both their progress and recovery.

Malnutrition has been described as an imbalance between intake and requirements that causes an alteration in a person's metabolism, compromises function and brings on a loss of body mass [2]. Malnutrition can also be defined as deficiency or excess (or imbalance) of energy, protein, and other nutrients causes measurable adverse effects on tissue/body form, function, and clinical outcome [3].

Malnutrition due to inadequate intake is one of the most prevalent problems among the elderly. Therefore, in this document we shall refer to it as undernutrition. It is a risk factor for the onset of dependency, which could explain the strong association between undernutrition and comorbidity, frailty and increased mortality [4–7]. There is increasing awareness of the importance of maintaining an appropriate nutritional status in elderly people in the scientific community and among health professionals. Correct nutrition can help to optimize the overall health of people, improve the effectiveness of treatment of chronic illnesses and geriatric syndromes and reduce the costs of complications. This is especially important if we bear in mind that, in developed countries, health expenditure is growing twice as fast as overall economic growth [8], and most of these resources are devoted to dealing with chronic illnesses [9].

A correct assessment of nutritional status is fundamental in order to detect undernutrition early, to be able to identify risk situations and the causes of possible nutritional deficits, to design action plans to improve patients' nutritional status and to assess the effectiveness on nutritional interventions.

The fact that undernutrition is underdiagnosed in this segment of the population is well documented [10,11] and there are states of undernutrition that can go unnoticed [12]. The prevalence of undernutrition increases with age and varies according to the reference setting, whereby it is lower among the elderly living in the community (7.8%), and increases progressively in functional recovery units (14%), care homes (28.4%), hospitals (40%), reaching up to 56% in long-stay institutions [13–15].

There is currently no reference geriatric nutritional assessment tool, nor are there nutritional parameters which, considered in isolation, are valid to diagnose undernutrition. Geriatric nutritional assessment is a complex process because it must take the multifactor aetiology of undernutrition and the wide-ranging variability of assessed subjects into account.

A multidisciplinary team of health professionals (dieticians-nutritionists, nurses, biologists, doctors) and academic staff has been assembled within the Spanish Society of Geriatrics and Gerontology (*Sociedad Española de Geriatría and Gerontología*, SEGG), setting up a Nutrition Group in Geriatrics. In order to agree this document, a literature review was carried out and the group met a number of times so as to achieve consensus on the criteria for diagnosis of undernutrition in the field of geriatrics.

The aim of this consensus document is to produce a geriatric nutritional assessment protocol that can be applied in differing settings (the community, care homes, hospital).

2. Nutritional screening

Nutritional screening responds to the need to detect situations of risk of malnutrition (RMN) or of malnutrition (MN) without resorting to complex techniques or specific equipment. Nutritional screening must allow access to the greatest number of patients in the shortest period of time with the resources available. It is always the first step of geriatric nutritional assessment, seeking to achieve early identification of subjects that require in-depth nutritional assessment and who may benefit from early nutritional intervention.

Due to its characteristics and aim, nutritional status is included in comprehensive geriatric assessments and is systematically and periodically repeated as part of the follow up of geriatric patients, whether they are outpatients, institutionalized or hospitalized [16,17]. Currently, there is a lack of consensus on the appropriate frequency of nutritional status assessments. According to the most recent Clinical Practice Guides [11], nutritional status assessments should be carried out weekly on patients who are hospitalized or in functional recovery units, monthly in institutionalized elderly people, and at least yearly on elderly outpatients.

Due to its preventive nature, screening tools must be quick, cost-effective, valid (sensitive and specific) and precise (reproducible).

Multiple screening instruments have been developed under these premises, but it is important to consider that the various methods used portray varying degrees of sensitivity [18–20] and often do not allow detection of potentially important nutritional alterations [21,22].

The Mini Nutritional Assessment (MNA) is a structured nutritional assessment method validated for populations above 65 in hospital, care home or community settings [23]. It is the most widely accepted questionnaire and it is used worldwide [16]. The MNA is a practical tool that does not require laboratory data and allows identification of subjects at risk of malnutrition before alterations of their biochemical and anthropometric parameters appear [24]. The MNA has also been praised for its high diagnostic and prognostic power [25,26]. Patients are defined as malnourished if they have MNA scores ≤17 points, at risk of malnutrition with scores between 17.5 and 23.5, and well nourished with MNA scores ≥24 points [25,27]. A reduced version known as Mini Nutritional Assessment-Short Form (MNA-SF) was developed in the year 2001 [28–31].