Screening for Malnutrition in Older People

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KEYWORDS

• Malnutrition • Nutrition screening • Elderly

KEY POINTS

- The cumulative effect of the interaction between nutrition and changes seen in aging is *progressive* malnutrition, which often goes undiagnosed.
- Malnutrition poses a huge economic cost to society. Early detection is important because the malnourished elderly are more likely to require health and social services and have more hospitalizations and higher morbidity and mortality rates.
- There is no international consensus on a single best tool to screen malnutrition. The use of different tools in different studies hinders the comparison between studies.
- Older adults in long term-care facilities are at greatest nutritional risk, with malnutrition more likely among older residents and/or those who require a higher level of care.
- Earlier identification and appropriate nutrition support may help to reverse or halt the malnutrition trajectory and the negative outcomes associated with poor nutritional status.
- A nutrition screening process is recommended to help detect people with protein-energy malnutrition or at malnutrition risk. Any weight loss is a warning sign of malnutrition in elderly.

Malnutrition risk increases with age and level of care. Despite significant medical advances, malnutrition remains a significant and highly prevalent public health problem of developed countries. Malnutrition significantly increases morbidity and mortality and compromises the outcomes of other underlying conditions and diseases. Estimates of the prevalence vary, as methods for detection are not standardized. Early detection may lead to earlier intervention and improved outcomes and better quality of life. Thus, nutrition screening leading to the identification of etiologic factors is a necessary step. A single cause may rarely explain malnutrition in older adults, so it requires a systematic and multidisciplinary approach to identify all various causes usually involved. Several educational tools may facilitate the identification of factors

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associated with malnutrition. Academic societies proposed different checklists to guide the diagnostic approach or interventions. Several valid malnutrition screening tools are available to identify nutritional risk, including:

- Mini Nutritional Assessment (MNA)[1–3]
- Malnutrition Screening Tool (MST)[4]
- Malnutrition University Screening Tool (MUST)[5]
- Nutritional Risk Screening 2002 (NRS 2002)[6]
- Subjective Global Assessment (SGA)[7]
- Simplified Nutritional Assessment Questionnaire (SNAQ)[8]

For elderly with protein-energy malnutrition (PEM) or at nutritional risk, evidence supports that oral nutritional supplements and dietary counseling can increase dietary intake and improve quality of life.

This article examines nutritional screening and assessment tools designated for older adults. The authors first summarize the current literature regarding the prevalence, cause, and consequences of malnutrition. Within this review, the term *malnutrition* refers primarily to PEM. PEM is caused by an imbalance between intake in the body's requirements. This imbalance causes tissue loss, in particular of muscle tissue, with harmful functional consequences.

The main educational objectives of this article are to address the following questions:

1. Who are the elderly at risk of malnutrition and/or what are the risk factors?
2. What tools may be used to detect and diagnose malnutrition in the elderly?

PREVALENCE OF MALNUTRITION IN ELDERLY

The older population remains heterogeneous and is currently categorized into *disabled* (if needing assistance to perform basic activities of daily living), *frail*, and *robust*. Frailty is a multidimensional geriatric syndrome characterized by increased vulnerability to stressors as a result of reduced capacity of different physiologic systems.[9] Several operational definitions of frailty are currently available in the literature. However, the most commonly used criteria are those proposed by Fried and colleagues,[9] defining the so-called frailty phenotype. This phenotype is determined by the presence of at least 3 of 5 signs/symptoms, including poor muscle strength, slow gait speed, unintentional weight loss, exhaustion, and sedentary behavior. A prefrail stage, in which one or 2 criteria are present, identifies a subset at high risk of progressing to frailty. Estimates of the prevalence of malnutrition vary, as methods for detection are not standardized. Additionally, it is known that the prevalence of malnutrition depends on the setting and increases as the level of care increases. Multicenter studies that have evaluated malnutrition prevalence in the acute care setting report that 23% to 60% of elderly patients are malnourished and an estimated 22% to 28% are at nutritional risk. In comparison with other health care settings, there is limited literature on the prevalence of malnutrition in community-dwelling older adults, especially in the prefrail/frail older population. However, the reported prevalence indicates a range of 5% to 30%.[10] Data from the Geriatric Frailty Clinic for Assessment of Frailty and Prevention of Disability showed that 8% of prefrail/frail older people experienced malnutrition; a risk of malnutrition concerned 39.5%.[11] In the residential aged care setting, the reported PEM prevalence ranges from 16% to 70% depending on the assessment tool used and the level of care required.[10]

In summary, the prevalence of PEM increases with age. It is 5% to 30% in elderly persons living at home, 16% to 70% in those in institutional care, and 20% to 60% in hospitalized elderly patients.

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