Promoting healthy and enjoyable eating in the elderly

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Increasing numbers of older people are living in the community and the enjoyment of eating can fade with increasing age, leading to nutrient deficiencies that contribute to premature death, disease and disability. Several strategies can reduce the risk of inadequate food intake to improve health and the enjoyment of food for older people living in the community.

The population is ageing, and in the next 30 years the proportion of Australians aged 85 years and over is expected to double.[1] Most older people in Australia live in the community rather than in institutional settings and their ability to maintain function and independence is crucial to them being able to remain in their homes. Many of the health problems associated with older age are the result of chronic diseases that have developed earlier in life, and good nutrition is known to have important benefits for health and wellbeing, even at very advanced ages.[2]

Ageing presents new health issues with changes in food intake and dietary habits. This means that malnutrition is a much greater health risk for this population than overnutrition. Australian studies of community based elderly people (over the age of 70 years) indicate that between 15% and 45% may be malnourished or at risk of malnutrition, with the higher prevalence rates being seen among those receiving home domiciliary or nursing services.[3-6]

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KEY POINTS

- Enjoyment in eating and the social interactions associated with eating are fundamental to maintaining adequate nutrition.
- There is no need for older people to follow a restrictive diet because ageing is associated with a higher risk of under-nutrition.
- Although food intake decreases with increasing age, older people actually need more nutrients as they age with increased requirements for protein, calcium, vitamin D, vitamin B6 and riboflavin.
- Vitamin and mineral supplements, particularly of calcium and vitamin D, may be required for some older people.
- Maintaining muscle strength is needed to keep function and independence: adequate protein intake in combination with progressive resistance training is required to minimise the age-related loss of lean body mass.
- It is okay for older people to be overweight, as those with a body mass index (BMI) of about 27 kg/m^2 experience the lowest rate of mortality. The optimal BMI range for people over the age of 65 years is between 23 and 30 kg/m^2 .
- Unintentional weight loss in older people is not normal and needs to be addressed promptly.
- Nutrition risk screening using a validated tool such as the Mini Nutritional Assessment (MNA) should be performed routinely and can be incorporated into annual health checks for those aged 75 years and older.

Impact of ageing on nutrition

Several normal physiological changes occur with ageing that result in a reduction in food intake, known as the 'anorexia of ageing'.[7] These include:

- reduced sense of taste and smell
- changes in neurotransmitter activity or sensitivity influencing response to food
- gastrointestinal factors such as alterations in gut peptides (cholecystokinin, neural peptide Y), leptin and increased circulating cytokines.

In addition to physiological alterations, there are several other factors that can have a negative impact on nutritional status, as outlined in the Box.[8] It is important to gather information on appetite and eating habits, particularly in older patients presenting with the issues listed in the Box.

Fried and colleagues described frailty as a clinical syndrome characterised by three or more of the following criteria: unintentional weight loss, weakness in grip strength, self-reported exhaustion, slow walking speed and low physical activity.[9] Frailty has been shown to result in functional decline, social isolation, falls, greater risk of hospitalisation and increased mortality.[10]

Anorexia and malnutrition are key components of frailty, so early identification and treatment are fundamental to prevent a gradual decline in a patient's physical and psychological capacity, which has a major impact on quality of life and health.[11] Unintentional weight loss is not normal and needs to be addressed promptly.

Changing nutrient requirements

Due to a reduction in physical activity and lean body mass with increasing age, energy requirements decrease. However, requirements for some nutrients increase with advancing age. Over the age of 70 years, there is a:[12]

- 25% increase in protein requirement
- 30% increase in calcium requirement
- 20% increase in riboflavin requirement
- 15% and 30% increase in vitamin B6 in women and men, respectively
- 200% increase in vitamin D requirement.

These increased requirements have implications for dietary quality, as faced with declining quantity of foods consumed nutrient density becomes more important. Nutrient-dense foods are those that contain many nutrients that are easy to eat such as eggs, milk, chicken, fish and tender meats.

The recent Australian Health Survey found that 20% of adults age 71 years or older were not meeting the estimated average requirement (EAR) for riboflavin, 55% of men and 72% of women were not meeting the EAR for vitamin B6 and 90% were not meeting the EAR for calcium.[13] Although only 14% of older adults were not meeting the EAR for protein, the mean protein intake was found to be reduced in the over 70-year age group. A recent review of dietary protein needs for older adults indicates that the recommended daily intake (RDI) for protein is too low as discussed below.[14]

Importance of lean body mass

Maintenance of muscle mass and strength is fundamental to avoiding frailty. Longitudinal studies have shown that a higher intake of protein by older adults is associated with a reduction in age-related muscle loss.[15,16] There have been concerns that the RDI of protein set internationally is insufficient for older adults. To address these concerns, an international study group (PROT-AGE) developed evidence-based recommendations for optimal protein intake of at least 1.0 to 1.2 g protein per kg of body weight per day to help older people (over the age of 65 years) maintain and regain lean body mass and function.[14]

The PROT-AGE group noted that there is little or no evidence that this level of protein will cause kidney damage, a common cause for concern, in healthy individuals. However, to see the benefits on maintaining muscle mass, progressive resistance exercise training (using all the major muscle groups) needs to be undertaken at least twice a week, in conjunction with an adequate daily protein intake distributed over meals and snacks throughout the day.[14,17]

There is evidence to show that consuming at least 25 g of protein in each meal promotes optimal muscle synthesis.[18] This can be achieved relatively easily by consuming the following example meals:

- a two-egg omelette with a handful of grated cheese

1. CONDITIONS INFLUENCING NUTRITION IN OLDER PATIENTS[8]

Social
- Poverty
- Isolation
- Inability to shop, prepare and cook meals

Psychological
- Delirium
- Depression
- Anxiety
- Alcoholism
- Bereavement

Medical
- Dementia
- Cardiac/respiratory/gastrointestinal disease
- Endocrine disorders
- Infection
- Malignancy
- Physical disability e.g. arthritis
- Poor dentition
- Medications

TABLE. FEATURES OF THE MINI NUTRITIONAL ASSESSMENT SHORT-FORM*

Feature	Details
Target population	≥65 years
Criteria assessed	Appetite Recent weight loss Recent acute disease or stress Cognitive problems Mobility Body mass index (or calf circumference)
Outcome scores	0–7 = Malnourished 8–11 = At risk of malnutrition >11 = Well nourished
Comments	Tool recommended by European Society for Clinical Nutrition and Metabolism (ESPEN) Calf circumference can be used where weight is unable to be obtained

* Mini Nutritional Assessment forms can be downloaded from www.mna-elderly.com

- a small tin of baked beans on toast plus a tub of yoghurt
- a ham, cheese and salad sandwich
- 120 g meat, fish or chicken with vegetables.

Supplements for older people

If possible, older people should aim to get all their nutrients from food. However, for those eating only small amounts this can be difficult, particularly for some minerals and vitamins. Many older people have difficulty meeting their calcium requirements, particularly if they do not eat many dairy foods. For those who are not eating at least three serves of calcium-rich dairy foods or calcium-rich alternatives, a calcium supplement of 600 mg/day is recommended.[19]

Most adults are unlikely to be able to obtain their vitamin D requirement from diet alone and adequate safe sunlight exposure is required. When this is not possible, such as in the southern states of Australia, a supplement of 20 µg/day is recommended to reduce a patient's risk of falls and fractures.[20]

Regular screening to identify nutritional risk

Given the key role that nutrition plays in maintaining function and the development of frailty, identifying patients at risk of malnutrition is the first step in ensuring optimal nutritional status. Weight is a poor indicator of nutritional status because malnutrition can occur in patients with any body mass index (BMI). In a group of community dwelling older adults, almost one in six were found to be at risk of malnutrition and of these 34% had a BMI greater than 25 kg/m^2.[4] However, regular weighing of the patient is important, because weight loss in the elderly is associated with functional and mobility limitations, as well as increased mortality.[21,22]

There is strong evidence that there is little need for concern when older people are in the overweight BMI range. It is now clear that 'healthy weight range' differs for older adults and a BMI between 23 and 30 kg/m^2 is associated with lowest mortality.[23]

Several simple screening tools have been validated to screen older adults in the community setting for nutritional risk. One of these tools, the Mini Nutritional Assessment (MNA) was developed specifically for populations of patients aged 65 years and older.[24] The screen takes less than five minutes to complete and can be easily incorporated into annual health checks for those aged 75 years and older. Further details of the MNA can be found in the Table .

If a patient is found to be at risk of malnutrition or already malnourished, the first objective is to identify any serious medical conditions that may be causing reduced food intake or unintentional weight loss, or to manage chronic conditions that may be contributing to poor food intake.[25] A referral to a geriatrician to review the patient's overall medical management may be required; however, there are also simple interventions such as lifting dietary restrictions that are no longer necessary (e.g. strict diabetic or low-fat diets) that can improve nutritional status. Patients identified as malnourished or with more complex needs should be referred to an Accredited Practising Dietitian for a full nutritional assessment.

Impact of psychosocial factors

Psychosocial factors can impact on older people's ability to meet nutritional

requirements. Following the strategies below can assist in ensuring the best nutrition possible.

Encourage enjoyment of food

Patients should be encouraged to eat meals with family and friends and to enjoy eating their food. They should eat at least three meals per day, with between-meal snacks if desired. Older patients should be informed that there is no need to follow restrictive diets that reduce their enjoyment of eating and be supported in the notion that: 'a little of what you fancy does you good'.

Identify contributing factors to malnutrition

Older adults with factors such as depression, social isolation and chronic comorbidities that contribute to and put them at risk for malnutrition should be identified using a validated screening tool. These contributing factors should be managed accordingly.

Discourage dietary restriction

As described above, unintentional weight loss in older adults is associated with morbidity and mortality. Weight reduction should only be encouraged in patients with functional impairments, metabolic complications or obesity-related diseases with a BMI greater than 30 kg/m^2.[26] Any modifications to diet should be in conjunction with a resistance exercise program and should focus on improving dietary quality, in particular maintaining an adequate protein intake in order to minimise loss of lean body mass.

Provide individualised assistance or support to older patients

The range of social, medical and psychological issues that can negatively impact on achieving a nutritious diet is vast and accordingly a wide range of support mechanisms need to be made available to older patients. For some, this may be in the form of social outings for meals, home-delivered meals or cooking or shopping assistance provided by the local council. Some patients may require a medical and medication review or referral to other health professionals such as an Accredited Practising Dietitian, a speech pathologist or a dentist.

Conclusion

Nutrition has a key role in maintaining function, wellbeing and independence for older adults, allowing them to continue active lifestyles for as long as possible. However, physiological, medical and psychosocial factors can impact on their ability to meet nutritional requirements. These factors should be identified and managed to reduce the older patient's risk of malnutrition. MT

References

A list of references is included in the website version of this article (www.medicinetoday.com.au).

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