

Malnutrition

What is malnutrition?

The World Health Organisation (WHO) defines malnutrition as a deficiency, excess or imbalance of a person's energy and or nutrients. The WHO broadly divides the condition into two categories: undernutrition and overweight/obesity. When the word 'malnutrition' is used in this section, we are referring to 'undernutrition' caused by a lack of protein and or energy (1).

Malnutrition is characterised by a deficiency of energy, protein, vitamins, minerals or other micronutrients that cause measurable adverse effects on the body.

These effects can include changes to:

- body form (such as body shape, size, or composition)
- body function (such as the ability to move or to think)
- clinical outcomes (the body's capacity to recover from disease) (2).

Malnutrition can be diagnosed by an Accredited Practising Dietitian or a doctor. Diagnosis is based on the definition set out by the WHO, known as ICD-10, and will generally be classified as mild, moderate or severe (3).

What is the prevalence of malnutrition?

Measuring malnutrition at a population level is difficult. This is due to differences in assessment and diagnostic measures used in research. As a result, it is difficult to know exactly what the prevalence of malnutrition is in older Australians.

The best estimate of malnutrition in Australian community home care settings is around 15%. But more research is needed to understand the frequency of malnutrition in Australia, particularly in the community home care setting (4).

Malnutrition rates in other settings within Australia are estimated at:

- 30-60% in acute care (5)
- 30-50% in rehabilitation (6)
- 30-70% or more in residential aged care (7).

What causes malnutrition?

Malnutrition in most developed countries is a result of a person's inability to meet their nutritional needs due to one or more of the following factors:

- decreased food intake
- increased nutritional requirements
- an inability to absorb or use the foods being provided

Older people may be more vulnerable to malnutrition, often due to a combination of these factors (8).

Decreased intake

Older people are susceptible to issues that can cause a decrease in their food intake. Environmental and clinical issues such as:

- reduced ability to access food
- poverty
- isolation
- loneliness
- poor quality or culturally inappropriate catering systems for people in care

Physical issues such as:

- reduced ability to prepare foods
- reduced ability to self-feed
- difficulty with chewing or swallowing
- reduced sense of taste and/or smell
- disability

Psychological issues such as:

- dementia
- depression and or anxiety
- poor eating environment
- self-neglect
- poor appetite
- bereavement. (9).

Increased nutrition requirements

An older person's muscle mass and energy requirements decrease with age. But their nutrient requirements remain the same and in some cases are higher than a younger person's.

As a result, older people need to be diligent in their food choices in order to eat foods that will meet their nutrient requirements (10 & 11). Diseases and related treatments can impact on an individual's nutrition requirements. Infections, burns, trauma, surgery and some drugs can all increase nutrient requirements.

The use of medications can prevent nutrients from absorbing. Polypharmacy (the use of multiple medications) is a known risk factor for malnutrition either by causing nutrient malabsorption or increased nutrient losses (11). Malnutrition is often caused by more than one factor. It is usually the result of an interaction of many

issues. Living conditions and socioeconomic circumstances play a role as well as clinical/medical issue (12 & 13).

Why is malnutrition a problem?

Malnutrition is a major international and Australian health problem. It often goes unrecognised and untreated. Malnutrition is both a cause and consequence of ill health across many patient groups and health care settings (14 & 15).

Within Australia there is limited research into the cost of malnutrition. In 2005 Lipski stated that 'for every dollar spent on better nutrition for the elderly, \$5 is saved in health care costs (14). In Victoria it's been estimated that the cost of malnutrition on the health care system is approximately \$10.7 million each year (14). Due to the large number of people with undiagnosed malnutrition it is difficult to truly estimate the financial burden.

Poor nutrition (that leads to clinical malnutrition) increases disease and mortality in the elderly and increases the cost of health care for the community. The individual suffering from poor nutrition is more likely to suffer any of the following decreases in quality of life (15 & 16):

- increased falls and fractures
- increased support with daily living tasks
- increased need for complex support and care
- increased complications such as infections, pressure sores, skin ulcers and/or dental problems
- greater need of, and longer stays in hospital
- reduced ability to live independently due to depression, apathy or dementia
- higher chance of illness and infection
- higher death rates from some diseases, especially cancers
- reduced ability to maintain normal body temperature
- depression and self-neglect
- possible confusion
- mood and behaviour shifts and changes of attitude, including a decline in mental health
- less interest in food, leading to social isolation
- decreased response to and/or tolerance of treatment.

Not only do these issues impact on quality of life for the individual suffering malnutrition, all these factors also contribute towards increased health care costs. Malnutrition risk screening should be prioritised as a method of improving health outcomes (16).

How to identify malnutrition

Carry out malnutrition risk screening

Malnutrition risk screening is done using a malnutrition screening tool. There are several screening tools available, each made up of a set of questions that have been proven to identify malnutrition risk. The answers to these questions give a score indicating the risk of the individual having malnutrition.

Malnutrition screening tools have been developed for specific population groups. Malnutrition risk screening tools cannot diagnose malnutrition. They can indicate those who are likely to be at risk of malnutrition and should be referred for support.

Public Health Services, Department of Health Tasmania recommends the Malnutrition Screening Tool (MST). The MST is one of the few tools available that does not require complex body measurements or the use of expensive equipment.

The MST consists of only two questions and is simple to use. The questions are asked of individual and their responses scored and added. This final score is a measure of malnutrition risk and indicates the level of follow-up required. With training, the MST can be completed by staff and volunteers working in the aged care sector. This includes people who work in day respite centres, home support, community nursing and allied health.

Malnutrition score 0 – 1

This score indicates a low likelihood of malnutrition. A person with this score needs no further intervention at the time of screening. Repeat MST in 6-12 months' time, or earlier if their circumstances change or you suspect they are experiencing nutrition issues (for example, if you notice they have lost weight or have a reduced appetite).

Malnutrition score 2

This score indicates a moderate risk of malnutrition, either from eating poorly or having a significant or unknown amount of recent weight loss. Factors that may have contributed to this should be investigated and addressed in order to prevent declining health. This can be done by

working through the 'Nutrition Risk Identification Questions', contained in the 'Nutrition Screening' section of this resource.

In some instances, no cause will be found for a score of 2 when working through the 'Nutrition Risk Identification Questions'. This may be the case if the person has replied that they are unsure if they have recently lost weight. In this case, no action is needed except for rescreening in 6-12 months' time, or earlier if indicated (for example, their circumstances change, if you notice they have lost weight or have a reduced appetite).

Ability to make changes to diet and lifestyle vary from person to person, so it's important to monitor your clients and give appropriate support when they need it.

Refer to the 'How to support clients at risk of malnutrition' section for further information.

Malnutrition score 3 – 5

This score indicates a person is at high risk of malnutrition due to recent weight loss. They are also likely to also be eating poorly due to decreased appetite. These underlying issues must be investigated to prevent malnutrition progressing. Use the 'Nutrition Risk Identification Questions' to explore possible contributing factors (see 'Malnutrition score 2' above for further explanation).

Refer to the 'How to support clients at risk of malnutrition' section for further information.

Because of the impact malnutrition has on the individual and the population, it is important that healthcare workers are aware of risk factors, screening processes, referral pathways for support and how they can assist in supporting their clients.

How to support clients at risk of malnutrition

Malnutrition can be the result of several factors such as clinical, environmental, physical and/or psychological. Factors that can contribute to malnutrition need to be identified. This can be done by working through the 'Nutrition Risk Identification Questions' with the individual.

By completing these questions, it can help uncover ways that extra support can be given.

These can include:

- engaging the family/carers
- gaining support from relevant allied health professionals or community services

Examples of this include linking clients to a speech pathologist for swallowing difficulties, or to an 'Eating with Friends' group if eating alone is an issue.

These solutions are specific to the individual and the community they live in, so it is important for health professionals to have a good understanding of the supports that can be accessed in their local area.

If a client scores a 3-5 on the MST, they should be given education and support to start a high protein, high energy diet with a goal of reversing their increased risk of malnutrition.

They should also be referred to their GP and/or an Accredited Practising Dietitian for support. Nutrition departments in the three major hospitals in Tasmania will take referrals from a health professional or CHSP service that has assessed a client as being at high malnutrition risk using the MST.

Refer to the 'Nutrition Screening' section of this manual for the relevant contact details and referral form.

The following strategies may help someone who is identified as being at high risk (score 3-5) of malnutrition:

- follow a high protein high energy diet to maximise nutrition
- eat more at the time of day when most hungry. If their appetite is better in the morning make breakfast the biggest meal
- include a protein rich food at every meal and snack, such as lean red meat, chicken, fish, eggs, tofu, nuts and seeds and nut/seed pastes (such as peanut butter), legumes, milk, yoghurt or cheese
- enjoy 'favourite' foods more often have drinks between meals to avoid filling up on fluid at meal times
- if fluids are easier to manage than solid food, make them count by choosing those rich in protein and energy like soups, milk drinks and fruit juice
- if large meals are overwhelming, have smaller but more frequent meals and aim for three small meals and three snacks a day.

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