



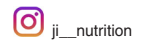
MALNUTRITION AND THE GROWING IMPACT OF COVID-19



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Malnutrition continues to be a complex global problem with multiple consequences for the individual. This article provides an overview of malnutrition and explores the growing impact of COVID-19.

The term ‘malnutrition’ includes both the deficiency and excess of macro- and micronutrients (i.e. energy, protein, vitamins and minerals).¹ This can be expanded further to describe two broad common terms:

- 1 Undernutrition – includes stunting (low height for age), wasting (low weight for height), underweight and micronutrient deficiencies
- 2 Overweight/obesity – obesity and diet-related noncommunicable diseases such as cardiovascular diseases (heart attack and stroke), some cancers and diabetes²

In the UK, it is estimated that over three million people are affected by undernutrition with 1.3 million over the age of 65 years.³ The term ‘malnutrition’ is often used synonymously with

‘undernutrition’, which will be the focus of this article.

The National Institute for Health and Care Excellence (NICE)¹ defines malnutrition in terms of undernutrition using the following criteria:

- A BMI of less than 18.5kg/m²
- Unintentional weight loss greater than 10% in the last three to six months
- A BMI of less than 20kg/m² and unintentional weight loss greater than 5% within the past three to six months

CONSEQUENCES OF MALNUTRITION

The effects of malnutrition are widely researched and broadly associated with frailty, sarcopenia and poor health outcomes.⁴ Malnutrition is complex and can affect the function of every organ system in the body.⁵

Figure 1: Malnutrition – a problem of deficiency and excess



Table 1 Risk factors for malnutrition

At-risk groups	Social risk factors	Physical risk factors
Adults over 65 years (particularly those in care homes)	Social isolation	Difficulty eating due to poor dentition, poor oral hygiene or ill-fitting dentures
Adults with long-term conditions, eg, diabetes, renal disease, chronic lung disease ³	Poverty	Impaired swallow function or painful swallow due to treatment or disease
Adults with chronic progressive conditions, eg, cancer or dementia ³	Anxiety or low mood, which can limit appetite and interest in food	Anosmia (loss of smell) or dysgeusia (taste changes) leading to a reduced appetite
Substance misusers	Limited access to culturally appropriate meals, eg, whilst in hospital or care home	Physical limitations causing difficulty in preparing meals
		Reduced mobility or access to obtain food
		Physical side effects of disease or treatments, eg, nausea, vomiting, diarrhoea or pain

Muscle function

Loss of muscle and fat due to weight loss can affect mobility with an increasing risk of falls. The muscles of the heart and lungs can also be affected leading to a reduced cough which may delay recovery from respiratory tract infections.

Gastrointestinal function

Nutrition is needed to preserve the gut function and chronic malnutrition can cause changes in villous architecture and intestinal permeability, causing reduction in the colon’s ability to reabsorb water and electrolytes.⁵

Immunity and wound healing

Malnutrition can increase the risk of infection due to reduced cell-mediated immunity and impaired wound healing is well documented.⁵

Psychosocial effects

Malnutrition can result in psychosocial effects such as depression, anxiety, poor body image, altered sleep patterns, isolation and self-neglect. The wider burden of malnutrition in terms of costs to health and social care is significant. Malnourished adults have prolonged hospital stay, present more regularly to their GP and make up 30% of hospital admissions.⁶

RISK FACTORS FOR MALNUTRITION

Table 1 illustrates the common risk factors for mal-nutrition divided into three categories: particular at-risk groups, social and physical factors.⁶

Disease-related malnutrition is multifactorial as a result of the treatment of the disease or the disease itself, which causes the following to occur:

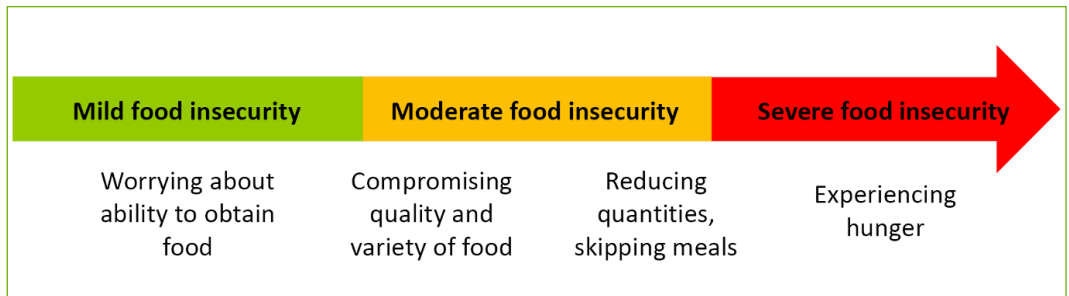
- 1 Reduced dietary intake
- 2 Reduced absorption of macro- and or micronutrients
- 3 Increased dietary requirements due to increased energy expenditure

Some of the social and physical factors can also be present, further compounding the risk of malnutrition. Malnutrition, for example, is highly prevalent in older patients with cancer who are undergoing anti-cancer treatments such as chemotherapy.

THE IMPACT OF COVID-19

Malnutrition has been an ongoing global issue but, unfortunately, this has been compounded by the emergence of COVID-19.

COVID-19 has stimulated a global social, economic and medical crisis and presents a real threat to nutritional status, particularly in the most vulnerable groups such as children and

Figure 2: Food Insecurity and Experience Scale from The Food and Agriculture Organisation of the United Nations⁹

older adults. In January 2021, the UK entered its third lockdown, which, yet again, presents further enforced social isolation. Adults over 65 years of age are already in the at-risk group for malnutrition and for severe effects of COVID-19 with poor prognosis.⁷

Ongoing guidelines to stay at home will continue to limit this particular group's access to a wide variety of food creating challenges for individuals to maintain a healthy diet.⁸ The impact of ongoing social isolation is likely to induce negative emotions such as stress, sadness and distress, all known to be associated with reduced motivation or desire to eat,⁶ further compounding the risk of malnutrition. Limited regular contact with friends or family may also mean that possible signs and symptoms of malnutrition, such as weight loss, loss of appetite and fatigue, may go unnoticed.

The economic effect of COVID-19 has been hard hitting, with a surge in redundancies and an increasing rate of unemployment posing a real threat of food insecurity. Food insecurity is a 'limited access to food due to lack of money or other resources'.⁹ The level of food insecurity can be measured by the Food Insecurity and Experience Scale (FIES) which ranges from worrying about obtaining food to experiencing hunger (see Figure 2).

A recent study¹⁰ has illustrated that COVID-19 has exacerbated food insecurity for vulnerable groups such as the unemployed, adults with disabilities, families with children and members of the black, Asian and other minority ethnic groups (BAME).¹⁰ These groups are not only experiencing food insecurity due to limited income, but also due to environmental factors such as poor availability in the shops or being unable to go out due to self-isolation.¹⁰

The COVID-19 virus has appeared to disproportionately affect low income and ethnic minority groups, which, along with the greater risk of malnutrition, may be contributing factors to poorer outcomes and severe disease.¹¹

SUMMARY

Malnutrition continues to be a huge global problem and, with the ongoing impact of COVID-19, is likely to affect more of the population. The risk of malnutrition is already complex and multifactorial without COVID-19, but the pandemic has created new problems of food insecurity for those already vulnerable to health inequalities. So now more than ever it is vital that we identify those at risk of malnutrition. Malnutrition should continue to be a consideration for all healthcare professionals and usual practice should be adapted to allow screening to take place remotely or by patients or carers themselves.

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Questions relating to: *Malnutrition and the growing impact of COVID-19*

Type your answers below, download and save or print for your records, or print and complete by hand.

Q.1 Describe the two broad common terms for malnutrition.

A

Q.2 What is the criteria for a diagnosis of 'undernutrition' according to NICE?

A

Q.3 What effect can malnutrition have on muscle function?

A

Q.4 Explain the psychosocial effects of malnutrition.

A

Q.5 Outline the risk factors for disease-related malnutrition.

A

Q.6 How does social isolation impact the risk of malnutrition?

A

Q.7 Explain the food insecurity 'Experience Scale' and how that relates to the economic effect of COVID-19.

A

Q.8 How has the pandemic disproportionately affected low income and ethnic minority groups?

Please type additional notes here.