

Malnutrition: What is malnutrition?

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Malnutrition is when a person's diet does not provide enough nutrients or the right balance of nutrients for optimal health.

Causes of malnutrition include:

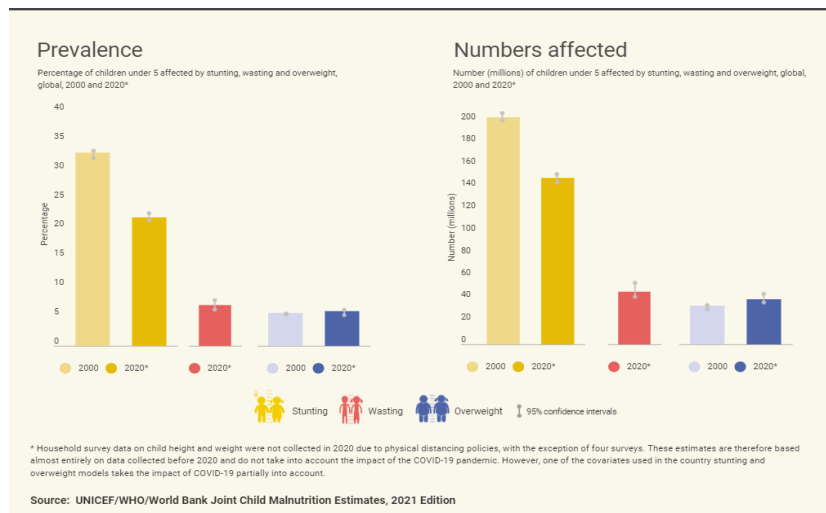
1. unsuitable dietary choices
2. having a low income
3. difficulty obtaining food
4. various physical and mental health conditions

Undernutrition is one type of malnutrition Trusted Source. It occurs when the body does not get enough food and enough necessary nutrients. It can lead to:

1. delayed growth
2. low weight
3. wasting

If a person does not get the right balance of nutrients, they can also have malnutrition. It is possible to have obesity with malnutrition. When a person has too little food, a limited diet, or a condition that stops their body from obtaining the right balance of nutrients, it can severely impact their health. In some cases, this can become life threatening. This article looks at malnutrition in detail, including the causes, symptoms, and treatments.

What is malnutrition?



Malnutrition is an imbalance in dietary intake. It occurs when a person has too much or too little food or essential nutrients. A person with malnutrition may lack vitamins, minerals, and other essential substances that their body needs to function. People may become malnourished if they do not eat enough food overall. However, people who eat plenty but do not have enough variation in their diet can also become malnourished.

Malnutrition can lead to:

- short- and long-term health problems
- slow recovery from wounds and illnesses
- a higher risk of infection

Some deficiencies can trigger specific health problems. For example:

Lack of vitamin A

Around the world, many children develop vision problems Trusted Source due to a lack of vitamin A.

Lack of vitamin C

A lack of vitamin C Trusted Source can result in scurvy. Scurvy is rare in the United States (U.S.), but it can develop if a person does not have a varied diet with plenty of fruits and vegetables. Fresh, frozen, and canned fruits and vegetables all contain vitamin C.

People who are particularly at risk of scurvy include:

older adults
young children
those who consume a lot of alcohol
some people with certain mental health conditions

An overall deficiency

Malnutrition can lead to marasmus, which is a severe form of malnutrition. Marasmus is a deficiency of protein and overall energy intake.

A person with marasmus will have very little muscle or fat on their body.

Over nutrition

Over nutrition is another type of malnutrition. It occurs when a person takes in more nutrients than they need. The result may be an accumulation of body fat from the excess nutrients, resulting in overweight or obesity.

Over nutrition has several health implications Trusted Source. People who have overweight or obesity are at greater risk of:

heart disease
high blood pressure
diabetes
cancer
high cholesterol

The rate of over nutrition is growing worldwide. The World Health Organization (WHO) reports that in 2020, 5.7% of children fewer than 5 were overweight, an increase from 5.4% in 2000.

In addition, the number of adults with obesity almost tripled Trusted Source worldwide from 1975 to 2016.

Symptoms

Some signs and symptoms of malnutrition include:

Weight loss
a lack of appetite or interest in food or drink
tiredness and irritability
an inability to concentrate
always feeling cold
depression
loss of fat, muscle mass, and body tissue
a higher risk of getting sick and taking longer to heal
longer healing time for wounds
Eventually, a person may also experience heart failure Trusted Source.

Symptoms in adults vs. children

Children may present with different malnutrition symptoms than adults.

In children, there may be:

a lack of growth and low body weight
tiredness and a lack of energy
irritability and anxiety
slow behavioral and intellectual development, possibly resulting in learning difficulties

Treatment is possible. In some cases, however, malnutrition can have long-term effects.

Causes

Malnutrition can occur for various reasons. The sections below outline these potential causes in more detail.

Causes of malnutrition

Malnutrition in developed countries is unfortunately still more common in situations of poverty, social isolation and substance misuse. However, most adult malnutrition is associated with disease and may arise due to:

reduced dietary intake
reduced absorption of macro- and/or micronutrients
increased losses or altered requirements

Increased energy expenditure (in specific disease processes).²

Dietary intake

Probably the single most important aetiological factor in disease-related malnutrition is reduced dietary intake. This is thought to occur due to reductions in appetite sensation as a result of changes in cytokines, glucocorticoids, insulin and insulin-like growth factors.⁶ The problem may be compounded in hospital patients by failure to provide regular nutritious meals in an environment where they are protected from routine clinical activities, and where they are offered help and support with feeding when required.⁷

Malabsorption

For patients with intestinal failure and those undergoing abdominal surgical procedures, malabsorption represents an independent risk factor for weight loss and malnutrition.

Increased losses or altered requirements In some circumstances, such as enterocutaneous fistulae or burns, patients may have excessive and/or specific nutrient losses; their nutritional requirements are usually very different from normal metabolism.

Energy expenditure

It was thought for many years that increased energy expenditure was predominantly responsible for disease-related malnutrition. There is now clear evidence that in many disease states total energy expenditure is actually less than in normal health. The basal hyper metabolism of disease is offset by a reduction in physical activity, with studies in intensive care patients demonstrating that energy expenditure is usually below 2,000 kcal/day. The exception is patients with major trauma, head injury or burns where energy expenditure may be considerably

higher, although only for a short period of time.^{8,9}

Low intake of food

Some people develop malnutrition because there is not enough food available, or because they have difficulty eating or absorbing nutrients.

This can happen as a result of:

cancer

liver disease conditions that cause nausea or make it difficult to eat or swallow taking medications that make eating difficult — due to nausea, for example Mouth problems such as poorly fitting dentures may also contribute to malnutrition.

Mental health conditions

Undernutrition or malnutrition can affect people with:

depression

dementia

schizophrenia

anorexia nervosa

Eating disorders can severely affect the quality of life of people living with these conditions and those close to them. Early intervention and treatment greatly improve the likelihood of recovery.

Social and mobility problems

Factors that can affect a person's eating habits and potentially lead to malnutrition include:

being unable to leave the house or go to a store to buy food

finding it physically difficult to prepare meals

living alone, which can affect a person's motivation to cook and eat

having limited cooking skills

not having enough money to spend on food

Digestive disorders and stomach conditions

If the body does not absorb nutrients efficiently, even a healthful diet may not prevent malnutrition.

Examples of digestive and stomach conditions that may cause this include:

Crohn's disease

ulcerative colitis

celiac disease

persistent diarrhea, vomiting, or both

Alcohol use disorder

Consuming a lot of alcohol can lead to gastritis or long-term damage to the pancreas. These issues can make it hard to:

digest food

absorb vitamins

produce hormones that regulate metabolism

Alcohol also contains calories, so a person may not feel hungry after drinking it. They may,

therefore, not eat enough healthful food to supply the body with essential nutrients.

Risk factors

In some parts of the world, widespread and long-term malnutrition can result from a lack of food.

In wealthier nations, however, those most at risk of malnutrition include:

older adults, especially when they are in the hospital or in long-term institutional care
people who are socially isolated — for example, due to mobility issues, health problems, or other factors

people with a low income

people recovering from or living with a serious illness or condition

those who have difficulty absorbing nutrients

people with chronic eating disorders, such as bulimia nervosa or anorexia nervosa

When to contact a doctor

A few key signs of malnutrition indicate that it is time for a person to seek care from a doctor.

These signs include:

unexplained, unintentional weight loss of more than 5% in the last 3–6 months

presence of other malnutrition symptoms

a worry that someone else may be showing signs of malnourishment

if a person experiences signs of an eating disorder, or sees these in someone else

Likewise, a person should encourage a loved one to see a doctor if they show signs of malnourishment. Some people may not recognize the symptoms in themselves, while loved ones sometimes can.

Diagnosis

If a person shows or notices any symptoms or signs of malnutrition, the first step is to find out why.

If a doctor suspects Crohn's disease, celiac disease, or another condition, they may evaluate the patient's condition by:

asking about medical history

conducting a physical exam

ordering testing

Treating underlying conditions can improve a person's nutritional status.

A healthcare professional may also carry out the following Trusted Source:

blood tests for general screening and monitoring tests for specific nutrients, such as iron or vitamins

prealbumin tests, as malnutrition commonly affects levels of this protein

albumin tests, which may indicate liver or kidney disease

A tool to identify risk

Some tools can help identify people who have or are at risk of malnutrition.

One way to assess adults is by using the Malnutrition Universal Screening Tool (MUST). 2018 research Trusted Source has shown this to be a reliable tool.

Experts designed this tool to identify adults, especially older adults, with malnourishment or a high risk of malnutrition. It is a five-step plan to help healthcare professionals diagnose and treat these conditions.

The five steps are as follows:

Measure a person's height and weight, calculate their body mass index (BMI), and provide a score.

Note the percentage of unplanned weight loss and provide a score. For example, an unplanned loss of 5–10% would give a score of 1, while a 10% loss would score a 2.

Identify any mental or physical health conditions and provide a score. For example, if a person has been acutely ill and taken no food for over 5 days, this would lead to an additional 2 points.

Add the scores from steps 1, 2, and 3 to obtain an overall risk score.

Use local guidelines to develop a care plan based on the score.

The score will be one of the following:

low risk: 0

medium risk: 1

high risk: 2 or more

Doctors only use MUST to identify overall malnutrition or the risk of malnutrition in adults. The test will not identify specific nutritional imbalances or deficiencies.

Nutritional deficiency anemia can result if a person's diet cannot provide the nutrients they need. Learn more about it here.

Treatment

If a doctor diagnoses malnutrition, they will make a treatment plan for the person. The person may also need to meet with a dietician and other healthcare professionals.

Treatment will depend on the severity of the malnutrition and the presence of any other underlying conditions or complications.

It may include:

ongoing screening and monitoring
making a dietary plan, which might include taking supplements
treating specific symptoms, such as nausea
treating any infections that may be present
checking for any mouth or swallowing problems
suggesting alternative eating utensils

In severe cases, a doctor may administer nutrients intravenously (through an IV).

The person's healthcare team will continue to monitor them to ensure they get the nutrition they need.

Prevention

To prevent malnutrition, people need to consume a range of nutrients from various food types.

Older adults, young children, people with severe or chronic illness, and others may need additional care to obtain the nutrients they need.

Anyone who starts to show signs of malnutrition or Undernutrition should see a doctor for a diagnosis and treatment.

In the U.S., effective treatment is usually available, although the outlook and time needed for recovery will depend on the cause of the malnutrition.

Summary

Malnutrition is the result of an improper diet. It can result from too few nutrients (Undernutrition) or too many nutrients (over nutrition).

People who experience Undernutrition often have:

low weight
difficulty recovering from injuries
lack of appetite
fatigue
depression
among other symptoms

But malnutrition is not the result of poor diet choices in every case. Sometimes, malnutrition occurs because a person:

does not have easy access to food
cannot leave their home to buy food
cannot cook meals
has a digestive disorder that prevents their body from properly absorbing nutrients

Helping patients treat malnutrition is an important goal for many healthcare professionals. Together, a doctor and patient can review possible causes of malnutrition and help develop more nutrient-dense eating plans.

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