2. Food and nutrients
2.4 A balanced diet

2.4.3

Malnutrition

INADEQUATE FOOD INTAKE

Malnutrition is a major health issue in the world. Malnutrition is when someone is not eating enough or is underfeeding.

In Western societies, malnutrition is often linked to overeating, which accumulates health risks. Yet you can also find incidents of undernourishment, for example in the elderly.

Extreme diets excluding several food groups can lead to nutritional deficiencies. This is what is known as an imbalanced diet. If a food group is missing from or not sufficiently present in our diet, we also talk about malnutrition.

DEFICIENCIES

Iron is one of the most readily available elements in the world, but it is the one most often missing from people's diets. Two billion people suffer from a lack of iron.
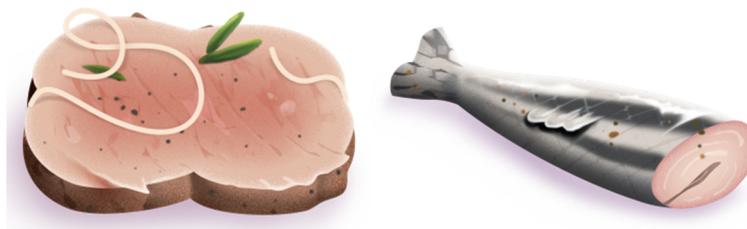
Meat and fish are two good sources of iron. Vegetables sometimes contain good quantities of iron but it is less easy to absorb. Absorption of iron can be improved by eating food rich in vitamin C at the same time. A lack of iron can be caused by intestinal parasites, loss of blood or higher requirements during growth. If diet is not sufficient alone, you can also make up for this lack of iron with dietary supplements.

Malnutrition due to undernourishment is a major problem in some parts of the world, where most of the population suffers from various severe deficiencies. This state often damages physical and cerebral development in children and, in some cases, contributes to premature deaths in babies and infants.

Malnutrition

Malnutrition means that a diet is...

- ○ adequate
- ○ inadequate
- ○ copious

Which of these words is not linked to malnutrition?

- ○ Overeating
- ○ Undernourishment
- ○ Balanced

Undernourishment means...

- ○ not eating enough
- ○ eating too much
- ○ eating normally

Which is the most widespread deficiency throughout the world?

- ○ Iron
- ○ Calcium
- ○ Vitamin A

Undernourishment is most frequent in...

- ○ Africa
- ○ Europe
- ○ North America

Which of the following is not a good source of iron?

- ○ Fish
- ○ Potatoes
- ○ Meat

Undernourishment in babies and children does not cause...

- ○ delayed physical and cerebral development
- ○ mortality
- ○ toothache

Which population is likely to suffer from malnutrition in industrialised countries?

- ○ Children
- ○ Adults
- ○ The elderly

Diets which exclude certain food groups can result in malnutrition.

- ○ False
- ○ True

Iron is better absorbed if it is of plant origin rather than of animal origin.

- ○ False
- ○ True

Answers

Malnutrition means that a diet is...

○ **adequate**
Wrong! Try again!

● **inadequate**
Well done! Malnutrition is the consequence of an inadequate diet, made up of too much or not enough food, or characterised by the lack of one or several nutrients.

○ **copious**
Wrong! Excessive nutrition plays a role, but it is not the only cause.

Which of these words is not linked to malnutrition?

○ **Overeating**
Wrong! Overeating means eating too much in relation to daily requirements. This is a factor of malnutrition.

○ **Undernourishment**
Wrong! Undernourishment means that food intake is not enough to meet daily requirements. This is a factor of malnutrition.

● **Balanced**
Well done! A balanced diet is a diet which covers all daily requirements and contains the right proportions of food from each food group.

Undernourishment means...

● **not eating enough**
Well done! It means that food intake is not enough to cover the body's requirements.

○ **eating too much**
Wrong! This would be overeating.

○ **eating normally**
Wrong! Try again!

Which is the most widespread deficiency throughout the world?

● **Iron**
Well done! Iron deficiency affects some 2 billion people.

○ **Calcium**
Wrong! It is not the most widespread.

○ **Vitamin A**
Wrong! Vitamin A deficiency is common, especially in poor countries, but it is not the most widespread deficiency in the world.

Undernourishment is most frequent in...

● **Africa**
Well done! In some African countries, the supply of food is not always adequate, so the risk of malnutrition is high.

○ **Europe**
Wrong! In Europe, there is a higher risk of overeating.

○ **North America**
Wrong! In North America, there is a higher risk of overeating.

Which of the following is not a good source of iron?

○ **Fish**
Wrong! Fish is a good source of iron.

● **Potatoes**
Well done! Potatoes are low in iron.

○ **Meat**
Wrong! Meat is a good source of iron.

Undernourishment in babies and children does not cause...

○ **delayed physical and cerebral development**
Wrong! Undernourishment can lead to delayed physical and cerebral development.

○ **mortality**
Wrong! Extreme undernourishment can cause death.

● **toothache**
Well done! That's right, toothache is not a result of undernourishment.

Which population is likely to suffer from malnutrition in industrialised countries?

○ **Children**
Wrong! This is not the population most at risk.

○ **Adults**
Wrong! This is not the population most at risk.

● **The elderly**
Well done! When elderly people lose their appetite or have difficulties chewing, they may then suffer from malnutrition.

Diets which exclude certain food groups can result in malnutrition.

○ **False**
Wrong! To avoid nutrient deficiency, it is best to eat food from each food group.

● **True**
Well done! That's right! Excluding food groups can lead to a serious risk of deficiency in the nutrients in those groups.

Iron is better absorbed if it is of plant origin rather than of animal origin.

● **False**
Well done! The iron in plants is actually more difficult for the human body to absorb.

○ **True**
Wrong! The iron in plants is actually more difficult for the human body to absorb.

Body Mass Index

[11-13 years old and 14-16 years old]

The Body Mass Index (BMI) is a benchmark for calculating body weight.

BMI = weight/height^2

For adults, the risk of health problems increases when your BMI is:
- under 18.5 (underweight)
- over 25 (overweight)

Calculate the BMI of an adult who weighs 68 kg and is 1.80 m tall:

BMI= _____

Does that adult have a normal build?

☐ yes ☐ no

Although BMI plays a key role, it is not enough to interpret weight, especially for children, top-level athletes and in the context of certain diseases. Remember that your ideal weight is the one where you feel good!

Answers

Body Mass Index

[11-13 years old and 14-16 years old]

The Body Mass Index (BMI) is a benchmark for calculating body weight.

BMI = weight/height^2

For adults, the risk of health problems increases when your BMI is:
- under 18.5 (underweight)
- over 25 (overweight)

Calculate the BMI of an adult who weighs 68 kg and is 1.80 m tall:

BMI= **21**_____

Does that adult have a normal build?

☒ **yes** ☐ ~~no~~

Although BMI plays a key role, it is not enough to interpret weight, especially for children, top-level athletes and in the context of certain diseases. Remember that your ideal weight is the one where you feel good!