



NUTRITION AND OBESITY

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Nutrition- is the biochemical and physiological process by which an organism uses food and water to support its life. The intake of these substances provides organisms with nutrients (divided into macro- and micro-) which can be metabolized to create energy and chemical structures; too much or too little of an essential nutrient can cause malnutrition. Nutritional science, the study of nutrition as a hard science, typically emphasizes human nutrition.

The type of organism determines what nutrients it needs and how it obtains them. Organisms obtain nutrients by consuming organic matter, consuming inorganic matter, absorbing light, or some combination of these. Some can produce nutrients internally by consuming basic elements, while some must consume other organisms to obtain pre-existing nutrients. All forms of life require carbon, energy, and water as well as various other molecules. Animals require complex nutrients such as carbohydrates, lipids, and proteins, obtaining them by consuming other organisms. Humans have developed agriculture and cooking to replace foraging and advance human nutrition. Plants acquire nutrients through the soil and the atmosphere. Fungi absorb nutrients around them by breaking them down and absorbing them through the mycelium

Overweight and obesity



In the UK and many other developed countries, overweight and obesity rates in adults and children have been increasing over the years.

In 2021, 26% of adults in England were obese. A higher proportion of men than women were either overweight or obese (69% compared with 59%).

It is important to lead an active lifestyle and make healthier food choices.



Over nutrition

Over nutrition is a problem usually associated with developed countries, such as the UK.

The most common form of over nutrition is having an energy intake in excess of needs, resulting in overweight and obesity.

Very high intakes of minerals and fat-soluble vitamins (more can usually be obtained from food sources alone) can be toxic. This is because they are stored in the body, e.g. vitamin A is stored in the liver.

Obesity

People who are obese are more likely to suffer from:

- coronary heart disease;
- type 2 diabetes;
- gall stones;
- arthritis;
- high blood pressure;
- some types of cancers, i.e. colon, breast, kidney and stomach.

Energy balance



To maintain body weight it is necessary to balance energy intake (from food and drink) with energy expenditure (from activity).

This is called energy balance.

When energy intake is higher than energy output, over time this will lead to weight gain (positive energy balance).

When energy intake is lower than energy output, over time this will lead to weight loss (negative energy balance).



Negative energy balance

A person is said to be in negative energy balance when there is insufficient energy from the diet to meet energy demands of the body. Energy is derived from energy stores and the person loses weight.

People who achieve a negative energy balance over an extended period of time are likely to become underweight.

Being underweight is associated with health problems, such as osteoporosis (low bone mass), infertility (difficulty to conceive) and even heart failure.

Energy balance

Energy balance can be maintained by:

- regulating energy intake through the diet;
- adjusting physical activity levels;
- a combination of both.



USED LITERATURE

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