

Topic: FOOD NUTRITION

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Nutrients are chemical substances in the food we eat. Nutrients are the nutritional components in foods that an organism utilizes to survive and grow. Nutrient is defined as “a substance obtained from food used in the body to promote growth, maintenance, and repair of body tissues”, or simply as “a substance that provides nourishment”.

There are six classes of food nutrients. They are:

1. Carbohydrate
2. Fats & oil
3. Proteins
4. Minerals
5. Vitamins
6. Water

| Food nutrient | Functions | Sources | Deficiency |
|-----------------|--|---|---|
| 1. Carbohydrate | Provides the body with heat & energy for work | Yam, rice, maize | Lack of energy tiredness. |
| 2. Fats & oils | Same as above | Butter, magazine, palm oil | Skin may become rough |
| 3. Proteins | For growth For building new tissues. For repair of damaged, worn out tissues | Meat , fish, egg, beans, soya beans | Poor growth & development generally weakens, kwashiorkor |
| 4. Mineral | For growth e.g bones, teeth-; for building new tissues; for repair of damage | milk, egg, meat milk | Poor functioning of the body e.g weak, bones and teeth, headaches |
| 5. Vitamins | Protect the body from diseases. Important for vitality | Fruits, vegetables, egg yolk, cold liver oil | Loss of immunity, weakness and loss of appetite |
| 6. Water | Helps digestion; important for body tissues and fluids | Fruits, vegetables, drinking water, beverages | Normal digestion and other bodily functions may be affected |

Protein

- Protein is mainly used for growth and body repair.
- When there is an insufficient intake of energy, protein would be broken down and used as body fuel, which may lead to protein-energy malnutrition.
- One gram of protein provides 4 kcal.

Carbohydrate

- Carbohydrate is the major energy source in an average diet, which is also the preferred fuel.
- One gram of carbohydrate provides 4 kcal.
- When adequate carbohydrate is provided in the diet, protein would be spared for growth and repair.
- Carbohydrate can be divided into three main types: monosaccharides, disaccharides and complex carbohydrate (starches and dietary fibres)

Fats and Oil

- Fat is technically known as triglycerides, which is a class of lipids
- Fat is a concentrated energy source, which provides 9 kcal for each gram of fat.
- Fat carries fat-soluble vitamins, i.e. vitamin A, D, E and K.
- Fat prevents heat loss in extreme temperatures and protects organs against shock.
- Fat can be divided into saturated fat and unsaturated fat depending on their chemical structures.
- Unsaturated fat can be further divided to mono- and poly-unsaturated fats.
- Excess fat intake has been linked to major health problems, including an increased risk of heart disease, obesity, hypertension, diabetes and certain types of cancers.

Vitamins

- Vitamins are micronutrients, meaning the body needs them in small quantities.
- Vitamins are organic compounds produced by living beings, while minerals are inorganic elements that originate in the earth.
- Vitamins and minerals support the body's biochemical processes.
- Each of the vitamins and minerals has a distinct function, including regulating metabolism, guarding the cells from oxidative stress and synthesizing hormones.

Water

- Water is vital for the normal functioning of all your body's systems.

- It helps cleanse your body of wastes and toxins, carries essential nutrients to your cells, lubricates your joints and helps maintain your body temperature.
- If your urine output is about 6 cups per day, your urine is slightly yellowish or clear and you don't often feel thirsty, your water intake is likely adequate.