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**Terminology of nutrition  
(English Translation)**

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### Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

The main drafting units of this standard. Chinese Nutrition Society, Shanghai Nutrition Society, Medical Nutrition Institute of Qingdao University School of Medicine.

### 1 Scope

This standard defines the definition or interpretation of nutritional terms.

This standard applies to nutrition work, especially the preparation and implementation of nutrition standards.

### 2 General

nutrition

The human body ingests food from the external environment, through digestion, absorption and metabolism, uses its beneficial substances to supply energy, form and renew the body group Weaving, and the whole process of regulating physiological functions.

Nutrient

Food has a specific physiological role and can maintain the body's growth, development, activity, reproduction and normal metabolism. Includes protein Quality, lipids, carbohydrates, minerals and vitamins.

Essential nutrients

It is necessary for the human body and cannot be synthesized or insufficiently synthesized in the body, and it needs nutrients obtained from food.

#### Macronutrients

The human body contains and requires relatively more nutrients. Including protein, lipids, carbohydrates.

#### Micronutrient

The human body contains and requires relatively few nutrients, mainly vitamins and minerals.

#### Nutrition

The science of studying human nutrition rules and improvement measures. Including basic nutrition, food nutrition, crowd nutrition, public nutrition, clinical camp Keep waiting.

### **3 Basic nutrition**

#### Energy

##### 3.1.1

#### Energy Metabolism

The process of energy release, transfer, utilization and consumption in the process of body material metabolism.

##### 3.1.2

#### Energy balance

The dynamic balance between energy intake and energy expenditure. Energy intake and energy expenditure are basically equal (not more than  $\pm 5\%$ ) as a balance; energy the intake is greater than the consumption, the balance is positive; the energy intake is less than the consumption, the balance is negative.

##### 3.1.3

Productivity nutrient Nutrients that produce energy during metabolism in the body. Including carbohydrates, fats and protein.

##### 3.1.4

#### Energy factor

The energy produced by the oxidation of nutrients per gram in the body. The energy coefficients of carbohydrates, fats, and proteins are 17kJ respectively (4kcal), 37kJ (9kcal) and 17kJ (4kcal).

### 3.1.5

Basal metabolic rate the basic metabolism per unit body surface area per unit time. Expressed in  $\text{kJ(kcal)/(m}^2\cdot\text{h)}$ .

### 3.1.6

Basic energy consumption Energy consumed by basal metabolism in 24 hours. Expressed in  $\text{kJ(kcal)/d}$ .

### 3.1.7

Resting metabolic rate the energy metabolism per unit time and unit body surface area in the resting state without skeletal muscle activity 3h-4h after the body eats.

### 3.1.8

Resting energy expenditure the body's energy consumption for 24 hours in a resting state without skeletal muscle activity. Expressed in  $\text{kJ(kcal)/d}$ .

### 3.1.9

Relative metabolic rate Represents a relative value of energy metabolism.

Energy expenditure during physical activity-energy expenditure during rest 3.1.10 Metabolic equivalent the ratio of the metabolic rate during exercise to the metabolic rate at rest is an indicator of relative energy metabolism level and activity intensity. Body seat at rest, the oxygen intake was 3.5 mL per minute and per kilogram of body weight, which was set as 1 MET.

### 3.1.11

Physical activity level the ratio of total energy expenditure (TEE) to basal energy expenditure (BEE) is used to express the intensity of physical activity. See formula (2) for calculation.

### 3.1.12

Total energy consumption that is, the total energy consumed in 24 hours, including basal metabolism, physical activity, food thermal effect, growth and development, pregnancy nutrition reserve, and lactation of pregnant women Wait for the energy consumed.

### 3.1.13

Food heating effect

Food special dynamics the phenomenon of extra energy consumption caused by the process of human ingestion, digestion, absorption and metabolism of nutrients.

Carbohydrates, fats, the food thermal effects of protein are 5%-10%, 0%-5%, 20%-30% of its energy production.

#### 3.1.14

Oxygen thermal equivalent Oxygen heat price when food is oxidized, the energy produced by every 1L of oxygen consumed.

#### 3.1.15

Non-protein respiratory quotient the volume ratio between the amount of CO<sub>2</sub> produced and the amount of O<sub>2</sub> consumed when carbohydrates and fats are oxidized.

#### 3.1.16

##### Energy requirement

Estimated energy requirement Meet the energy required for the body's total energy consumption. That is to meet the energy consumed by basic metabolism, physical activity, food thermal effects, etc., and the energy required for growth and development during childhood, nutritional reserves during pregnancy, and lactation during lactation.

Protein and amino acids 3.2.1 protein A class of nitrogen-containing macromolecular organic compounds connected by peptide bonds with amino acids as the basic unit.

#### 3.2.1.1

##### Complete protein

It contains a complete variety of essential amino acids and appropriate proportions, which can not only maintain human health, but also promote growth and development of food protein. Such as Casein and whey protein in milk; ovalbumin in eggs, etc.

#### 3.2.1.2

Semi-complete protein it contains a complete variety of essential amino acids, and the ratio is not appropriate. It can maintain life but cannot promote growth and development. As in wheat Gliadin.

#### 3.2.1.3

##### Incomplete protein

A protein that contains incomplete types of essential amino acids, cannot promote growth and development, and cannot sustain life. Such as collagen, corn gum White, legumin, etc.

#### 3.2.1.4

##### Reference protein

Containing a complete range of essential amino acids, sufficient quantity and appropriate ratio, it is used as a reference for evaluating the nutritional value of food protein. Commonly used eggs Protein and milk protein.