

DIET

Healthy eating should be appropriate and balanced energetically and nutritionally, recognizing individual variations due to sex, height, weight, physiological or pathological conditions. A balanced diet requires energy and nutritional needs for repose and solicitation activities, usage repairs, growth of young cells. A healthy diet should meet several conditions:

- To be adequate, appropriate, the nutritional contribution should contain essential nutrients, energy, fibers in sufficient quantities, e.g. iron contribution;
- To be balanced: a healthy diet should not contain any nutrients against others, e.g. Ca;
- To be caloric controlled; the energy contribution should fit the metabolic need. Excess energy is followed by overweight and obesity, energy deficit is followed by nutrition disorder. The energy consumption of the human body as well as the energy value of food is expressed in kilocalories. (joule)
- To be moderate: avoiding excesses (salt, fat, sugar, food rich in cholesterol);
- To be varied: avoiding certain food consumption daily for long periods of time.

Food constituents are: carbohydrates, proteins, lipids = energy sources, plastics and vitamins, minerals, water = catalytic substances. Daily diet should contain all these constituents.

The energy consumed by the body comes from combustion carbohydrates, proteins and lipids. Their energy value was determined by combustion in the bomb calorimeter. The results obtained were called physical izocaloric coefficients, the quantity of energy that results from combustion of 1 g of substance. Because of the incomplete absorption of food substances in the digestive tract, and because of partial degradation of some of these factors, in practice, there are used practical izocaloric coefficients.

| | Carbohydrates | Proteins | Lipids |
|----------------------------------|---------------|----------|--------|
| Physical izocaloric coefficient | 4,1 | 5,3 | 9.3 |
| Practical izocaloric coefficient | 4 | 4 | 9 |

Table

Daily energy requirements should cover basal metabolism expenses, metabolized food and other physical activities. Caloric needs can be calculated according to body mass index (BMI) and interpretation of values are in the table

$$\text{BMI} = \text{mass} / \text{height}^2 \text{ kg/ m}^2$$

| BMI (kg/ m ²) | Class |
|----------------------------|----------------------------|
| 18,5- 24, 9 | NORMAL |
| 25- 29,9 | Overweight |
| 30-34,9 | Class I obesity |
| 35- 39,9 | Class II obesity |
| Over 40 | Class III obesity- extreme |

Caloric needs recommended by ADA (American Diabetes Association) are included in the next table:

| BMI (kg/ m ²) | Subject | Caloric needs |
|---------------------------|-----------------|----------------|
| 22-25 | activ | 31-35 kcal/kg |
| | moderate active | 26-31 kcal/kg |
| | sedentary | 22-26 kcal/ kg |
| >25 | | <22 kcal/ kg |
| <22 | | >35 kcal/ kg |

In determining caloric needs, there will be taken into account age, physiological conditions such as pregnancy, lactation, or pathological conditions. This need will be met by combustion as recommended in force:

11-12% proteins, 20-25% lipids, 60-70% carbohydrates

In pregnant women an extra amount of 350 kcal/day should be added for the last 5 months of pregnancy (the percentage of proteins can reach the value of 14 –15% of the total calorie intake). For women that feed the child at the breast an extra amount of 550kcal/day should be added (the % of P = 14%. For children can be used the next formula to determine the daily intake of kcal:

$$1000 + 100 \times \text{age (years)}$$

Steps to establish a diet:

- Energy needs setting

- Setting, depending on energy needs, the amounts of carbohydrates, lipids, proteins
- Knowing the food composition, it is set the necessary quantity for covering energy needs.

Alternative for determining caloric needs, depending on profession:

Group 1 = 3000 kcal: clerks, teachers, engineers, doctors- sedentary work professions

Group 2 = 3500 kcal: lathe men, milling machine operators, chemists, drivers- mechanized work professions

Group 3 = 4000 kcal: locksmiths, iron workers, stokers, fire men, agricultural workers- part mechanized work professions

Group 4 = 4500 kcal: carriers, dockers, day laborers woodmen, miners, mowers –mechanized hard work professions