

Research Regarding the Nutritional Value of the Food Products

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Abstract

Food products have in composition the necessary substances for human body but also anti-nutritional substances fulfilling an energetic, plastic, catalytic and sensorial role. The researches conducted enable a new vision on the nutritional value of food products starting from the general methodology for studying the goods, meaning from the report, necessity-use value-quality. The nutritional value represents the major criteria in assessing the quality of food products being regarded as the degree of satisfaction of a consumption necessity, representing all the properties and characteristics, that offer the possibility of satisfy the explicit and implicit needs of the food products consumers. A rational optimal nutrition must respect four essential laws (quantity, quality, balance and appropriateness).

Keywords: nutritional, food products, value

1. Introduction

Food products contain a mixture of organic and inorganic substances [1-4]. This mixture has in composition the necessary substances for human body, but also indifferent substances and even anti-nutritional substances [5-7]. After the role that they play in metabolism, the necessary substances for the human body are divided into several groups:

- **substances with energetic role** (carbohydrates, lipids), which through oxidation in the body, provide the caloric energy necessary to the vital processes and to energy expenditure, due to professional activity;
- **substances with plastic role** (protide), which participate at the formation, development, maintenance and renewal of cells and tissues from the body;
- **substances with catalytic role** (vitamins, minerals), that participate at the chemical

reactions occurring in the body, such as vitamins and mineral elements;

- **substances with sensorial role**, that impresses the senses.

Nutritional value is present often in scientific literature, from the biochemistry field and food hygiene, of food technology, in the shape of percentage chemical composition, with highlighting of the presence of one or the other of trofin, accompanied by energy potential expressed in kilocalories/100 g product [8,9]. The researches conducted in our country and around the world have allowed a new vision of nutritional value, starting from the general methodology for studying of the goods, meaning from the report, necessity - value of use – quality [10,11].

2. Materials and methods

In order to realize this scientific paper we have analyzed and compared the results of the researches from food products field, in order to determine their nutritional value.

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3. Results and discussion

For a food product, the concept of "4S": *satisfaction, service, safety, health* (Figure 1) confirms the current trend to improve the concept of quality of food products, taking into account their specific. They are ingestible products and therefore represent the closest link between man and the natural environment. Assurance of their quality requires knowledge, as accurate as they can, of their impact with the market and the environment.

Summarizing the views of nutritionist experts, starting from the new concept of nutritional value, we concluded that a right diet, an optimal nutrition will have to meet four essential legislations:

A. *The quantity law*, correlating the amount of food eaten with the human body needs;

B. *Quality law*, so as to provide the body with all the necessary nutrients;

C. *The balance law* requires keeping the correct proportions between the amounts of the various substances, which are used in the composition of food products consumed;

D. *The adequacy law* implies that choice, preparation and amount of food products to be closely related to the weight, age, physiological status and the activity developed.

The actions of the organizations concerned with food problems demonstrate that the evolution of the nutritional value concept in nutrition science is significant.

Psychosensorial value of food, or aesthetic and taste value is the one which gives the impulse of purchase of a product, causes its appearance. The organoleptic properties represent for the average consumer the first criterion for assessing the quality determining the selection and acceptability of food products. The consumer checks food product that wants to buy it from the organoleptic point of view, following his appearance, color, consistency, taste and smell by using the sense organs.

The energy value of food products represent their ability to provide energy for the human body and can be expressed in kilocalories. It determines the quantitative aspect of food, covering of the individual daily requirements of energy (Table 1). The energy value is always indicated on the label of food and is expressed per 100 grams of food. It is worth mentioning that the energy value of the product depends on the brand. In recent years manifest itself a tendency toward quantitative reduction of the energy, but keeping the psycho sensorial effects: sweetness, lubricity, pseudosensation of fat body etc. (Table 2).

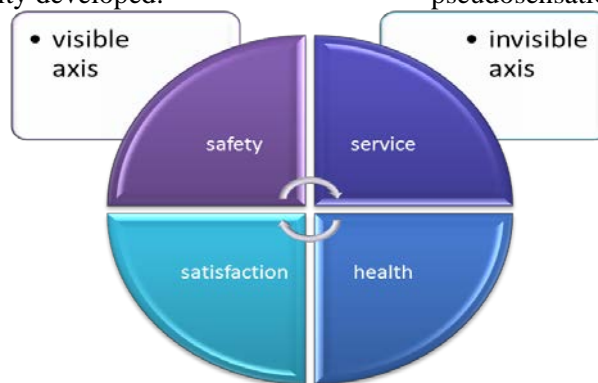


Figure 1. The concept of the 4 “S”

Source: processing various authors

Table 1. The energy value of meat and sausages (expressed in kcal per 100g of product)

The group/category from which food takes part	Average energy value (kcal)
<i>Meat, sausages</i>	
Lean meat (beef sirloin, ham, ham skimmed)	180
Fatty meat (steak, duck, lamb)	220-350
Cold cuts (salami, sausages)	400-600

Source: processing various authors

Table 2. Nutritional peculiarities depending on the age and energy needs

	Specific food needs	Energy needs (average depending on the level of physical activity)
Infants	Preferably breast milk. Food diversification starting at 4 months, 6 months in case of allergic risk	0-2 years: 100 -120 kcal/kg/day over 2 years: 80 kcal/kg/day
Children 3-7 years	Neophobia food, food refusal. Nutrition perceived as a means of communication. Passing denial of new food. Nutritional balance is achieved by compliance the tastes without conflicts.	3-6 years: 1 830 kcal 6-9 years: 2 190 kcal
Adolescents Girls Boys	Often insufficient contribution of iron, calcium, vitamin E (for boys), vitamin B6 (for girls). Generally excessive contribution of fat products, with added sugar (especially through juice), salt (chips).	Girls: 10-12 years: 2350 kcal Boys: 10-12years: 2600 kcal Girls: 13-19 years: 2400 kcal Boys: 13-19 years: 3000 kcal
Adults Women Men	Balance always respected (insufficient food diversification). Fruits and vegetables (at least 5 times/day). Milk and milk products (3ori/day). Meat, fish, eggs (1 or 2 times/day). Feculent or bread (every table in a reasonable quantity).	Women: 2000 kcal Men: 2500 kcal
Elderly Women Men	Food must be chewed easily (often dental problems, digestive). Beware of excessive contributions to products with added sugar.	Women: 1800 kcal Men: 2000 kcal

Source: processing by different authors

The energy value of food is given by their content in energogen trofins, namely carbohydrates, lipids and proteins. Taken into consideration those mentioned it is not justified to ask whether there is still an ideal nutrition? The answer is yes. In present is possible to feed ourselves well, maybe even better than a few years ago, when the food options were more limited.

The biological value is given by the contribution in essential components, indispensable to a normal metabolism, respectively essential amino acids, essential fatty acids, vitamins and minerals.

The hygienic value represents the object of sanitary legislation, which prescribes the permissible limits for all harmful components, which may exist in the finished product because of raw material, of the transformations during technological process, by the uncontrolled use of food additives, by ignoring technological operations.

Food products present on the market after the nutritional value can be:

- predominantly carbohydrate;
- predominantly protides;
- predominantly lipid.

4. Conclusions

The concept of nutritional value has evolved slowly, relying on concrete actions and rigorously defined, which allowed the modern commodity to occur the term of nutritional value, in an enlarged form, which includes four dimensions indissoluble: psycho sensorial value, energy, biological value and hygienic value, having an important role in assessing the quality of food products in the impact with the market.

We believe that the knowledge of the nutritional value represents, in addition of an conclusive criterion for assessing the quality of food products existent on the market, also an premise that allows

a better matching of the offer with the supply of goods, thus ensuring the success of manufacturing companies.

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