МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ ХАРЧОВИХ ТЕХНОЛОГІЙ

Національному університету харчових Технологій 130 років

МІЖНАРОДНА НАУКОВО-ПРАКТИЧНА КОНФЕРЕНЦІЯ

„ОЗДОРОВЧІ ХАРЧОВІ ПРОДУКТИ ТА ДІЄТИЧНІ ДОБАВКИ: ТЕХНОЛОГІЇ, ЯКІСТЬ ТА БЕЗПЕКА”

ЗБІРНИК МАТЕРІАЛІВ

22-23 травня 2014 р.

КИЇВ НУХТ 2014

1. The new stage of food science development

Natalia Naumenko
National University of Food Technologies

Introduction. Nutrition always was and yet would be a key factor to support the life activity of an organism in any conditions and to influence the state of health directly. Food, together with air oxygen, is the most important biological factor to protect human life, to make a young organism develop, to keep the lifelong activity of all the population strata, and to prevent a man from diseases.

Everyday amount of food must contain more than 600 different nutrients. Nowadays we know that about 90 percents of them have therapeutic action. For example, fruit, berries and vegetables contain many vitamins and therefore have benign influence on human immunity, physical and mental activity. Otherwise, if there is a constant lack of iodine in food, the human intellectual potential falls 39…49 percent, especially in children.

In general, the biocomponents of the foodstuffs are being transformed into structural and functional elements of live cells. Therefore, they promote the physical and mental capability, adaptive mechanisms, and immune status of a human organism and hereinafter determine the state of one's health, longevity, social and individual activity [1].

On the other hand, today we know more than 150 diseases that could be cured well thanks just to correct diets. In general, well-organized nutrition is a compulsory component in healing any illnesses as it is necessary for increasing immunity, speeding up recovery, and protecting the organism from harmful influence caused by some medicines. All of those peculiarities of foodstuffs and their influence on a human organism are studied by comparatively new science called Nutritiology. Today it is combining the different trends of science like medicine, food technologies, physiology, nutrition hygiene, biochemistry, biotechnology and so on.

Materials and methods. This research is based, first of all, on the results of genetic theories that showed quite evidently non-homogeneity the human race and the genetic conditions of the diseases which require the special treatment regime. The necessity to apply the theory to practical activity connected with human nutrition has caused the need to work out a systematic approach considering the achievements of other sciences that seemed pretty distant from food science some decades ago.

Results and discussion. It was at the first half of the 20^{th} century when the food science got fulfilled with such fundamental achievements like discovery of vitamins, formulating the importance of some amino acids and mineral substances for animals and human, establishing the expedience of application of thermodynamics sequences to human organism (particularly, the conception of food chains), deciphering the catabolism of proteins, lipids and carbohydrates into monomer units with further synthesis of more complicated substances related to tissues of an organism.

Those discoveries made up a base not only for the development of physiology and biochemistry of animals and human, but also for wider practical usage of obtained knowledge in solving the problems of catering of healthy and sick persons (including the measures on the prevention of alimentary-originated diseases).

Based on the mentioned discoveries, the scientists have started a massive attack at the diseases caused by food insufficiency. Those measures lead to liquidation of many forms of vitamin, mineral, protein, and caloric insufficiency. The fundamental achievements in nutritiology helped determine the needs in energy and different nutrients and to work out some quantitative recommendations on their optimal fulfillment.

The second half of the 20th cent. revealed the slight shifts in food science [2].In fact, the exposure of new nutrients had been completed; the studies of latent mechanisms of nutrient metabolism became continued by biochemistry and molecular biology; thermodynamic researches of human and animals got separated from food science.

The practical inquiries to food science have been also changed. For example, the problem of fighting the acute forms of vitamin and protein insufficiency became a minor one in high-developed countries. Instead, they have got the problem of preventing diseases related to overeating and consumption of excessive doses of sugar, fats, and salt.

We have got the possibility to analyze facts, accumulated in different parts of nutritiology and related sciences, in their systematic interconnection; otherwise, we face the necessity to revise some statements considering the general consequences of life activity processses. Regulation theory and cybernetics made possible to interpret the processes of nutrients' assimilation from the viewpoint of general basic principle of functional architectonics.

Conclusions. Each of us has to obtain some basic information on food substances and their role in either healthy or sick man's life activity, and also on the principles to combine one's own diet. All of these factors would make up the individual nutritional culture as an integral part of human culture as a whole. The nutritional culture would help anyone to keep the proper state of health during all the lifetime, to achieve the set-up objectives, and to be happy every day.

Bibliography

1. Monastyrsky, K. Functional Nutrition : the foundation of absolute health and longevity / K. Monastyrsky. – 3rd ed. – USA, 2002. – 342 p.

2. Robertson, A. Food and health in Europe : a new basis for action / A. Robertson, C.Tirado, T.Lobstein WHO Regional Publications.European Series.WHO,2004.№96. 388p.