

THE IMPORTANCE OF FUNCTIONAL PROBIOTICS IN THE SOUTHERN ARAL SEA REGION

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ABSTRACT

The paper uses the concept of rational nutrition, which affects the balance of energy, satisfaction and needs of the body of food substances, regime, and the diet regime. The change in the normal composition of the microflora of the gastrointestinal tract is primarily due to a violation of the nutritional structure. This is due to the use of antibiotics, poor nutrition, age-related diseases and a number of other factors that lead to a violation of the microflora of the gastrointestinal tract.

Keywords. nutrition, food substances, regime, microflora, dairy products, health.

INTRODUCTION

The relevance of research. The problem of full-fledged and healthy food remains one of the most urgent in modern society, and the nature of nutrition is an important factor in health and life extension. It cannot be solved by simply increasing the amount of food consumed, as it should be rational. The following principles are the basis of rational nutrition:

- energy balance, the balance between the energy coming from food and the energy consumed in the process of vital activity;
- meeting the needs of the body in the optimal amount and ratio of nutrients;
- the diet regime, compliance with a certain time of intake and the amount of food at each meal (1).

The modern concept of rational nutrition was expressed in the concept of balanced nutrition, developed under the leadership of Academician A. A. Pokrovsky. According to the formula of a balanced diet for an adult, reflecting his daily need for nutrients, the ratio between protein, fat and carbohydrates is considered optimal 1:1:4 (or 1:0.8:3.5-4), between calcium and fluoride 1: 1.5-1.8, between calcium and magnesium 1:0.6, between protein and vitamin C 1: 1000 (i.e. 1 g of protein should receive 1 mg of vitamin C).

Therefore, the nutritional value of products is determined by calculating the percentage of compliance of each of the most important components of products according to the formula of a balanced diet. A balanced diet is necessary not only for harmonious growth and normal functional state of the body, but also for creating resistance to the effects of infectious origin and other adverse environmental factors (2).

Along with the traditional approach, which provides for the need for a balanced diet, a new direction has been formed-functional nutrition, a distinctive feature-an appeal to the intestinal biocenosis. Functional nutrition involves the use of products of natural origin, which, when used daily, have a certain regulatory effect on the body. The change in the normal composition of the microflora of the gastrointestinal tract is

primarily due to a violation of the nutritional structure. Intestinal microflora plays an important role in the vital functions of the human body.

The normal microflora of the gastrointestinal tract improves protein and mineral metabolism, promotes the fermentation of carbohydrates, stimulates intestinal motility, produces vitamins K, B2, B6, pantothenic and folic acids, enzymes, etc., increases the body's immune defense, its resistance to infectious diseases and adverse environmental factors.

Treatment with antibiotics, chemotherapeutic drugs, poor nutrition, age, diseases and a number of other factors disrupt the microflora in the gastrointestinal tract and reduce the amount of and the species composition of beneficial microflora, which leads to the suppression of normal flora and the development of opportunistic bacteria. Pathogenic microorganisms release toxic substances, which can lead to their reverse absorption and negative impact on the body, primarily on the digestive, nervous and cardiovascular systems.

The purpose of the study: The effect of a dietary sour-milk product based on the active *Bifidobacterium bifidum* KK strain on the human body in the ecologically unfavorable conditions of the Southern Aral Sea region.

Material and methods of research

Milk is used in the diet of healthy people of all ages for medicinal purposes. Contraindication to the use of milk may be its intolerance. Fresh cow's milk contains all the necessary nutrients and biologically active substances for the human body in well-balanced proportions and in an easily digestible form. Milk refers to the food product that most optimally combines all the necessary nutrients. Along with their high biological value, dairy products have useful functional properties that improve the quality of a number of other food products [3].

Features of fermented milk products based on bifidocultures or probiotics are a high growth rate, antagonistic activity against pathogenic and conditionally pathogenic microorganisms, and the ability to improve metabolic substances. Probiotics, beverages and functional purposes also play an exclusive role in human nutrition, serving as an important factor in the prevention and treatment of gastrointestinal and other diseases. At the same time, they are suppliers of nutrients, in balanced amounts. It is known that the protective properties of the body are primarily due to lactic acid bacteria that are present in the human intestine throughout its life and make up an average of 98% of the entire microflora of the gastrointestinal tract. Молочнокислыми бактериями, присутствующими в кишечнике человека на протяжении всей его жизни и составляющими в среднем до 98% от всей микрофлоры желудочно-кишечного тракта.

The value of fermented dairy products is determined by the fact that as a result of the vital activity of the sourdough microflora, complex processes of hydrolysis of proteins, carbohydrates, fats and the synthesis of a number of compounds that regulate the secretory function of the gastrointestinal tract occur. Some physiologically active peptides are involved in metabolic processes, such as growth factors and stimulants of certain body systems. Lactic acid fermentation is the main process in the manufacture of fermented milk

products, lactic acid bacteria are the most important group of microorganisms for the dairy industry [4].

We observed the air content of a fermented milk product based on the active *Bifidobacterium bifidum* KK strain. The experiment involved 12 people of different ages ranging from 7 months to 81 years. The subjects confirmed the positive effect of the product. Customer reviews of the product - the taste is light, pleasant and refreshing.

CONCLUSION

Experiments show that the increase in dietary properties of fermented dairy products is carried out through the use of specially selected and isolated cultures of lactic acid bacteria, bifidobacteria and other microorganisms that give the products functional properties.

Since ancient times, milk and dairy products have been used in medical treatment. Fermented dairy products such as koumiss, kurung, kefir, and cottage cheese are considered not only dietary, but also therapeutic (5).

The role of fermented dairy products prepared on pure cultures of lactic acid bacteria in normalizing the function of the gastrointestinal tract has been proven by numerous studies. Currently, the provision of therapeutic dietary fermented dairy products based on bifidobacteria is of great importance in improving the health of the population of the Southern Aral Sea region.

Опытно - экспериментальн Oral and experimental work has shown a beneficial effect on the body of bio-kefir.

The results of the study showed that the fermented milk product:

- easily tolerated at any age, especially by children in unlimited quantities;
- helps with flatulence and colic in infants;
- improves the recovery of the body during weakening, long-term medical treatment, and seasonal changes;
- it is irreplaceable when following a diet;
- well cleanses the body and intestines;
- has therapeutic and preventive properties for inflammatory diseases of the gastrointestinal tract;

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