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FORTIFICATION OF DAIRY PRODUCTS WITH VITAMINS

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Abstract*. Milk and dairy products are products of daily consumption. They belong to a group and accompany man throughout his life - from birth from the first days to old age. First of all, it is the irreplaceable mother's milk fresh. For the newborn - then cow's milk and products based on it. Meanwhile, goat's milk products are produced. Dairy products in the human diet their role cannot be overemphasized. The great Russian scientist Academician I.P. Pavlov called milk "nature". He called it the most marvelous and perfect dish prepared by himself. Fortification of dairy products with vitamins. Information on vitamin fortification of dairy products around the world.*

Keywords*: vitamin availability, fortified foods, vitamin consumption, fortification efficiency, dairy products, milk, vitamin.*

Introduction. Enriched dairy products are products familiar to us all, but supplemented with important micronutrients. These include vitamins, minerals, pro- and prebiotics, antioxidants and other substances that can be classified as "deficient" in the average person's diet. The ratio of all components of fortified milk or other products is precisely calculated taking into account the physiological needs of a person for vitamin A, iron, inulin or other micronutrients. In one serving, the content of such substances does not exceed 25-50% of the daily norm. The rest of the vitamins and minerals are left to other foods (cereals, meat, vegetables, etc.). Almost all modern dairy products can be enriched with useful substances: Butter. As the most fatty dairy product, it becomes an ideal raw material for the introduction of fat-soluble vitamins A, E, D, K.Milk, ready-made shakes and other milk-based products. Most often such products are enriched with calcium, vitamins A and D, iodine, zinc, etc. Sour milk products. They are fortified with vitamins and minerals in various combinations, and are often supplemented with pre- and probiotics, important for maintaining gut health and proper digestion. For each product, there is an optimal set of nutrients for fortification, depending on the characteristics of the product itself. Enriched dairy products are suitable for anyone who cares about their health and understands the importance of good nutrition. Vitaminized milk and other fortified products are especially important in such circumstances:

employment in heavy physical labor, in which the body needs more resources for recovery;

sports, frequent visits to saunas, living in hot climates and similar conditions in which there is excessive sweating - a frequent cause of "leaching" of micronutrients from the body;

frequent or chronic stress, in which the body functions in a "survival" mode; certain chronic diseases in which the absorption of vitamins and minerals is impaired;

the need to adhere to dietary restrictions (weight loss diet, lactation and breastfeeding, medical indications for therapeutic table, etc.).

Micronutrients included in enriched dairy products help to fill the body's needs in useful substances and, as a result, allow to maintain health, improve tone and timely renew spent resources. Enriched dairy product is a dairy product in which such nutrients as protein, vitamins,

micro- and macronutrients, dietary fiber, polyunsaturated fatty acids, phospholipids, probiotics, prebiotics are added separately or in combination.

To date, it cannot be said that Russia is abundant in functional dairy products. Nevertheless, almost every dairy producer has enriched products in its assortment. Among all food industries, it is the dairy industry that ranks first in terms of the number of functional products. Milk is the initial product from which the others are made.

It contains approximately 5% lactose, which gives energy to our cells. A 250 millimeter mug of whole milk contains half the daily allowance of vitamin B12, one-fifth of the daily allowance of phosphorus, 23% of the daily allowance of calcium, 8% of the daily allowance of potassium and 13% of the daily allowance of vitamin D. Milk helps to eliminate heavy metal salts and toxins from the body.

It serves as a neutralizer of the effects of radioactive substances. Consumers like the mild, sweet taste of rice milk. It is a low-calorie (52 kcal/100 g), dietary product, a source of dietary fiber (fiber) - up to 20%, B vitamins - thiamine (B), folic acid (B9), pyridoxy (B6) and nicotinic acid (niacin, vitamin PP, vitamin BJ. Rice milk is rich in magnesium, zinc and iron, it also contains sodium, copper, iodine and potassium in small doses. These substances help to improve the performance of the hematopoietic organs.

It should also be said that in the Republic of Karakalpakstan a lot of work is being done to enrich dairy products with vitamins. These include, Food industry in the Aral Sea can be segmented as follows:

Fruit & vegetable processing

1. Milk & milk products

1. Fish, poultry, eggs & products

Meat & meat products

Bread, biscuits & other bakery products

Edible oil/fats. [6.421-429].

Milk and dairy products are also a big focus.

In conclusion, the impact of milk and dairy product consumption on individual well-being. Chronic diseases and their associated economic costs are more important to have. Milk contains vitamins (A, C, beta-carotene, P, B1, B2, etc.), convert enzymes, hormones, minerals, primarily calcium. Dairy products are the richest source of calcium, providing 75-80% of the daily requirement. Satisfies with dairy products.

Dairy products absorb calcium better than other dairy products because the food is in a bioavailable form. Enriching dairy products with vitamins is good for the human body. In conclusion, the fortification of dairy products with vitamins offers numerous benefits to individuals and communities. Here are some key points highlighting the significance of this practice:

1. Improved Nutritional Value: Fortifying dairy products with vitamins enhances their nutritional profile. Vitamins such as vitamin D, vitamin A, and vitamin B12 are essential for various bodily functions, including bone health, immune system support, and energy metabolism. By fortifying dairy products, individuals can conveniently and effectively increase their intake of these vital nutrients.

2. Addressing Micronutrient Deficiencies: Micronutrient deficiencies, such as vitamin D deficiency or vitamin B12 deficiency, can have significant health implications. Fortifying dairy

products with these vitamins helps address such deficiencies, especially in populations with limited access to diverse food sources or those at higher risk, such as vegetarians or individuals with certain medical conditions. It provides a convenient and accessible means of improving nutrient intake.

3. Promoting Public Health: Fortification of dairy products with vitamins contributes to public health initiatives. It helps prevent and reduce the prevalence of vitamin deficiencies, which can lead to various health problems, including weakened immune systems, impaired growth and development, and increased risk of chronic diseases. By fortifying widely consumed dairy products, the population at large can benefit from improved nutrient intake and overall health.

In summary, fortifying dairy products with vitamins offers numerous advantages, including improved nutritional value, addressing micronutrient deficiencies, promoting public health, enhancing consumer choices, and providing a sustainable and cost-effective intervention. By incorporating fortified dairy products into their diets, individuals can conveniently and effectively meet their nutritional needs, contributing to better overall health and well-being.

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