

ACTUAL PROBLEMS OF HEALTHY NUTRITION OF LACTATING WOMEN

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Abstract. *This article covers information about the effect of healthy nutrition of mothers during lactation period on the composition of breastmilk and its importance for the organism of a child who is breastfed.*

Keywords: *breastfeeding, lactation period, colostrum, mature milk, balanced diet, macronutrients, micronutrients, immune cells, rickets.*

It is known that mother's milk is the best food for a newborn child. Because, it contains all the macro- and micronutrients necessary for the comprehensive balanced development of the child's body, special enzymes that improve the digestion process, and immune cells that protect the baby from some infectious diseases [2]. The International Convention on the Rights of the Child states that every child has the right to adequate nutrition. Statistics show that 45% of child deaths around the world are related to their poor nutrition. Most of the maternal and child diseases related to malnutrition in the world occur in low- and middle-income countries in Africa, Asia and Latin America. For these reasons, the World Health Organization recommends exclusive breastfeeding for the first 6 months and continue breastfeeding until the child is 2 years old. Unfortunately, between 2015 and 2020, only 44% of children under 6 months of age around the world were fed exclusively with maternal milk. The World Health Organization aims to increase this figure to at least 50% by 2025 [1, 2, 6, 9].

Breastfeeding is very beneficial for the health of the child and the mother. According to the results of many studies conducted around the world, mothers who breastfeed their children for a long time have lower rates of breast cancer, diabetes, hypertension, ovarian cancer and many other serious diseases [5].

The normal growth and development of a newborn child is closely related to how and in what order the lactating mother eating. The quantity and quality indicators of mother's milk are the main factors in ensuring the normal morphological and physiological development of the child. In order to produce milk in a woman's body, an additional 500 kcal of energy is spent in one day. Therefore, the daily diet of lactating mothers should be enriched and the total energy should not be less than 2500-3000 kcal [3, 4, 7]. The requirement for nutrients of lactating women varies depending on the amount of milk the child drinks, the age of the mother, the lifestyle, and the interval between births [10].

The milk that is released from the mother in the first days after the birth of the child is called colostrum, and after 2-3 weeks mature milk begins to be released. Colostrum is yellowish and not too runny milk, which contains more proteins, vitamins, enzymes and antibodies than mature milk [2].

Mother's milk has excellent nutritional and immunological properties even when they are malnourished. When the mother's body does not have enough energy, the body uses its own reserve substances to continue milk production. However, regular consumption of products with insufficient nutritional value causes a deficiency of some important substances in the composition

of milk and in the composition of the mother's body. This can lead to stunting in height and weight, anemia, rickets, hypovitaminosis, and various mental illnesses in children [1, 3, 8].

Proteins in breast milk are considered one of the main substances that determine the value of milk, and many very important proteins are transferred to the baby only through breast milk. Some proteins that are abundant in human milk, such as lactoferrin, immunoglobulin, and lysozyme, are found in very small amounts in cow's milk. For this reason, cases of anemia and various infectious diseases are common among children who have grown up consuming cow's milk instead of human milk [7]. Inadequate protein intake of a lactating woman affects the amount of casein protein in milk. Casein protein is important for the growth and development of the child's body and calcium-phosphorus metabolism in the intestines. Therefore, it is recommended to always have cheese, eggs, and dairy products in the daily diet of the mother [1, 2]. Fats in breastmilk act as a source of energy, their amount is variable and this indicator depends on the composition of food consumed by the mother. Malnutrition of the mother has a direct effect on the content and amount of fatty acids in milk [1, 7]. Linoleic and linolenic unsaturated fatty acids contained in human milk are not synthesized in the child's body. They are considered irreplaceable fatty acids and help in the good absorption of calcium in the intestines, which ensures normal development of bones. Therefore, adequate intake of fatty acids with milk is great biological importance for the child. The recommended daily fat intake for breastfeeding mothers is the same as the recommended daily fat intake for the general population. Oils contained in products such as sesame, flax, soy, butter, fish oil are very useful for lactating mothers. In particular, fish oil is very useful for the good development of the child's nervous system [1, 7].

Carbohydrates in human milk are mainly found in the form of lactose, that is, milk sugar. Lactose is one of the important substances involved in feeding the brain of a milk-fed child. Long-term malnutrition of breastfeeding women affects the amount of lactose in milk [1].

During lactation, the requirements of many vitamins and minerals of women increase compared to pregnant women [3].

The results of many studies in the world show that there is very little correlation between the amount of mineral substances in milk and the amount of mineral substances in the mother's food. However, we can say that selenium is an exception. Because the amount of selenium in breast milk is related to the mother's diet. The concentration of selenium in human milk is three times higher than in artificial milk, and it is an important substance involved in the normal functioning of the child's thyroid gland and immune system [1,10].

Another important substance necessary for a growing organism is calcium. It is known that calcium is biologically important for the morphological and physiological development of the skeletal system of children. In recent years, due to the lack of calcium, the population of Africa, tropical Asia, and several other countries on earth is suffering from rickets disease [6]. In many scientific references, women of reproductive age are recommended to consume more products rich in calcium in their daily diet. In particular, it is recommended to additionally consume dairy and fish products after every meal [1, 10].

In scientific literature, it is not recommended to increase the iron supply of mothers during lactation. Iron deficiency is rare in mothers during the first 6 months of breastfeeding. We can associate this indicator with the fact that they do not lose much blood as a result of not menstruating during breastfeeding [1, 10].

The amount of iodine in human milk is variable and depends on the diet of the lactating mother. During breastfeeding, the requirement for iodine in women doubles. The results of several studies show that in women with iodine deficiency, changes in the composition of hormones released from the thyroid gland during lactation, as a result of a violation of the function of the thyroid gland, as well as a violation of mental activity [1, 10].

Zinc is one of the substances necessary for the normal growth and development of a newborn child and for the immune system. The amount of zinc in colostrum is up to 17 times higher than that in blood. Therefore, children under 6 months of age are less likely to suffer from diseases related to zinc deficiency. Zinc deficiency causes an increase in the number of children suffering from diseases such as diarrhea and pneumonia. In several scientific literatures, it is noted that most of the countries in the world whose population is insufficiently supplied with zinc are located in the regions of South Africa, South and Central America, and South Asia, and that children living in such countries have a high tendency to catch infectious diseases. Therefore, it is necessary to increase the supply of zinc to mothers up to 50% during breastfeeding [1, 6, 10].

The amount of some vitamins in human milk is directly related to the amount of vitamins in the mother's body and her diet. Therefore, in order to prevent vitamin deficiency in nursing mothers, it is recommended to follow a balanced diet and take supplements when necessary.

In recent years, vitamin A deficiency has been observed among the population of many developing countries. Vitamin A is a biologically active substance that participates in important processes in the human body, such as improving vision and strengthening immune function. The results of several studies show that the amount of vitamin A in human milk varies depending on geographical factors [1, 6].

Currently, there are many problems related to vitamin D deficiency among the population of the whole world. As a result of insufficient supply of vitamin D by the mother during pregnancy and breastfeeding, the lack of mineral substances in the bones and rickets in the period after the birth of the child up to 1 year of age. Therefore, it is recommended to give vitamin D supplements to children under 1 year of age, and to breastfeeding mothers to eat more products rich in this vitamin and to walk in the sunlight [1, 6].

The results of some studies show that when there is a serious deficiency of vitamin B12 in lactating mothers, their children who are breastfed have delayed general development and a number of problems related to the nervous system [6].

In general, proper nutrition of lactating mothers during lactation is an important factor in the comprehensive development of the newborn baby, and at the same time, mothers should not eat foods that can cause allergies and many other unpleasant conditions in children. Examples of such products include citrus fruits, dark chocolate, nuts, strawberries, and eggs. It is recommended to exclude alcohol, pepper and salty canned products from the diet. During breastfeeding, mothers should be in constant motion and daily liquid consumption should not be less than 2 liters [2,11].

Based on the above, it can be noted that the mother's healthy diet, staying away from various stressful situations and smoking, walking more in the fresh air are the main factors in the normal course of the lactation period and good health of the mother and child.

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