

## THE IMPORTANCE OF BREAST MILK IN THE DEVELOPMENT OF EARLY CHILDREN

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**Abstract:** The importance of breast milk in the development of early childhood is considered. The composition of breast milk and its beneficial properties for the baby's body are analyzed. It also highlights the fact that breast milk strengthens the child's immunity, increases resistance to diseases, and has a positive effect on physical and mental development. The advantages of breast milk compared to artificial feeding are also briefly described. The article justifies the important role of breast milk in the healthy upbringing of children.

**Keywords:** Breast milk, baby, immunity, child development, healthy growth, natural feeding, early age, diseases, nutrition.

### INTRODUCTION

Breast milk is the most natural and safe food for a baby, as colostrum (the first vaccine) and the milk that the child will suck throughout his later life. It is the only way to properly feed a child in the first 6 months of life. Colostrum and breast milk contain antibodies against intestinal infections, respiratory infections, viral diseases, and bacterial infections. The child develops primary innate immunity and the transfer of immunoglobulins from the mother to the child. All inorganic and organic substances contained in milk are necessary nutrients for the normal anatomical and physiological development of the child. The recommendations developed by WHO show how urgent this is and how important it is in the ontogenesis of human life. Breast milk is analyzed in terms of its composition and differences from complementary and animal milk. Breastfeeding has a number of beneficial aspects not only for the child, but also for the mother. It has a number of physiological significance in the mother.

### IMPORTANCE FOR A BREASTFEEDING CHILD

- Provides protection against respiratory infections
- Breast milk contains a large amount of finely dispersed proteins (albumin) and is easily digestible
- Proteins are in a certain balance, ensuring the timely maturation of the MNT, psychomotor and harmonious psychomotor development
- High concentrations of semi-unsaturated fatty acids are important for the formation of cell membranes and increase visual acuity.
- the main part of the intestinal microflora is made up of bifidoflora
- amylase, trypsin, lipase enzymes are present in sufficient quantities, facilitating the digestive process
- breast milk contains microelements in sufficient quantities for the child's body
- specific and nonspecific protective factors IgA, IgG, interferon, lysozyme, leukocytes protect the body from infection
- natural feeding creates a positive psychoemotional bond between mother and child



- reduces the incidence of otitis and otitis media
- protects infants from necrotic enterocolitis, bacteremia, meningitis, botulism and urinary tract infections
- reduces the susceptibility to autoimmune diseases
- reduces the susceptibility to sudden infant death syndrome
- reduces the susceptibility to cow's milk allergy
- reduces the susceptibility to obesity in older children
- increases the mental development index on the IQ scale, which is associated with factors contained in milk or its high stimulation
- reduces jaw defects

In the first days of life, colostrum importance.

Colostrum is a yellow or grayish-yellow viscous, thick liquid secreted at the end of pregnancy and in the first 3 days after childbirth. It melts easily when heated. Colostrum contains more protein, vitamin A, carotene, ascorbic acid, vitamin B12, E, salts than regular milk. Albumin and globulin fractions are more than casein. Casein appears from the 4th day of lactation, its amount gradually increases. Before the baby is put to the breast, IgA, fat and milk sugar in colostrum are lower than in mature milk. Colostrum protein is absorbed unchanged by the baby due to its similarity to whey protein. Colostrum is an intermediate form between the hemotrophic and amniotrophic periods of nutrition and the beginning of lactotrophic nutrition. The energy value of colostrum in the first days is 1500 kcal/l, on the 2nd day - 1100 kcal/l, and on the 3rd day - 800 kcal/l. 1 ml of breast milk contains up to 0.5-1 million live cells, macrophages 50-80%, lymphocytes - 10-15%. Macrophages in milk synthesize interferon, lactoferrin, lysozyme, and complement components, which retain their properties even in intestinal infections.

Unfortunately, about 80 million newborns do not receive breast milk from the first hours of their lives. Therefore, young mothers should pay special attention to this issue. Breast milk is a natural food that is easily digestible, has high nutritional value, is free from various microorganisms, and is ready-made. It does not need to be boiled or heated.

Breast milk contains more than 100 useful substances, which correspond not only to the age and health of the child in terms of quantity, but also in terms of quality. The composition of proteins, fats and carbohydrates in it is very close to these substances in the body of a newborn baby. In breast milk, these substances are in a ratio of 1:3:6, fully satisfying the needs of the child. Milk proteins are highly nutritious, easily broken down and absorbed in the baby's intestines. Fats are almost completely absorbed by the body, since they are in the form of an emulsion.

Carbohydrates in breast milk not only perform a nutritional function, but also limit the growth of harmful microbes in the intestines and facilitate the digestion process. It also contains a sufficient amount of mineral salts, especially calcium and phosphorus, which play an important role in the healthy formation and development of the child's skeleton. The absorption of iron in breast milk is also extremely high: this indicator is 70% in breast milk, 30% in cow's milk, and about 10% in artificial mixtures. Iron deficiency in children born to healthy mothers is often compensated by breast milk. If the child is transferred to cow's milk or artificial mixture too early, the risk of developing anemia may increase.

Although the amount of vitamins in breast milk is variable, it sufficiently covers the child's needs in the first months. In addition, breast milk is rich in antibodies that protect against various viruses and bacteria. When breastfeeding, it is important to pay attention to the complete absorption of breast milk, because the last part of the milk is considered high in calories. Expressing the milk remaining in the breast after breastfeeding helps to increase milk production. According to the results of studies, breast milk can protect the baby from some oncological



diseases. Scientists note that this property of breast milk can be used in the future to create anti-cancer drugs. Breastfeeding also helps to reduce the risk of developing breast cancer in mothers.

### METHODS OF DETERMINING THE NECESSARY AMOUNT OF MILK FOR A BREASTFEEDING CHILD

If after the next feeding the baby lets go of the breast, looks "satisfied", and sleeps peacefully until the next feeding, then the milk is sufficient for him. Objective signs of a sufficient milk supply include age norms, weight gain, an increase in other anthropometric indicators, good skin condition, preservation of soft tissue turgor, and normal amounts of urine and feces.

The required amount of milk in the first 10 days of a child's life is determined by the following formula for a fully weaned child:

1. N.P.Shabalov's formula:

milk volume per feeding (ml) = 3ml x day of life x weight (kg)

2. N.F.Filatov's formula, modified by G.I.Zaytseva:

daily milk volume (ml) = 2% body weight x day of life

Starting from the 10th day of a child's life, the daily amount of milk is calculated by two methods:

3. Geibner-Cherny "volumetric" method.

The amount of food is recommended depending on age and body weight. In this case, body weight should correspond to the average age norm.

The daily amount of milk should not exceed 1 liter.

From 10 days to 1.5 months -

1/5 of the actual body weight;

1.5-4 months - 1/6 part;;

4-6 months - 1/7 part;;

6-12 months - 1/8 part of the actual body weight

4. Calorie method according to M.S. Maslov:

The energy value of food per 1 kg of body weight of the child should be as follows:

In the first quarter of the year - 120 kcal/kg per day

In the second quarter - 115 kcal/kg per day

In the third quarter - 110 kcal/kg per day

In the fourth quarter - 100 kcal/kg per day

One liter of breast milk contains 700 kcal.

To determine the volume of one-time breastfeeding = daily feeding volume divided by the total number of breastfeedings

A child under one year old should not receive more than 1000-1100 ml of food per day

### CONCLUSION

In conclusion, breast milk is the most natural food that is important for the development of early children. The protein, fat, vitamins and protective substances contained in breast milk contribute to the healthy growth of the child and the strengthening of his immunity. The article compares the composition of breast milk with cow's milk, and highlights the compatibility and beneficial aspects of breast milk for the baby's body. Therefore, it is recommended to feed children naturally during the first months.

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