

Breast Milk: "Is Magic"

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Editorial

Milk is a changing fluid composed of lipids, proteins, minerals and immune molecules. Breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development. Colostrum, the yellowish, sticky breast milk produced at the end of pregnancy, is recommended by the World Health Organization (WHO) as the perfect food for the newborn, and feeding should be initiated within the first hour after birth [1].

Rates of exclusive breastfeeding are below the targets set by the World Health Organization states that mothers should breastfeed exclusively for 6 months and supplement it with other foods during the first two years [2]. Malnutrition is a global health burden affecting the development of millions of children worldwide, but the effects of current treatment strategies are modest [3].

Breast milk remains inimitable [4]. A group of scientists [5] recently found that milk is the most complex of all mammals, contains more than 200 different sugar molecules, well above the 30-50 that are, for example, in mouse milk or cow. The role of these sugars and how they change during breastfeeding remains a pending elucidate scientific mystery.

Babies are born sterile of bacteria in their intestines. However, after a few days, they have millions of them and a week, with billions and all thanks precisely to the sugars that come from the mother's milk. It is believed that each of the 200 sugars has a decisive and beneficial for strengthening the role microbiome newborn [6].

Precisely the breast milk of the first days is full of sugars; it also contains lots of protein, vitamins and cells involved immunologically. A perfectly balanced preparation for the needs of the first hours and the first days. It is already known that as time passes, the composition of the 'first functional food of nature' varies. The first breast milk is responsible for aiding the colonization of the intestine by specific groups of bacteria. Molecules such as immune globulin A (IgA) and oligosaccharides protect against gastrointestinal infections and promote the development of the microbiota [7].

The burden of breast milk antibodies and molecules slow the growth of harmful bacteria and promote the coordination of the activity of white blood cells. As time passes, the child begins to develop an immune system and the composition of breast milk begins to change.

Maternal antibodies levels are reduced, as is the variety of sugars, but the milk is modified and enriched by a greater number of fatty nutrients and other ingredients that support children's growth.

According to the WHO clearly it reduces infant mortality and the incidence of intestinal, respiratory or urinary infectious diseases. In the long term, it is also associated with less chance of allergies and diabetes, in addition to promoting cognitive development. In the mother lowers the risk of breast and ovarian cancer, diabetes and postpartum depression [2]. For all these reasons, breast milk is "magic" in child nutrition.

Breast milk is the result of millions of years of evolution that undoubtedly has the best nutrients for a newborn and later stage. WHO recommends exclusive breastfeeding for the first six months of life and then also complemented with foods such as fruit, vegetables and meat until the first year of age [2]. The question is: How far should reach the next stage?

To answer this, more research in understanding the role of different molecules that breast milk is made, help in gene sequencing, involving genomics and nutrigenomics [8], knowing the role of hormones in human breast milk and the exact role of different bacterial in the gut populations baby.

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