



Breast is best and beyond... the nutrients essential thereafter

Breakthroughs in the understanding of breast milk are fundamentally altering and adding to our understanding of human health. Indeed, research is showing that nutrients, such as nucleotides, established as essential for babies, can also be essential for us as we go through childhood and beyond.

Human breast milk is nature's perfect food; it is even a 'fast' food. It contains everything that a baby needs to grow and keep well. A baby will grow faster during the first two years than at any other time of life. Generally, by the end of the first 12 months, a baby should triple his or her birth weight and increase birth length by 50%! Brain weight triples during this time. It is because infancy is a period of such rapid growth that there are key nutrients that are so important.

If breast milk has a label it would have a list of ingredients like this: 4% fat, 1% protein, Vitamins A, C, E and K, sugars, essential minerals, enzymes and antibodies. These are approximate quantities since breast milk is constantly changing due to stage of lactation, time of day, and also between different mothers.

Of great importance are the proteins and nucleic acids. The main proteins are: casein, serum albumin, a-lactalbumin, B-lactalbumin, immunoglobulins, and other glycoproteins. ; 40% of breast milk protein is casein, which contains equalized amino acids and provides calcium and phosphate; 60% is whey, which contains water, electrolytes and protein. Whey is made up of 5 factors: a-lactalbumin, serum albumin, lactoferrin, immunoglobulins and lysozyme.

Some amino acids and nucleic acids found in mother's milk are 'essential, since they not found in significant levels (or at all in some cases) in cow's milk :

- Taurine is the second most common amino acid found in breast milk, and it does not exist in cow's milk. It is vital for the workings of the brain and retina. In addition, it supports conjugation of bile acids. Many companies are adding this amino acid to formula now.

- Nucleotides are significant in protein synthesis and they promote growth and differentiation of organs and tissues. They also improve the metabolism of lipids, and are important in the development of the gut and immune function of babies. It is widely researched and accepted that nucleotides benefit infants when provided naturally in breast milk or supplemented in milk formulas leading to better development of the immune system and improved gut health.

There are 10 times more nucleotides in breast milk than in cow's milk.

- Carnitine is vital for catabolism of long chain fatty acids.

Research and reviews of clinical trials with infants and children by Dr Azam Mohd Nor, consultant paediatric cardiologist, led to this specialist publishing his nutritional recommendations for children of all ages. He advises on the specific nutrients that are needed by children to achieve learning milestones. Dr Nor's nutritional recommendations for toddlers and children include the supplementation of nucleotides, as his review of the research indicates that these nutrients are important for the strength of children's immunity, and their ability to reach in due time their 'play' learning milestones.

Note to mums, nursing mums and mothers

Breast milk is best, but be reassured for those unable to do so, Infant formula to 6 months contains supplemented nucleotides.

Additional nucleotides for you can be found in the supplement NuCell IM. Check out the website www.nucleotidenutrition.com for information on NuCell IM and advice on good nucleotide food sources.