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Commentary

Nutritional Value and Bioactive Substances in Breastfeeding

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DESCRIPTION

Breastfeeding or nursing is a process by which human breast milk is fed to a child. There are several benefits to breastfeefiing for both mother and child that infant formula lacks. Breastfeeding reduces the baby's risk of respiratory tract infections, ear infections, Sudden Infant Death Syndrome (SIDS), and diarrhoea in both industrialized and underdeveloped countries. Asthma, food allergies, and diabetes risk reduction have also been mentioned as additional benefits. Breastfeeding may also promote cognitive development and reduce the incidence of adult obesity. The mother benefits from less postpartum blood loss, enhanced uterine contractions, and a decreased risk of postpartum depression. A condition known as lactational amenorrhea, which is brought on by breastfeeding, delays the onset of menstruation and, in rare instances fertility.

Nutritional value

Breast milk's desired nutritional pattern follows a well-defined pattern. Breast milk is produced using the mother's bodily stores and bloodstream. Protein, water, sugar, and fat are all in the right proportions for a baby's age appropriate growth and development. The nutritional makeup of breast milk can be influenced by a number of factors, including gestational age, infant age, maternal age, maternal smoking, and infant nutritional demands. The first milk that is generated is known as colostrum. The amount of colostrum produced each time a newborn is fed is appropriate for the size of the baby's stomach and supplies enough calories to feed the baby for the first few days of life. The foremilk is the first milk that is expressed by a woman while she is feeding her infant and has a full supply of milk. Foremilk is frequently thinner and lower in calories. The ensuing milk from the rear is very fatty and calorie-dense.

Bioactive substances

The bioactive components of breast milk, such as the enzymes, proteins, antibodies, and signalling molecules that benefit the infant in ways other than nutrition, should be discussed separately in the nutritional components.

Nutritional components: Nutritional components in human milk are obtained from three sources: lactocyte, dietary in origin and maternal stores. Overall, the nutritional quality of human milk is highly protected; however certain vitamins and the fatty acid content of human milk require attention to maternal diet.

Macronutrients: The macronutrient composition of human milk varies within mothers and throughout lactation but is highly preserved over the populations. Human milk proteins are separated into casein fractions or complexes, each of which contains a variety of distinct proteins and peptides. Casein, lactalbumin, lactoferrin, secretory immunoglobulin IgA, lysozyme, and serum albumin are the most prevalent proteins. 25% of human milk nitrogen is made up of non-protein nitrogen-containing molecules such as urea, uric acid, creatine, creatinine, amino acids, and nucleotides. Protein levels in human milk decrease over the first 4 to 6 weeks or more of life, irrespective of arrival date. Lactose, a disaccharide, is the primary sugar in human milk. Lactose concentration in human milk is the most variable of the macronutrients, however larger amounts of lactose are observed in the milk. Other major carbohydrates in human milk are oligosaccharides, which account for around 1 g/dL in human milk depending on lactation stage and maternal genetic variables.

Micronutrients: Human milk is the primary basis for baby nutrition. However, numerous micronutrients, including vitamins A, B1, B2, B6, B12, D, and iodine, fluctuate in human milk depending on maternal nutrition and body reserves. Because the maternal diet is not always optimum, it is recommended that multivitamins be consumed throughout lactation. Vitamin K is extremely low in human milk, irrespective of maternal nutrition.

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