



Science

BREAST FEEDING; A BOON FOR INFANTS AS WELL AS FOR MOTHER -A REVIEW

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ABSTRACT

Lactation is the process of synthesizing and secreting milk from the breasts to feed young ones. It is an integral part in the physiologic completion of the reproductive cycle of mammals including humans. Human milk ensures the infants 'systemic protection, growth and development; therefore breastfeeding is one of the most effective ways to ensure excellent child health and survival. Lactation is the result of well-coordinated effort of the hormones. Throughout pregnancy the placenta produces oestrogen and progesterone. In addition to performing various functions, these hormones prepare breasts physically for lactation and suppress prolactin during pregnancy. Towards the end of pregnancy, prolactin increases, ready for milk synthesis. The removal of the placenta at birth triggers the breast to respond to suckling by making milk. The maternal body prepares for lactation not only by developing the breast to produce milk but also by storing additional nutrients and energy.

Keywords:

Lactation, Breast Feeding, Infants, Hormones, Nutrients.

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1. INTRODUCTION

Exclusive breastfeeding provides optimal nutrition and health protection for the first 6 months of life and breastfeeding with complementary foods from 6 months until at least 12 months of age is the ideal feeding pattern for infants [1]. Breastfeeding is an important public health strategy for improving infant and child morbidity and mortality, improving maternal morbidity, and helping to control health care costs. Breastfeeding is associated with a reduced risk of gastroenteritis, respiratory illness, sudden infant death syndrome, necrotizing enterocolitis, obesity, and hypertension. Breastfeeding is also associated with improved maternal outcomes, including a reduced risk of breast and ovarian cancer, type 2 diabetes, and postpartum depression. Overall

breastfeeding rates are increasing, yet disparities persist based on socioeconomic status, maternal age, country of origin, and geographic location. Factors such as hospital practices, knowledge, beliefs, and attitudes of mothers and their families, and access to breastfeeding support can influence initiation, duration, and exclusivity of breastfeeding. It is the responsibility of every woman, to promote and support breastfeeding for its short-term and long-term health benefits for both mothers and infants.

2. BENEFITS OF BREASTFEEDING FOR INFANTS

Human milk has many beneficial effects on the health of infants, especially premature and low birth weight infants and young children [2]. These benefits are magnified with exclusive breastfeeding and breastfeeding beyond 6 months of age.

OPTIMAL NUTRIENT COMPOSITION

Human milk is uniquely tailored to meet the nutrition needs of human infants. It has the appropriate balance of nutrients provided in easily digestible and bioavailable forms the milk changes its composition from colostrum for newborns to mature milk for older infants to meet the nutrient needs of growing infants. It provides adequate amounts of carbohydrates, essential fatty acids, saturated fatty acids, medium- chain triglycerides, long-chain polyunsaturated fatty acids, and cholesterol. The relatively low protein content of human milk presents a relatively modest nitrogen load to immature kidneys. There are more than 100 major milk oligosaccharides in human milk that are thought to have protective properties against respiratory and enteric diseases. Human milk has relatively low sodium content, allowing the fluid requirements of exclusively breastfed infants to be met while keeping the renal solute load low. Minerals in breast milk are largely protein bound and balanced to enhance bioavailability. The 2:1 ratio of calcium to phosphorus is ideal for the absorption of calcium and both of these minerals, and, along with magnesium, are present in appropriate amounts for growth and development. The limited amount of iron and zinc is highly absorbable. Given the nutrient content of human milk, supplements are not necessary, with the exception of vitamin D and possibly fluoride. Due to insufficient levels of vitamin D in human milk and decreased exposure to sunlight, a vitamin D supplement is recommended [3]. Supplementation should be given to breastfeeding infants within the first few days of life and continued throughout childhood regardless of whether or not the child is receiving supplemental formula. Breastfed infants who are aged 6 months and older may need a fluoride supplement if the total amount of fluoride from the local water supply or other sources available to the infant is inadequate.

REDUCTION IN INFANT MORBIDITY AND MORTALITY

Breastfeeding, especially exclusive breastfeeding, during the first 6 months of life is an important factor for reducing infant and childhood morbidity and mortality. Breastfeeding is associated with a reduction in postneonatal deaths from all causes other than congenital anomalies and malignancies and exclusive breastfeeding is associated with lower rates of hospitalization from infections in the first year of life. Evidence suggests that breastfeeding may reduce the risk for a large number of acute and chronic diseases [4]. Exclusive breastfeeding has a positive effect on

the development of the oral cavity by improving shaping of the hard palate resulting in proper alignment of the teeth.

LONG-TERM OUTCOMES

In addition to a significant reduction in acute illnesses, breastfeeding can affect the development of chronic diseases later in life. Breastfeeding has been found to have long-term effects on the reduction of blood pressure possibly due to the lower sodium content of breast milk compared to infant formula, the long-chain polyunsaturated fatty acid content of breast milk, and the reduced incidence of obesity, which is a risk factor for hypertension. Breastfed infants are less likely to become overweight or obese as adults. Overall, there is an association between a history of breastfeeding and a reduction in the risk of being overweight or obese in adolescence and adulthood. Breastfeeding is also associated with a decreased risk of type 2 diabetes later in life after adjusting for birth weight, parental diabetes, socioeconomic status, and body size. Children and adults who were not breastfed have higher serum insulin levels [5].

3. BENEFITS OF BREASTFEEDING FOR WOMEN

In addition to the numerous benefits of breastfeeding for the infant, there are many benefits for the mother the degree to which some of these health benefits may be realized depends on breastfeeding duration, breastfeeding frequency, breastfeeding exclusivity, and other personal factors. Women choosing to breastfeed can feel confident that their choice of infant feeding improves not only the health of their child but also their own long-term health and well-being.

FAMILY PLANNING

Women who exclusively breastfeed their infants are more likely to be amenorrheic, which conserves iron stores and decreases the risk for iron deficiency, at 6 months postpartum. Extended breastfeeding also suppresses ovulation, which delays the menstrual cycle and in turn may increase spacing between pregnancies [6].

REDUCTION IN DISEASES

Several studies have found that breastfeeding is associated with a decreased risk for breast cancer that is magnified with a lifetime breastfeeding of more than 12 months. Women who have breastfed three or more children have a decreased risk for breast cancer, and for each 6-month increase in breastfeeding there is further reduction in breast cancer risk. Breastfeeding has been also found to be effective in reducing ovarian cancer risk. This protection is attributed to the partial inhibition of ovulation in lactating women [7]. A longer duration of lifetime breastfeeding is also associated with a decreased risk for developing type 2 diabetes among women with no history of gestational diabetes, although for women with a history of gestational diabetes the increased risk of developing type 2 diabetes is not ameliorated by lactation [8]. Breastfeeding may be associated with a reduced risk of hip fractures in postmenopausal women and improve bone mineral density during young adulthood in adolescent mothers. There also is a decreased risk for developing rheumatoid arthritis, especially if a mother breastfeeds for more than 12 months.

WEIGHT LOSS

Breastfeeding women experience greater weight and fat loss than non-breastfeeding women. Furthermore, women who breastfeed for longer than 6 months and those who do so exclusively are more likely to achieve greater weight loss . It should be noted that weight loss and body composition changes are highly variable among postpartum women [9]. In addition, pre pregnancy weight, total pregnancy weight change, and parity all greatly impact postpartum weight loss.

MATERNAL WELL-BEING

An unexpected benefit of exclusive breastfeeding is improved sleeping at night. Mothers who supplement with formula found to sleep less and to have more sleep disturbances than mothers who exclusively breastfeed their infants, including overnight feedings [10] . Breastfeeding also lowers blood pressure in breastfeeding mothers before, during, and after breastfeeding sessions. Oxytocin release during breastfeeding is thought to be responsible for this effect.

4. CONCLUSION

Human milk has many beneficial effects on the health of infants, especially premature and low birth weight infants and young children. These benefits are magnified with exclusive breastfeeding and breastfeeding beyond 6 months of age. Breastfeeding also provides several health benefits for the breastfeeding woman.

Benefits for infants	Benefits for mothers
<ul style="list-style-type: none"> • Optimal nutrition for infant • Strong bonding with mother • Safe, fresh milk • Enhanced immune system • Reduced risk for acute otitis media, nonspecific gastroenteritis, severe lower respiratory tract infections, and asthma • Protection against allergies and Intolerances • Promotion of correct development of jaw and teeth • Reduced risk for chronic disease such as obesity, type 1 and 2 diabetes, heart disease, hypertension, • Reduced risk for sudden infant death syndrome • Reduced risk for infant morbidity and Mortality 	<ul style="list-style-type: none"> • Strong bonding with infant • Increased energy expenditure, which may lead to faster return to pre-pregnancy weight • Faster shrinking of the uterus • Reduced postpartum bleeding and delays the menstrual cycle • Decreased risk for chronic diseases such as type 2 diabetes, breast, and ovarian cancer • Improved bone density and decreased risk for hip fracture • Time saved from preparing and mixing formula • Money saved from not buying formula and increased medical expenses associated with formula feeding

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