

FEEDING

Proper nutrition in infancy is essential for normal growth, resistance to infections, long-term adult health, and optimal neurologic and cognitive development. Healthy nutrition is especially important during the first 6 months, a period of exceptionally accelerated growth and high nutrient requirements relative to body weight. Breastfeeding is associated with a reduced risk of many diseases in infants, children, and mothers .

BREASTFEEDING :

Human milk is the ideal standard for infant feeding and nutrition.it is recommended as the sole source of nutrition for the first 6 months of life, with continued intake for the next period.

The first 2 days of breastfeeding, and perhaps the first hour of life, may determine the success of breastfeeding .

Advantages ;

regarding the baby ;

- Breastfeeding has short- and long-term advantages for infant neurodevelopment.
- Human milk feeding decreases the incidence and severity of diarrhea, respiratory illnesses, otitis media, bacteremia, bacterial meningitis, and **necrotizing enterocolitis**.
- There are beneficial effects of feeding preterm infants with human milk on long-term neurodevelopment (IQ) in **preterm** infants.
- Preterm breastfed infants also have a lower readmission rate in the first year of life.

Regarding the mother ;Mothers who breastfeed experience both short- and long- term health benefits. Decreased risk of postpartum hemorrhages, more rapid uterine involution, longer period of amenorrhea, and decreased postpartum depression have been observed. Cumulative lactation of more than 12 months also correlates with reduced risk of ovarian and breast cancer.

Adequacy of milk intake can be assessed by voiding and stooling patterns of the infant. A well-hydrated infant voids six to eight times a day. Each voiding should soak, not merely moisten, a diaper, and urine should be colorless. By 5 to 7 days, loose yellow stools should be passed at least four times a day. Rate of weight gain provides the most objective indicator of adequate milk intake. Total weight loss

after birth should not exceed 7%, and birth weight should be regained by 10 days. The mean feeding frequency during the early weeks postpartum is 8 to 12 times per day.

Feeding frequency during the first 3 days of life of breastfed infants is inversely related to the level of bilirubin; frequent feedings stimulate meconium passage and excretion of bilirubin in the stool. Infants who have insufficient milk intake and poor weight gain in the first week of life may have an increase in unconjugated bilirubin secondary to an exaggerated enterohepatic circulation of bilirubin. This is known as (breast **feeding** jaundice). Attention should be directed toward improved milk production and intake.

After the first week of life in a breastfed infant, prolonged elevated serum bilirubin may be due to presence of an unknown factor in milk that enhances intestinal absorption of bilirubin. This is termed (breast **milk** jaundice) which is a diagnosis of exclusion and should be made only if an infant is otherwise thriving, with normal growth and no evidence of hemolysis, infection, biliary atresia, or metabolic disease .

vitamin D supplementation (400 IU/day starting soon after birth) is recommended , and, when needed, fluoride after 6 months for breastfed infant .

__ Maternal infection with human immunodeficiency virus (HIV) is considered a contraindication for breastfeeding in developed countries.

__ When the mother has active tuberculosis, syphilis, or varicella, restarting breastfeeding may be considered after therapy is initiated.

__ If a woman has herpetic lesions on her breast, nursing and contact with the infant on that breast should be avoided.

__ Women with genital herpes can breastfeed.

__ There are limited numbers of medical contraindications for breastfeeding, including pediatric metabolic disorders such as galactosemia, and infants with phenylketonuria, so ,alternate breastfeeding with special formulas.

FORMULA FEEDING:

Cow's milk-based formulas are the vast majority of commercial formulas.

* Most milk-based formulas have added iron. Infant formula manufacturers have begun to examine the benefits of adding a variety of nutrients and biological factors to infant formula to mimic the

composition and quality of breast milk. These include long-chain polyunsaturated fatty acids, nucleotides, prebiotics, and probiotics.

*Soy-based formulas, may be used for newborns who may be allergic to cow’s milk. However, some newborns allergic to cow’s milk are also allergic to the protein in soy formulas. There are hypoallergenic formulas for infants who can’t tolerate the basic formulas, such as those with allergies to milk or soy proteins. The proteins in these hypoallergenic formulas are broken down to their basic components and are therefore easier to digest .

* Specialized formulas are designed for premature, low birth weight babies .

*The carbohydrate is generally lactose, although lactose-free cow’s milk–based formulas are available.

*The caloric density of formulas is 20 kcal/oz (0.67 kcal/mL), similar to that of human milk .

*Formula-fed infants are at higher risk for obesity later in childhood .

COMPONENT	BREAST MILK	STANDARD FORMULA	SOY FORMULA	HYPOALLERGENIC FORMULA
Protein	1.1 per dl	1.5 per dl	1.7 per dl	1.9 per dl
Fat	4.0 per dl	3.6 per dl	3.6 per dl	3.8 -3.3 per dl
Carbohydrate	7.2 per dl	6.9 -7.2 per dl	6.8 per dl	6.9 -7.3 per dl
Calcium	290 mg /l	420 -550 mg /l	7000 mg/l	635 – 777 mg /l
Phosphorus	140 mg/dl	280– 390 mg/l	500 mg /l	420 – 500 mg/l
Sodium	8 mg/l	6.5 – 8.3 mg/l	13 mg/l	14 mg/l
Vit D	variable	400 per dl	400 per dl	400 per dl
Vit A	100 %			
I gA and sIgA	Present	0	0	0
IgM	Present	0	0	
IgG	Present	0	0	
lactoferrin	Present	0	0	0
Lysozyme	present	0	0	0
lipases	present	0	0	0