

Breastfeeding is an important part of the neonatal and infant periods, providing total nutritional support and promoting the emotional dependency of the baby on the breastfeeding parent. A strong emotional bond facilitates the successful prolongation of breastfeeding. Breast milk is recommended as the optimal and exclusive source of early nutrition for all infants from birth to at least six months of age. Maternal milk is crucial for development.

Milk production is regulated by the hypothalamic-pituitary tract and its associated hormones. Oxytocin and prolactin are the main hormones in milk production and the resulting let-down reflex.

Milk production occurs in stages, the first of which usually begins before the birth of the infant. The first milk is colostrum and is available after labor. Occasionally, there is pre-colostrum before the postpartum stage. Colostrum is high in protein, sodium, and immunoglobulins and is low in lactose. After 30 to 40 hours postpartum, the milk composition is characterized by an increase in lactose content; dilution of other constituents occurs due to increased milk volume.

BioTalk on World Breastfeeding Week 2023: Breastfeeding Concerns and Significance

Vitamin D supplementation should be started within the first few days of life. Initial dosing of 400 IU daily should be increased to 600 IU daily at one year of age. Maintenance of lactation follows an autonomous pattern wherein infant suckling and emptying of the breast are the main factors regulating the milk flow.

Issues of Concern

Establishing smooth bonding between the breastfeeding parent and the neonate is essential for successful breastfeeding. Skin-to-skin contact in the first two hours after birth is important for initiating lactation. The breast crawl of the alert neonate that occurs soon after birth will initiate the bonding process. The breast crawl is when the neonate is placed on the birthing parent's abdomen after birth and finds its way to the breast to suckle.

Successful neonatal breastfeeding factors include proper latching and an alert neonate with intact rooting and suckling reflexes. Although lactation is a natural process, parental support and education for proper positioning and latching are often required. The ability of the neonate to empty the breast will determine the subsequent milk volume.

Limiting factors like pain, anxiety, and emotional instability, among others, should be addressed before and after delivery. Lactation consultants or knowledgeable nurses can facilitate the successful initiation of breastfeeding. Non-breastfeeding parents and other supportive individuals, including physicians, also have an important role in education and support.

Achieving a correct latch on the nipple is imperative. Incorrect latch resulting from poor neonate positioning or issues such as lip or tongue tie may result in cracked nipples or pain while breastfeeding. An evaluation by a lactation consultant or other healthcare provider who is comfortable troubleshooting breastfeeding difficulties is often helpful.



Medication use needs to be monitored and addressed during breastfeeding. The need for a complete cessation of breastfeeding due to medication use is uncommon; adjusting the medication regimen to safe alternatives while breastfeeding may be necessary. Some studies show an increase in medication use while breastfeeding compared to pregnancy.

Clinical Significance

Colostrum contains a high amount of immunoglobulins. It is often referred to as the first immunization. Colostrum provides mucosal immunity to the gastrointestinal (GI) tract by delivering secretory IgA (sIgA), IgM, and IgG. These vital immunoglobulins provide barrier protection to the gut and offer protection from some infectious processes.

Milk contains microbiota like *Bifidobacterium* and *Lactobacillus*, which confer anti-bacterial activity to the gut along with the delivered oligosaccharides. Furthermore, this facilitates the

synthesis of essential nutrients such as vitamins B12, B6, K, and folate. Early introduction of breastfeeding will colonize the neonatal gut with these safe micro-organisms derived from the breastfeeding parent, crowding out organisms from the hospital room and other caretakers. Early rooming-in, where the neonate stays with the breastfeeding parent, is advised when possible.

Lactoferrin is also transmitted via breast-milk; it confers immuno-protection against bacterial, viral, fungal, and parasitic infections by prohibiting the sequestration and degradation of iron by microbes.

Produced breast milk can be classified as foremilk and hindmilk. Foremilk contains higher levels of lactose, while hindmilk contains a higher proportion of proteins and fats. The nutritional needs of the neonate control the quantity of milk and its components. Understanding milk composition will help the breastfeeding parent regulate the feed from both breasts.

Evidence shows that breastfeeding lowers the risk of upper respiratory tract infections and diarrhea in newborns. Other postulated benefits include a lower risk of developing asthma, type 1 diabetes, food allergies, and obesity. Breastfeeding may also delay the return of menstruation and offer cost benefits. In the United States, while approximately 75% of neonates are breastfed, numbers decline within a few months of life. Cigarette smoking and alcohol or caffeine use are not valid reasons to stop breastfeeding. Generally, breastfeeding can be stopped between 6 to 12 months of age, although some children are breastfed until they are 2 to 4 years old.

Healthcare Interventions

Lactation consultants are trained, certified healthcare professionals who can support the breastfeeding dyad with education and support. They are trained to promote positive attitudes towards breastfeeding by boosting the confidence of the breastfeeding parent through positive counseling. The entire healthcare team should take care to use positive and

supportive language, avoiding terms like “problem,” “difficulty,” “inadequate,” or “improper.” The presence of postpartum disorders like depression and psychosis may be subtle in presentation and can rapidly deter breastfeeding. These conditions should be considered while managing the postpartum and breastfeeding periods. A lactation consultant should be provided during the hospital stay and after discharge.

Breast milk jaundice is a commonly encountered condition in the neonatal period. Addition of 5 ml of artificial baby milk (ABM) in every feed (minimum six feeds) for three days before initiation of breast milk will lower the neonatal bilirubin to safe levels; bilirubin levels tend to remain in a safe zone once normalized. Breastfeeding parents who receive this regimen should be counseled not to continue with ABM supplementation once bilirubin is normalized.

Another treatment regimen for breast milk jaundice includes a 10% solution of chicory distillate (50 ml every 12 hours) to promote bilirubin normalization; a random controlled clinical trial showed this to be helpful. This regimen also promotes colonization of the neonatal gut with normal flora.

Source

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