



An Educational Review on Breast Feeding Versus Formula Feeding

Khayati Moudgil^{1*}, Jemi Rachel Shaji², Bhagya Premnath³ and Elaheebucus Bibi Madina Zina³

¹Department of Pharmacy, JSS Academy of Higher Education and Research, Mauritius, India

²Department of Pharmacy, Mittoos Medicals, Kerala, India

³Department of Pharmacy, Wadhvani Hospital, Gujarat, India

*Corresponding author: Khayati Moudgil, Department of Pharmacy, JSS Academy of Higher Education and Research, Mauritius, India; E-mail: khayatimoudgil@jssuni.edu.in

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Abstract

Breastfeeding is the gold standard in terms of newborn nutrition and feeding. Given the demonstrated short and long term medical and neurodevelopmental benefits of nursing over alternate methods, baby nutrition should be handled as a public health concern. Rather than a personal preference. The American Academy of Pediatrics recommends breastfeeding exclusively for the first six months followed by continuous breastfeeding with formula or complementary food for an additional year or as long as the mother or newborn wants. Paediatricians play a key role in the community by advocating for breastfeeding, educating parents about the health concerns connected with not breastfeeding and promoting the economic benefits associated with breastfeeding. To avoid misinterpretation of an infant's health category, growth should be monitored using the World Health Organization's (WHO) Growth Curve Standards.

Keywords: Breastfeeding; Nutrition; Public health; Paediatrics

Introduction

Despite recorded evidence of breast milk's benefits, global estimates indicate that 85 percent of moms do not follow optimal breastfeeding. The American Academy of Paediatrics (AAP) recommends breastfeeding exclusively for the first six months, followed by continuous breastfeeding with formula or complementary food for an additional year or as long as the mother or new-born wants [1]. Regular hospital visits to encourage and support the initiation and continuation of exclusive breastfeeding should follow the WHO/UNICEF-endorsed "Ten Steps to Successful Breastfeeding" as recommended by the American Academy of Paediatrics. Breastfeeding start and maintenance are dependent on the mother's knowledge and education as well as her attitude, cultural beliefs, and awareness as imparted by healthcare providers [2]. Formula milk is similar to breast milk in some aspects, as they both supply

nourishment, energy, and hydration, but despite this closeness or advancements in the manufacturing process, formula milk does not compare to the benefits of breast milk. Choosing the appropriate formula might be daunting. With so many options on the market, it's sometimes tough to know where to begin. Some are specifically formulated for supplementation because they contain lutein, an essential component found in breast milk, as well as prebiotics that help keep a baby's faeces soft, comparable to that of exclusively breastfed infants. It is always prudent to review all possible treatment choices with your paediatrician. The budget also plays a significant impact in this [3].

Literature Review

Breastfeeding and its nutritious benefits

Breastfeeding delivers optimal nutrition and establishes a unique bonding experience that the majority of women savour. Breastfeeding aids in the fight against several illnesses, helps prevent allergic reactions, and protects against certain chronic medical conditions.

Fighting infections and other medical conditions: Breastfed infants have a lower rate of infection and hospitalization. Antibodies are transmitted from mother to new-born during breastfeeding, which contributes greatly to the immune system's strengthening. Additionally, breast milk contains white blood cells that fight illness. This dramatically reduces the infant's risk of contracting a variety of diseases, including ear infections, meningitis, respiratory infections, diarrhoea, asthma, and allergies, as well as Sudden Infant Death Syndrome (SIDS). Breastfeeding is especially advantageous for preterm infants. It is high in long-chain fatty acids, which aid in the development of your infant's brain, nervous system, and eyes. Additionally, breast milk contains white blood cells that fight illness [4].

Nutrition and ease of digestion: Breast milk is the optimal diet for the developing digestive system of a baby. The lactose, protein, and fat found in breast milk are easily absorbed by the new-born. Breastfed infants experience fewer episodes of constipation and diarrhoea and have better digestion than non-breastfed infants. It is high in vitamins and minerals that are necessary for the new-born health and growth. Breast milk bioactive proteins are thought to contribute to improved food absorption, growth stimulation, immune system regulation, and defense against infections. Certain bioactive proteins found in human breast milk are stable and are only partially or completely digested in the new-born intestine [5].

Economic benefits: Breast milk is a more affordable option to formula feeds, which can mount up in price. Additionally, unless breast milk is pumped, no bottles, nipples, or other pricey items are required. Additionally, because breastfed infants are healthier and less prone to infection, they avoid the costs associated with healthcare services and hospitalizations.

Mother's bond: The majority of mothers who breastfeed their newborns love the experience and believe that the skin to skin contact strengthens the emotional bond between mother and baby [6]. One of the advantages of breastfeeding is that it adapts to the changing needs of the infant. When your infant is sick or ill, your body produces more WBC and antibodies, which travel to the baby *via* your milk to combat the infection.

Maternal health: Nursing mothers regain their pre-pregnancy shape or weight more quickly than non-nursing mothers because breastfeeding burns calories and helps shrink the uterus; during breastfeeding, the pituitary gland secretes oxytocin, which operates largely on smooth muscle, such as the milk sacs in the breast. These can be contracted to bring the milk to the front of the breast. Similarly, oxytocin stimulates the contraction of smooth muscle cells in the uterus. Oxytocin also helps to minimize postpartum hemorrhage. Breastfeeding also delays the return of fertility, which reduces the chance of premature birth. Breastfeeding protects against breast and ovarian cancer as well. Breastfeeding has been shown to lessen the risk of type 2 diabetes. However, there is no evidence of a link between breastfeeding and bone mineral density, maternal depression, or postpartum weight change [7].

Intellectual and Motor Development: Although the mechanics are not fully understood or known. Numerous studies demonstrate that breastfed children do better on measures of intellectual and motor development than non-breastfed children. The infant-mother physical touch is supposed to promote psychological stimulation and bonding, which may have developmental benefits. Numerous studies demonstrate that nursing has an anti-obesity impact that may last throughout adulthood. According to a 2004 study conducted in Boston, breastfeeding duration had a highly significant dose-response effect on Body Mass Index (BMI) at 12 months of age infants who breastfeed longer were slimmer. Breastfeeding had no influence on mean BMI or risk of overweight or obesity in childhood or adolescence. Breastfeeding may be linked to a lower risk of developing atherosclerosis later in life [8].

Planet's ecosystem: Breast Milk is the only food that is more sustainable and environmentally beneficial when produced locally. Breastfeeding promotion can make a substantial contribution to planet protection through eco-friendly packaging, reduced greenhouse gas emissions, and energy and land saving.

Pros and cons of breastfeeding

Both women and newborns require time to acclimate to the routine and pattern of breastfeeding. Several of the most often encountered issues will be discussed here, including the following:

Discomfort and pain: The majority of women struggle with nursing throughout the early stages of childbirth. This demonstrates the crucial importance of educating pregnant women; one-on-one counselling sessions with young mothers are critical since they have the ability to significantly affect and enhance their eating patterns. Pain associated with breastfeeding is also common during the first few days or weeks. Mothers should seek medical assistance if the issue does not improve and the breast is painful. However, many mothers experience such excruciating sore nipples that they cease breastfeeding before the suggested duration [9]. Frequency and pattern of feeding: Breastfeeding requires a large time commitment on the part of moms, especially during the early years. Breastfeeding schedules or patterns can be hard for some women when they work or travel. Breastfed infants digest food more quickly than formula-fed newborns which means that their mothers may be in more demand.

Maternal medical conditions and diet: Breastfeeding mothers must exercise considerable caution while selecting foods, as everything is passed on to the infant *via* breastmilk. Women should avoid mercury-containing fish, as well as alcohol, smoking, and caffeine. Coordinated medical care and lactation assistance are the

most crucial precondition for optimal breastfeeding in the face of maternal illness. Breastfeeding is not contraindicated if the mother is on a restrictive diet or is malnourished. Breastfeeding should be avoided if the mother has a medical condition such as HIV, is receiving chemotherapy, or is on any other type of treatment program. Additionally, women should examine the safety profile of herbal supplements and other OTC medications during breastfeeding [10].

Addressing the challenges

While breastfeeding is a natural process, initiating it, let alone maintaining it, is not always easy for mothers. Mauritius' Ministry of Health and Wellness has taken several initiatives to increase breastfeeding rates. These include the education and strengthening of health care workers, midwives, and nurses in order to give skilled breastfeeding advice to mothers and families. Mauritius has built numerous networks of primary health care clinics to ensure that this is made available as part of routine and health services.

This form of counseling can help women gain confidence and the ability to overcome problems. This eliminates feeding and care habits that may block optimal breastfeeding, such as administering unnecessary beverages, food or breastmilk substitutes.

Discussion

Formula feeding

It is characterized as a synthetic alternative for human breast milk intended for newborn feeding. It is available in powdered form for mixing with water or as an instant drink. While brand-specific ingredients vary, infant formula milk is commonly prepared from processed skimmed cow's milk. They are produced under extremely sterile settings.

Convenience: Parents or caregivers can prepare the formula at any time and feed the infant. This does not necessitate the mother's active involvement or monitoring. This might also be a time for mothers to share feeding responsibilities with their partners. This allows for increased participation in the feeding process with their mates and the bonding that frequently occurs as a result. As a result, considerable effort should be made to incorporate fathers with these newborn feeding practices [11].

Flexibility: Once the bottles are prepared, a formula-feeding mother can leave her infant with a partner or caretaker and rest assured that her child's feedings would be attended to. There is no need to pump or to plan work or other commitments or activities around the baby's feeding schedule. Additionally, formula-feeding mothers are not required to secure a private nursing space in public [12].

Frequency and pattern of feeding: Breast milk is more easily digested than formulas. Formula-fed infants typically require less frequent feedings than breastfed infants.

Diet of the mother: Mothers who breastfeed do not have to be picky about their nutritional preferences. Mothers who prefer formula feeding are not required to abstain from alcohol, nicotine or caffeine, which may impair their infants growth and development.

Challenges of formula feeding

Inability to fight infections: Antibodies are abundant in breast milk. Furthermore, these antibodies are incapable of being synthesized

and integrated into commercial formula formulations. As a result, the formula cannot provide additional protection against infection to the infant.

Expensive alternative: Unlike breast milk, formula feeds are pricey and quickly accumulate in expense. The least priced formula is powdered, followed by concentrated and ready-to-feed formulas. Formula-fed infants are more susceptible to infection because to their lower immunity, which can add to the cost of hospitalizations and medications.

Increased incidence of gas and constipation: Formula-fed infants experience more flatulence and have harder bowel movements than breastfed infants [13].

Current rates of breastfeeding

Only 38% of infants aged 6 months are exclusively breastfed globally. According to a countrywide survey conducted by the Mauritius Institute of Health, only 39% of 480 moms nursed their infants for the first four months and only 24% of women who ever breastfed did so within an hour of delivery.

Only 23 countries have attained an exclusive breastfeeding rate of at least 60% of infants less than 6 months. This is a problem that is particularly prevalent in the Americas, where just 6% of countries have an exclusive breastfeeding rate greater than 60%.

Conclusion

The WHO emphasizes exclusive breastfeeding as a critical component of child survival and health because it provides a kid with important, irreplaceable nourishment for growth and development. Breastfeeding provides a number of well-established benefits, the most prominent of which is protection against a variety of childhood infections and improved survival. Breastfeeding was misunderstood by parents of formula-fed infants. However, individual counseling sessions can be extremely beneficial for young pregnant women and lactating mothers, particularly in terms of establishing the most protective and supportive environment possible for exclusive breastfeeding. We should work together to ensure that every mother has access to expert breastfeeding counseling through commitment, concerted action, and organization. Attempts should be made to involve fathers in these newborn feeding talks, as this fosters bonding.

Conflict of interest

The authors declare that there is no conflict of interest.

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