

# Breast Feeding vs. Formula Feeding - “Which is More Effective for the Growth and Development of Babies”

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**Abstract:** *Mother’s milk is best for an infant. Many scientific studies and researches have proved that there is no substitute for breast milk. Babies who are breast feed have 30% less chances or at risk for illness than the bottle fed babies. Also as per W.H.O rule exclusive breast feeding should be given at least for 6 months. Human milk is superior to all substitutes and that expressed breast milk may be suitable feeding alternative for infants whose mothers are unable to breast feed their own baby. Formula feeding means to feed the child other than the breast milk. It involves the milk substitute in the form of liquid milk such as cow’s milk, buffaloes milk or commercially available dried milk. The main indications of formula feeding are death or absence of mother, prolonged maternal illness and complete failure of breast milk production. But from the breast feeding and from the formula feeding which is good for the growth and development of the babies.*

## 1. Introduction

God has created a very beautiful universe. He created many things in it. The human life is the most beautiful gift of god to universe. The physiological mechanisms are nicely arranged for the different stages of life. There is not a single stage that could become harmful to the body. The continuity of the life on earth is maintained by a birth of new human being. And for that, he has created a very beautiful and precious thing that is “MOTHER”.

Children are our future and our most precious resource. After birth, the health of the baby depends upon the nurturing practice adopted by the family. The ideal food for the young infant is human milk. Breast milk is not only the best but a must for the infants. Breast milk is child’s first immunization, because it contains valuable antibodies from the mother that may help the baby to resist infections. Breast milk also contain appropriate amount of carbohydrate, protein, vitamins, minerals and fat.

As a new parent, we have many important decisions to make. One is to choose whether to breastfeed your baby or bottle feed using infant formula. Health experts agree that breastfeeding is the healthiest option for both mom and baby. They recommend that babies feed only on breast milk for the first 6 months, and then continue to have breast milk as a main part of their diet until they are at least 1 to 2 years old.

There are very few health problems that make breastfeeding not possible. There are other reasons women are unable to breastfeed, but with good support and knowledge, most of these can be overcome. Here are some things to consider when deciding about breastfeeding. The decision about how to feed your baby is a personal one, and only you can decide what is best for you and your family.

### 1.1 Breastfeeding



Breastfeeding gives children the healthiest start in life and is one of the simplest, smartest and most cost-effective ways we have of ensuring that all children survive and thrive. Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers. Review of evidence has shown that, on a population basis, exclusive breastfeeding for 6 months is the optimal way of feeding infants. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond.

Experts recommends that babies be breastfed exclusively for the first 6 months. Beyond that, breastfeeding is encouraged until at least 12 months, and longer if both the mother and baby are willing. Although experts believe breast milk is the best nutritional choice for infants, breastfeeding may not be possible for all women. For many, the decision to breastfeed or formula feed is based on their comfort level, lifestyle, and specific medical situations. For mothers who are unable to breastfeed or who decide to, infant formula is a healthy alternative. Formula provides babies with the nutrients they need to grow and thrive.

The key to successful breastfeeding is Information, Education and Communication (IEC) strategies aimed at behavior change. Very few women in India have access to counseling services on infant and young child feeding. In the process of preparing a pregnant woman to breastfeed her child, or to overcome many of the problems which arise during breastfeeding, it is essential that one should have an understanding about the physiology of lactation.

**1.2 Advantages of Breastfeeding**

Advantages for infant's	Advantages for Mother's
Breast milk contains all the nutrients in the right proportion which are needed for optimum growth and development of babies up to 4-6 months.	Breastfeed reduce the chance of postpartum hemorrhage.
Breast milk essential for brain growth of the infant because it has high percentage of lactose which is important components.	Breastfeed improves metabolic efficiency and satisfaction with sense of fulfillment of the mother.
Breast milk is easily digestible. This therefore saves them from experiencing stomach problems.	Breastfeeding tend to speed up recovery in the mother's womb and protect mothers from postnatal bleeding.
Breast milk help to protect the infant from various infections and diseases, such as ear infections, allergies, respiratory issues, colds and viruses, diabetes, insulin dependent diabetes2, a number of childhood cancers.	Breastfeeding also minimizes the risk of developing ovarian cancer or breast cancer and this also lowers the risk of developing hip fractures and osteoporosis in women.
Breast milk is always ready and available at correct temperature.	No time is required or wasted for long and tiring preparation and sterilization of feeding bottles.
Breast milk also protects babies from allergies that are usually experienced by babies drinking cow's milk and others milks.	With breastfeeding, you do not have to wake up in the middle of the night preparing bottles for baby. You do not need to sterilize your nipples.
Breast milk is available free of cost for the baby. Also it is safe and free from any contamination so there is no risk of infection to the baby.	Breastfeed is sufficient for the infant, so mother no need to worry any other food.
Breast feeding promotes emotional and physical bonding between the mother and the baby.	Breast feeding promotes involution of uterus, thus brings back the mother in shape after and prepare milk whenever she feeds the baby pregnancy delivery.

**1.3 Disadvantages of Breastfeeding**

- A breastfed baby needs to be feed about every 1.5 to 3 hours, which can be inconvenient and frustrating, especially through the night.
- When you're a breastfeeding mom, there are some dietary restrictions you have to be mindful of. Whatever it is you eat, you're passing onto your baby! Some moms feel that it's hard to go even longer with the dietary restrictions after having gone 9 months already.
- Breastfeeding in public is very difficult for mother's. It is very inconvenient at public place to breastfeed the infant.

- When you feed formula, you know exactly how much they're getting, because you measure it. But when you're breastfeeding, it can be hard to determine exactly how much they're getting, any many new moms worry that their little one isn't getting the nutrition they need. Or that they're feeding them too much!
- You need special clothing to breastfeed. In order to breastfeed, ideally you'll need breastfeeding bras (which aren't cheap) as well as shirts that button up in the front



**1.4 Formula Feeding**



Breast feeding is the normal way of providing young infants with the nutrients they need for healthy growth and development. Lack of breast feeding is an important risk factor for infant and childhood morbidity and mortality. World Health Organization estimates that 1.5 million infant lives could be saved each year through increased breast feeding. Though breast feeding is practical and economically efficient, it gives invaluable returns to the family and the nation. Increased urbanization and modernization accompanied by socio economic changes act as a major factor influencing the decline in breast feeding. Direct breast feeding is not possible in some situations like when the baby is premature, the baby is born with cleft lip or cleft palate, the mother is ill, or the baby is separated from the mother for long or short duration, especially when the mother is going back to work after maternity leave. In such situations, formula feeding is the method chosen more frequently. This method is often easier for the mother who must return to work soon after the delivery of her infant, and it has the advantage of allowing other members of the family to participate in the infant's feeding.

Manufactured under sterile conditions, commercial formulas attempt to duplicate mother's milk using a complex combination of proteins, sugars, fats, and vitamins that aren't possible to create at home. So if you don't breastfeed your babies, medical concerns that may prevent breastfeeding, for some women, breastfeeding may be too difficult or stressful. Here are other reasons women may choose to formula feed.

Choosing whether to breastfeed or formula feed their baby is one of the biggest decisions expectant and new parents will make. A number of health organizations — including the American Academy of Pediatrics (AAP), the American Medical Association (AMA), and the World Health Organization (WHO) — recommend breastfeeding as the best choice for babies.

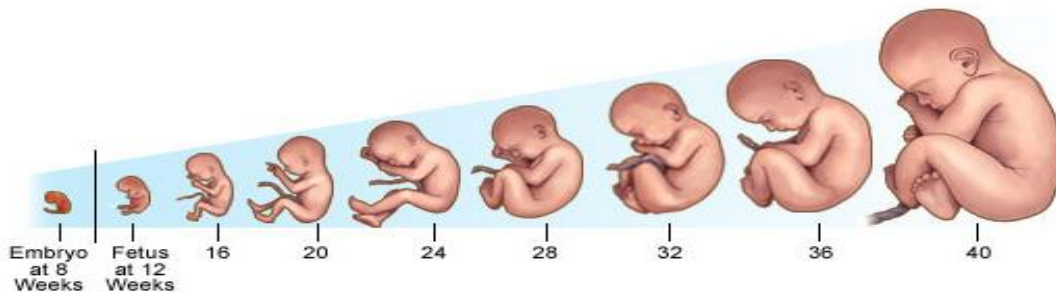
It is not easy to know how much your baby is being fed when you are breastfeeding. Feeding using a bottle enables you to identify exactly how much your baby is being fed.	You will have to buy the bottle and nipples. You will have to invest in an effective breast pump if you plan on feeding your baby with breastmilk or you will have to buy formula milk regularly.
There are chances that the mother might fall ill after childbirth or any other medical conditions might arise. Breastfeeding the baby during these sicknesses is not healthy for the baby.	Studies show that breast milk improves the immune system of your baby. Formula milk doesn't contain the elements of breast milk which help in improving the immune system of the baby.

**1.5 Advantages and Disadvantages of Formula feeding**

<u>Advantages</u>	<u>Disadvantages</u>
One of the benefits of bottle feeding is that anyone can feed the baby.	Breast milk is considered to have the perfect balance of all the nutrients that your baby requires to grow healthy.
Sometimes breastfeeding in public can embarrass a woman and make her feel insecure. In these situations, bottle-feeding would be the best thing to do.	You can breastfeed a baby on demand without any preparation. But if you bottle-feed your baby, you will have to prepare the milk prior to feeding. You need to wash and sterilize the bottle regularly. You will also have to express the milk into the bottle or prepare the formula milk.



**1.6 Growth and Development**



It starts from the antenatal period or from the conception in mothers uterus. The growth and development extend throughout the life cycle but the most changes occur from the conception to end of adolescents. Growth and Development are closely related to each other. Each child is having individualized growth and development pattern. Promotion of child health and care of children depends upon understanding of growth and development. So, understanding of growth and development is necessary for mothers.

**Growth**

It is process of physical maturation resulting an increase in size of the body and various organs. It occurs by multiplication of cells and an increase in intracellular substance. It is quantitative changes of the body which can be measured in inches / centimeters and pounds / kilograms.

**Development**

It is the process of functional and physiological maturation of the individual. It is progressive in skill and capacity to function. It is related to maturation and myelination of the nervous system. It includes psychological, emotional and social changes. It is qualitative aspect of maturation and difficult to measure.

**Characteristics of Growth and Development**

Growth and development depend upon each other and in normal child they are parallel and proceed concurrently. Though these terms are used interchangeably, but they are not the same. They are used together but not synonymous.

- 1) Growth and development is continuous and orderly process with individual difference and is unique to each child.

- 2) It proceeds by stages and its sequence is predictable and same in all children but there may be difference in time of achievement.
- 3) There is co-ordination between increase in size and maturation.
- 4) Initial mass activities and movements are replaced by specific response or actions by the complex process of individualized changes.
- 5) Rate of growth and development is interrelated and rapid in infancy and in puberty but slow in preschool and school age.
- 6) Growth and development depend on combination of many interdependent factors especially by heredity and environment.

### **Stages of Growth and Development**

Stages of growth and development can be studied as intrauterine life or prenatal period and extra uterine life or postnatal period.

### **Prenatal Period**

Ovum -0 to 14 days after conception.

Embryo-14 days to 8 weeks.

Fetus -8 weeks to birth.

### **Postnatal Period**

- Neonate- From birth to four weeks of life .
- Infancy-First year of life.
- Toddler- One to 3 years.
- Preschool child (early childhood)-3 to 6 years.
- School going child (middle childhood) –  
-6 to 10 years (girls)  
-6 to 12 years (boys)

- Adolescent-from puberty to adulthood

### **Prepubescent (early adolescent/ late childhood)**

- 10 to 12 years (girls)
- 12 to 14 years (boys)

### **Pubescent (Middle adolescent)**

- 12 to 14 years (girls)
- 14 to 16 years (boys)

### **Past pubescent (late adolescent)**

- 14 to 18 years (girls)
- 16 to 20 years (boys)

## **2. Conclusion**

Breastfeeding is important for the growth and development of children and also for the mother's health. Breast milk is safest and most secure nourishment for babies and protect them against illness. There are very few health problems that make breastfeeding not possible. Direct breast feeding is not possible in some situations like when the baby is premature, the baby is born with cleft lip or cleft palate, the mother is ill, or the baby is separated from the mother for long or short duration, especially when the mother is going back to work after maternity leave. In such situations, formula feeding is the method chosen more frequently. There are other reasons women are unable to breastfeed, but with good support and knowledge, most of these can be overcome. Here are some things to consider when deciding about breastfeeding. The

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## **References**

- [1] Robin Obrein. Breast milk helps mental development in premature babies. American Chronicle 2008 Nov 22. <http://www.americanchronicle.com/articles/47999>).
- [2] World Health Organization. Mortality profiles. Geneva; 2007. (<http://www.who.int/whosis/mort/profiles>)
- [3] UNICEF. Progress for children :problems estimating low birth weight incidence;2007.([http://www.childinfo.org/low\\_birthweight.html](http://www.childinfo.org/low_birthweight.html))
- [4] Statistics by Area/ Child Survival and Health: Child mortality database;2008 Sep.(<http://www.childinfo.org/mortality.html>)
- [5] CIA World Fact book .India infant mortality rate; 2008 May 16. [http://www.indexmundi.com/India/Infant\\_mortality\\_rate.html](http://www.indexmundi.com/India/Infant_mortality_rate.html)
- [6] Lawn JE, Cousens S, Zupan J. 4 million neonatal deaths: when? Where? Why? Lancet 2005; 365:891-900. ([www.savethechildren.org](http://www.savethechildren.org))
- [7] Manohar AA, Williamson M, Koppikar GV. Effect of storage of colostrums in various containers. Indian Pediatric Journal 1997; 34(4): 293-95.
- [8] Daisy 1993. Feeding and weaning practices of infants of rural families in the slums of district Ludhiana. M.Sc. thesis. Punjab Agricultural University, Ludhiana

## **Books**

- [9] Wong Donna L, Hockenberry Wong's nursing care of infants and children, 8<sup>th</sup> ed. Missouri: Mosby Inc; 2007 page no 290-298.
- [10] Susan Rowenm James, Jean Weiler Nursing care of children, second edition Evolve 2002, page no- 116-120.
- [11] Parul Datta, Pediatric Nursing, second edition jaypee brother medical 2009 page no 73 -76.
- [12] Manoj Yadav, Child health Nursing with Procedures, first edition, PV books 2016 page no 151-162.
- [13] Piyush Gupta, Essential pediatric Nursing, third edition CBS publishers 2011, page no -120-126.
- [14] U.N Panda, Pediatric Nursing, second edition AITBS publishers 2013 page no 44-75.
- [15] Santhosh Kumar, Handbook of pediatrics, fourth edition, All India publishers 2006, page no 29-59.
- [16] Rimple Sharma, Essential of pediatric nursing, first edition, jaypee brother medical 2013 page no. 108-119.