



# GROWTH AND FEEDING PATTERN IN CHILDRENS

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## ABSTRACT

Breast feeding is more than just feeding and breast milk is more than just a food. Breast milk contains all the nutrients a healthy baby needs. It is a food produced by the mother's body especially for the baby. Breast milk is also rich in anti - infective substances and provides the baby with the best protection against diseases. Breast feeding is important for the healthy growth and development of all babies and creates a unique bond between mother and baby. When the mother breast feeds and holds her baby close she gives warmth, affection and security, as well as food and protection. Breast feeding is important for healthy growth and development of all babies. They need appropriate nutrition, affection, stimulation and protection against infection. Breast feeding meets these needs and gives them the best start in life. It is natural and a basic part of the life process.

**KEYWORDS:** Breast feeding, Nutrition, Growth, Development etc

## 1. INTRODUCTION

Breastfeeding is when you feed your baby breast milk, usually directly from your breast. It's also called nursing. Making the decision to breastfeed is a personal matter. It's also one that's likely to draw opinions from friends and family. Many medical experts, including the American Academy of Pediatrics (AAP) and the American College of Obstetricians and Gynecologists, strongly recommend breastfeeding exclusively (no formula, juice, or water) for 6 months. After the introduction of other foods, it recommends continuing to breastfeed through the baby's first year of life. How often a mother should breastfeed her baby depends on whether a baby prefers small, frequent meals or longer feedings. This will change as your baby grows. New borns often want to feed every 2-3 hours. By 2 months, feeding every 3-4 hours is common, and by six months, most babies feed every 4-5 hours. The breast milk which is secreted during the first few days after the delivery is called colostrum. It is most suitable food for the baby during this period because this a high concentration of nutrients the baby needs. It also contains substances that help protect the baby against many infections. Immediately after birth this protection is as important as food. This is why the new born baby should be put to the mother's breast immediately, or at least within the first half hour. Ideally, exclusive breast feeding should be the norm for the first 4-6 months of life. Encourage demand feeding and continue breast feeding as long as possible.

### 1.1 SIGNS YOUR BABY IS HUNGRY

One of the most common ways your baby will let you know they're hungry is to cry. Other signs your baby is ready to be fed include:

- Licking their lips or sticking out their tongue
- Rooting, which is moving their jaw, mouth, or head to look for your breast
- Putting their hand in their mouth
- Opening their mouth
- Fussiness
- Sucking on things

### 1.2 INITIATION OF BREAST FEEDING

The first feed deserves special attention. In some societies, this first contact with food is traditionally an important ritual occasion. In Norway, for instance, it used to be customary to prepare a very fat, rich porridge, used solely for festive occasions, and to give the child a little of this to eat soon after birth to protect it against lack of food later in life (Weiser Aall 1973). Some traditions do not allow a child to suck, until a few days after birth. In many societies there is a superstition that colostrum is not good for the infant. The strong yellow colour of this fluid is sometimes associated with pus. Mothers simply wait for the mature milk to come in before they put the baby to the breast. In about the year A.D. 200, the fashionable Greek physician Soranus advised his upper - class lady patients not to put their infants to the breast until 20 days after birth. During this time, according to Soranus, her body was sick, and her milk thick, indigestible, and raw. and not suitable for an infant (Rose, 1882), for the Greek upper - class ladies, this advice created no problem, since wet-nurses were readily available. But in the absence of wet - nurses, it is a very dangerous practice. Not only does the infant often starve for this period, but it makes it more difficult to establish lactation later on. Postponing suckling is an unnatural practice, which we should avoid and discourage. There is no reason why a healthy full-term



baby cannot be put to the breast immediately after birth. There is good evidence that this increases the success and duration of breast - feeding (Salarly, Easton, and Cater, 1978). But although there are many reasons why, a baby should suckle at this time, many supposedly "modern" Hospitals insist on a delay of 24 hours and even sometimes of two or three days before a baby is allowed to nurse. Breast feeding fosters a close physical and emotional contact of the child with the mother. It gives satisfaction to the mother and generates a feeling of importance, indispensability and motherliness. It is apparently free of cost though the lactating mother needs additional 450 calories per day to maintain lactation and her own health. However, the economic benefits of breast feeding to a developing country are obvious considering that in India ' alone about 22 million nursing mothers produce on an average about 3.7 million tonnes of milk annually.

## 2. FEEDING SCHEDULE

The feeds should be offered on a semi-demand schedule, keeping in mind that most babies would need to be fed after every 2 to 4 hours. The mother should sit comfortably and keep the baby's head slightly raised and offer alternate breast- at each feed. The baby should be supported from beneath his shoulders and not beneath his head. During the first few days, most of the babies fall asleep after taking a few sucks. The mother should be advised to follow a semi-demand schedule. Thus, if the infant is sleeping at the expected time of feeding, he should not be aroused for feeding. If he is hungry and demands a feed before arbitrarily schedule feeding time, the feed should not be denied. If the baby remains hungry after sucking at the breast during the first two days of life, he may be additionally offered half diluted cow's milk through a feeding bottle. Most babies take 15 to 20 minutes to take an adequate feed. Sucking for too long has bad reputation as a cause of sore nipples, probably because some babies who suck for a long time are sucking in a bad position. They are not satisfied, so they continue. Some babies are satisfied with one breast, others may need to suck at the second breast as well. Alternate breast should be offered first at every other feed. The contented baby is playful, sleeps well, gains weight regularly (after first week of life). The baby must be satisfied for at least two hours before he starts yelling for the next feed.

## 3. NUMBER OF BREAST FEEDS GIVEN PER DAY

Although we can learn much from other mammals about lactation, we cannot learn from them what is a 'natural' feeding pattern for ourselves, because the frequency with which different animals feed varies so much. It varies between species - from only one or two nursing a day in deer and antelopes to almost incessant feeding in bears. This variation between species depends partly on the solute and protein concentration of the milk (Ben Shaul, 1962). Species with dilute milk tend to feed more often. Women have one of the most dilute milks of all - so if we are to deduce anything from that 'rule', we should expect the human infant to feed very often. But frequency also varies between individuals of the same species, and it even changes in some individual mother - with a different baby and at different times during lactation. The baby may want to feed only two, three, or four times a day. But from the third day onwards, however, this changes. If a baby is given the opportunity to feed on demand, it may want to feed as many as ten to twenty times a day. There is nothing unusual about this, it only shows that the infant is waking up into the world. It needs to be reassured that closeness and cuddling are still available even though it has left the warm moving environment of the womb. For the second week of life most babies begin to demand less, and gradually develop into a routine of their own. Again there is a great individual variation. As the child grows, the feeding pattern should be a compromise between the child's and the mother's needs. Early infant has periods of sudden rapid growth, and at these times, it needs more food. These commonly occur around 3 weeks, 6 weeks, and 3 months of life (Watzky 1979).

## 4. BOTTLE OR ARTIFICIAL FEEDING

The history of artificial feeding of infants is one of repeated failure. Obviously people have been trying to do it for a long time -- earthenware feeding bottles have for instance been found in the graves of Roman infants (Foote, 1920), and although this may be the earliest attempt for which we have evidence, there is no reason to conclude that it was the first. In 1794, William Moss who was surgeon to the Liverpool lying-in hospital, wrote: "As it has been repeatedly observed that continued and severe griping's and looseness of stock in dry nursing (i.e. artificial feeding) are occasioned by the food, and that it is so difficult a matter to give a proper substitute for the breast, it will appear less surprising that children will sometimes be found who cannot be supported or exist without it (i.e. the breast)." An eighteenth - century paediatric textbook illustrates this in sad detail. In an attempt to feed 130 foundlings in an orphanage outside Rouen in France, only thirteen were still alive after a year and a half, in spite of fresh air, cow's milk, flour porridge, and great care. Even these thirteen were very weak and died soon after (Vahlquist, 1975). The Industrial Revolution of the Western World in the nineteenth century meant a sudden change for much of the population from a subsistence economy to wage earning. It also meant that many mothers with babies had to work away from home - most often in factories in order to earn enough to survive. All these changes created a potential market though not an outright demand - for feeding bottles and commercial infant foods, the first of which were marketed more than a hundred years ago. The 'modern' era of artificial feeding dates back to the beginning of this century. The first attempts to work out an artificial substitute for human milk were made just after the first World War (Gerstenberger and Rub, 1919). Then the availability of an increasing variety of infant foods, both commercial and homemade, caught the attention of paediatricians, who took it upon themselves to establish scientifically acceptable, general rules for infant feeding. On the basis of the calculated nutritional needs of



infants of various ages, they recommended 3 hourly and 4 - hourly intervals between feeds. A suitable average time for giving one feed by bottle was found to be about 20 minutes. These rules carried the austere, strict, no-nonsense tone which prevailed in child rearing in industrialized societies at that time probably a reaction to earlier lax ways.

## 5. GROWTH AND DEVELOPMENT

The term growth and development are often used interchangeably. In reality they are different though they are inseparable as neither takes place alone. Growth refers to quantitative changes - increase in size and structure. The child not only becomes larger in structure, but the size and structure of the internal organs and the brain also increases. As a result of growth of the brain, the child has a greater capacity for learning, remembering and reasoning. Development refers to qualitative and quantitative changes and acquisition of variety of competences for functioning optimally in a social milieu. Physical growth goes on from birth onwards, in tissues, muscles, bones, height, weight, strength, brain and in fact, in every physical aspect, function or formation. A child grows in every system of his body simultaneously. Each child's growth in weight, height and motor skills, as in other spheres, is unique with his own rate of growth. Infancy and early childhood are periods of very rapid physical growth. Physical growth is somewhat slower during middle childhood. It does not show the dramatic spurts or the rather sudden acquisition of abilities of infancy. Some aspects of growth are orderly and predictable. One can estimate when developmental changes will occur. The baby sits before she stands, stands before she walks, and babbles before she talks. The young child learns to draw a circle before the draws a diamond (Gesell, 1940). The overall process of growth is also continuous. As a child develops, he adds to the skills he has already acquired, and his new skills in turn become the basis for future achievements. While growth is orderly and continuous, the tempo at which it proceeds is uneven and differential. Individual development usually takes place in spurts, with various parts of the body developing at different rates. General body growth is rapid during the preschool years, which slows down during the middle school years and increases rapidly during adolescence, and then tapers off. The brain and head mature dramatically during preschool years, and then development slows to a gradual development into adulthood (Tanner, 1970). At 2 months after conception, the head is nearly one-half the length of the body; by the time of birth, it has decreased in proportion during childhood, even though it continues to grow in size. The sequence of growth is normally an orderly and predictable phenomenon, since all of us experience the stages of development in more or less the same succession. However, children vary a great deal in the pace of their growth. Most of them maintain a fairly consistent growth rate, one that is established at birth and continues throughout development. Thus, the child who develops more slowly than his peers will probably continue this slower rate throughout his life (Haimowitz, 1973). The rate of growth is affected by illness, or by neglect or poor nutrition. If the body is prevented from reaching its target growth at any particular period - and provided the period is not too long - once the adverse condition is corrected, the body is able to speed up its maturation so that at some succeeding time it is again on target. Thus, once a proper diet is introduced, or an illness conquered, or a climate of genuine acceptance and security established, children whose natural growth has been retarded will frequently step up their rates of development. They re-establish their individual tempos, sometimes showing remarkable developments within short periods of time (Haimowitz, 1973). The mechanism by which the human organism knows when to stop "catching up" remains wholly mysterious. Physical growth is affected by various factors, such as inheritance lying in the genetic constitution, nutrition, living conditions and medical facilities and timely help. It is, made out that due to better food, better living conditions and better medical care, boys and girls are found to be taller, heavier and healthier than their counterparts during the last half century in the world as whole (Cole, 1970). An prolonged deprivation has its retarding effect on the rate of growth and on the development. Physical development is affected by many environmental conditions such as supply of food, accident or disease. Even geographical conditions influence physical appearance and health. Nutrition is directly related. to the growth of an infant. Malnutrition during early infancy can adversely affect cell division and cell growth. However, malnutrition seems to be most damaging during periods when brain is growing by increase in cell number. The earlier the onset of malnutrition, the more permanent and far-reaching its effects. Children who are severely malnourished during early infancy may show varying degree of mental retardation, depending on the severity of malnutrition

## 6. CONCLUSION

The purpose of this rigid approach was originally to make artificial infant - feeding safer, which it doubtless did. At some point however, a dangerous mistake was made, and it is hard to know who is most to blame for this - doctors, nurses, or mothers. The mistake was this: The rules which were designed to make artificial feeding safe, were applied to breast feeding. One of the misunderstandings was over the duration of feeds. A baby usually empties a feeding bottle in about 20 minutes, if the holes in the rubber nipple are the right size. If a baby continues to suck from the empty bottle, however It may swallow some air. The breast, however, is entirely different. Breasts contain varying amounts of milk at different times. The average duration of a feed in traditionally breast-feeding societies, such as rural Kenya, is 13 minutes.

Globally, mothers from a wide variety of socio-environmental contexts often assume slow-growing babies are underfed and erroneously attribute perceived growth retardation to inadequate milk supply or poor milk quality. Breast milk provides the ideal nutrition for infants. It has a nearly perfect mix of vitamins, protein, and fat -- everything your baby needs to grow. And it's all provided in a form more easily digested than infant formula. Breast milk contains antibodies that help your baby fight off viruses and bacteria. Breastfeeding lowers your baby's risk of having asthma or allergies. Plus, babies who are breastfed



exclusively for the first 6 months, without any formula, have fewer ear infections, respiratory illnesses, and bouts of diarrhoea. They also have fewer hospitalizations and trips to the doctor. Breastfeeding has been linked to higher IQ scores in later childhood in some studies. What's more, the physical closeness, skin-to-skin touching, and eye contact all help your baby bond with you and feel secure. Breastfed infants are more likely to gain the right amount of weight as they grow rather than become overweight children. It's been thought to lower the risk of diabetes, obesity, and certain cancers as well, but more research is needed.

#### **BREAST MILK HELPS KEEP YOUR BABY HEALTHY**

- It supplies all the necessary nutrients in the proper proportions.
- It protects against allergies, sickness, and obesity.
- It protects against diseases, like diabetes and cancer.
- It protects against infections, like ear infections.
- It is easily digested – no constipation, diarrhea or upset stomach.
- Babies have healthier weights as they grow.
- Breastfed babies score higher on IQ tests.

The health effects of breastfeeding are well recognized and apply to mothers and children in developed nations such as the United States as well as to those in developing countries. Breast milk is uniquely suited to the human infant's nutritional needs and is a live substance with unparalleled immunological and anti-inflammatory properties that protect against a host of illnesses and diseases for both mothers and children (Lawrence, 2010). Breastmilk changes each feed to suit your baby's needs and stage of growth. Babies who are breastfed are also sick less often than babies who are not breastfed.

Babies who are not fed breastmilk have higher risk of:

- **infections in the bladder or kidney**
- **stomach and bowel illness (including diarrhoea)**
- **chest infections**
- **ear infections**
- **allergies (including eczema and asthma)**
- **SIDS (sudden infant death syndrome—cot death)**
- **some childhood cancers**
- **obesity, diabetes and heart disease later in life.**

Because breastfeeding confers many important health and other benefits, including psychosocial, economic, and environmental benefits, it is not surprising that breastfeeding has been recommended by several prominent organizations of health professionals, among them the American Academy of Pediatrics (AAP), American Academy of Family Physicians, American College of Obstetricians and Gynecologists, American College of Nurse-Midwives, American Dietetic Association, and American Public Health Association, all of which recommend that most infants in the United States be breastfed for at least 12 months. These organizations also recommend that for about the first six months, infants be exclusively breastfed, meaning they should not be given any foods or liquids other than breast milk, not even water.

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