



## Breast Feeding- An Ayurveda Perceptive

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### Abstract

It is widely recognized that breastfeeding is the best nutrition for human infants. Breast milk is the optimal food for almost all infants in the first year of life. The breast milk provides numerous health benefits to both mother and baby. Breastfeeding should begin soon after birth. It is important that infants open their mouth wide enough when breastfeeding to grasp the nipple and the areola (pigmented circle around the nipple). Breastfeeding is the best way to care for new child. Besides the overwhelming bonding it creates, breast milk is also the perfect food for them. Likewise in Ayurvedic texts, formation of stanya (breast milk), causes of stanya pravriti (or milk ejection), dhatri (wet-nurse), dhatri-pariksha (examination of wet-nurse), stanapan-vidhi (breast feeding), stanyasampat (merits of breasts), stanyanasha hetu (causes of cessation of milk formation), stanyaviridhi dravyas (drugs increasing quantity of milk), stanya apanayakala (weaning period), abnormalities of breast-milk and its treatment etc. are discussed in detail.

**Keywords:** Stanya; Stanya pravriti Dhatri; Dhatri-Pariksha; Stanapan-Vidhi; Stanyasampat; Stanyanasha hetu; Stanyaviridhi dravyas

### Formation of Stanya (Breast Milk)

Stanya is formed from rasa (rasa-prashad bhag or bodily fluids) as stated by acharyas [1,2]. Acharya Kashyapa also mentions formation of stanya from rakta (means blood/ red blood cells and also involves blood vessels, liver and spleen) during pregnancy period [3]. Milk is produced as a result of interaction of hormones and reflexes (prolactin, oxytocin, rooting and sucking reflexes). During pregnancy and lactation the glandular tissue is stimulated to produce milk due to various hormonal influences [4]. The suckling stimulus on the nipple of the breast causes signals to be transmitted through sensory nerves to the hypothalamus, which causes release of prolactin and oxytocin from the pituitary gland. These hormones are then carried by the blood to the breasts, where it promotes secretion of milk and contraction of myoepithelial cells of the mammary glands leading to ejection of the milk from the glands. In less than a minute after the beginning of suckling, milk begins to flow [5].

### Causes of Stanya Pravriti and Apravriti (Milk Ejection or Cessation)

Acharya Sushruta clearly enumerated factors which results for milk ejection as thought, sight or touch as well as physical contact of the child, but affection for the child is mainly responsible [2]. The more the baby sucks at the breast, the greater is the stimulus for milk production. On third or fourth day after delivery, milk ejection starts [2,6]. It is especially interesting that fondling of the baby by the mother or hearing the baby crying often gives enough of an emotional signal to the hypothalamus to cause milk ejection. Many psychogenic factors can inhibit oxytocin secretion and consequently depress milk ejection [5]. Prolactin "Milk secretion" reflex enhancing factors are sucking, expression of milk, emptying of breast, night feeds and hindering factors: incorrect position, painful breast, prelacteal feeds, top feeding. Oxytocin "Milk ejection" reflex enhancing factors are thinking lovingly of baby, sound of baby, sight of baby, mother is relaxed /comfortable/ confident and hindering factors are worry, stress, pain, doubt [7].

### Concept of Dhatri (or Wet-Nurse)

Acharya Vagbhata advised for arrangement of two wet nurses in conditions of inability for feeding the baby by the mother [7]. Examination of wet-nurses (including physical, physico-psychological qualities) have been described in Ayurvedic literature, so that breast

feeding result in proper growth and development in child. Acharya Charaka says that wet-nurse should be samman-varna (similar in the caste), young, modest, non-addict, similar in desha and jati (sub caste), affectionate to the child, free from diseases, jivitvatsa (having alive child), having adequate amount of breast milk etc [1]. Similarly description were given by other Acharyas [2,3,6].

### Stana-Sampat (Merits of Breasts)

The breast which are comfortable for sucking are said to be the perfect one. Acharya Charaka describes stanasampat as the breast which is not aturdhawa, ati lamba, and ati krisha and have appropriate nipple [1]. But acharya Sushruta also explained various abnormalities due to feeding with imperfect breasts as urdhwa stana, lambastana makes the child karala, urdhwaksha (upward looking) and cover the face and nose which may result in death respectively [2]. Actually breast size is not associated with breastfeeding success. Breastfeeding is the normal way of providing young infants with the nutrients they need for healthy growth and development.

### Stanya-Sampat (Characteristics of Normal Breast Milk)

According to acharya Charaka, the milk which is normal in colour, smell, taste and touch, mix evenly when pour into water is known as pure milk. This milk provides nourishment (pusttikar) and good health (aarogyum) to the child [1]. Acharya Sushruta described that sheet (cold), clean, free from impurities, sankhabh, sweet in taste, mixes evenly in water, not producing any froth or streaks when mix in water. This type of milk provides good health, growth and development of body, strength to the body [2].

### Stanapan-Vidhi (Method of Breast Feeding)

In Ayurvedic texts, breast feeding discussed in detail. According to

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acharya Charaka, mother after taking bath and wearing clean garments and tie prajasthapan drugs (like aindri, brahmi, satavari, amogha etc.) on head, start breast feeding specially offer her right breast first to the child [1]. Acharya Sushruta described as after proper bathing of child and washing of breasts as well as expressing out small quantity of milk and chanting the given mantra, breast feeding starts [2]. Similar description is given by Vagbhata [3] and Misra [8]. In ayurveda, it is also clearly mentioned that breast feeding to child by many different woman result in various disorders in child [2].

In Present era, more stress for breast feeding given because of numerous benefits to child and mother. After a normal delivery, most babies want to suckle during the first half or one hour after they are born. So, baby should be put on the breasts as soon as the mother has recovered from labour preferably within an hour after birth. This also helps mother to establish the bond with her baby and to promote lactation. The mother should sit up comfortably and keep the baby's head slightly raised and offer alternate breast at each feed. Proper position of baby while breast feeding includes:

- a. Supporting whole of baby's body.
- b. Ensure baby's head, neck and back are in same plane.
- c. Entire baby's body should face mother.
- d. Baby's abdomen touches mother's abdomen.

Attachment of baby on mother's breast, signs of good attachment are:

- a. Baby's mouth wide open.
- b. Lower lip turned outwards.
- c. Baby's chin touches mother's breast.
- d. Majority of areola inside baby's mouth [9].

For effective sucking, the baby must form an effective seal around the nipple and areola to eject the milk from lacteal sinuses. Proper attachment is indeed the key or successful breast feeding and both the nipple and areola must be effectively grasped by the baby. If the baby sucks only at the nipple, the milk is not ejected [7].

There are some important facts to be remembered during breast feeding as:

- a. During early days most of the babies fall asleep after a few sucks or kept sleep for many hours, so baby should be aroused by gentle tickling behind the ears or on the soles but this act should not be unpleasant to baby.
- b. The baby must be satisfied for at least two hours before he starts crying for next feed.
- c. To safeguard against regurgitations after each feed, burping of the baby advised.
- d. Baby should be fed on demand and not by clock.
- e. There is no additional requirement of water to a breast fed baby.
- f. Exclusive breastfeeding is defined as "an infant's consumption of human milk with no supplementation of any type (no water, no juice, no nonhuman milk, and no foods) except for vitamins, minerals, and medications".
- g. Bottle feeding use should be avoided because its use also leads

to nipple confusion and results into refusal for breast feeding. There is also possibility of contamination and development of infections due to use of bottle feeding.

- h. Generally it is agreed that exclusive breast feeding for first six months is sufficient to support the normal growth of baby upto these months.
- i. The breast feeding should be instituted from the starting (or from first feed after birth) and no water, glucose water, tea etc. should be given at that time.

### Benefits of Breast Feeding

Ayurvedic texts have description about benefits of breast feeding. Acharya Kashyapa described that good breast feeding results in good growth, strength, longevity and good health of child as well as not causing any troubles or diseases to child [3]. Acharya Charaka and Vagbhata give similar description [1,6]. It is widely recognized that breastfeeding is the best nutrition for human infants. Breast feeding should begin, as soon after birth as possible. Both baby and mother gain many benefits from breastfeeding. Breast milk contains all the nutrients that an infant needs in the first 6 months of life for normal growth and development including carbohydrates, fats, proteins, vitamins, minerals and water.

### Advantages of breast feeding to the child

Breast milk provides both immediate and long-term benefits to infants. Breast milk is free- reducing or eliminating the cost of formula.

Breast milk is the optimal food for almost all infants in the first year of life. Colostrum is known to contain antibodies called immunoglobulin such as IgA, IgG and IgM in mammals. Other immune components of colostrum include the major components of the innate immune system, such as lactoferrin, lysozyme, lactoperoxidase, complement and proline-rich polypeptide. These bioactive agents, which are not found in commercially prepared formulas, boost the infant's immature immune system. Hanson et al. [10] studies find that because of numerous major protective components, including secretory IgA (SIgA) antibodies and lactoferrin, which are present in breast milk results in protection of baby who breastfed against numerous common infections than the non-breastfed. Colostrum also contains carbohydrates, lipids, proteins, vitamin A etc. and sodium chloride, potassium, growth factors and antimicrobial factors. The antibodies in colostrum provide passive immunity.

1. Breast milk contains about 3.5 g of fat per 100 ml of milk. Breast-milk fat contains long chain polyunsaturated fatty acids (docosahexaenoic acid or DHA, and arachidonic acid or ARA) that are not available in other milks. These fatty acids are important for the neurological development of a child. DHA and ARA are added to some varieties of infant formula, but this does not confer any advantage over breast milk, and may not be as effective as those in breast milk. Lipase in milk improves digestion by supplying readily available free fatty acid to the infant. The main carbohydrate is the special milk sugar lactose, a disaccharide. Breast milk contains about 7 g lactose per 100 ml, which is more than in most other milks, and is another important source of energy. Secondly, high lactose content enhanced calcium and iron retention.
2. Breast milk contains a balance of amino acids which are suitable for a baby. The concentration of protein in breast milk (0.9 g per 100 ml) is lower than in animal milks. The much higher

protein in animal milks can overload the infant's immature kidneys with waste nitrogen products. Breast milk contains less of the protein casein. It forms much softer, more easily-digested curds than that in other milks. Human milk contains more alpha-lactalbumin; cow milk contains betalactoglobulin, which is absent from human milk and to which infants can become intolerant.

3. Breast milk normally contains sufficient vitamins for an infant, unless the mother herself is deficient. The minerals iron and zinc are present in relatively low concentration, but their bioavailability and absorption is high. Provided that maternal iron status is adequate, infants are born with a store of iron to supply their needs; only infants born with low birth weight may need supplements before 6 months. Ronnstedt et al. [11] study suggests that the risk of late onset septicaemia among extremely premature infants may be reduced by very early full enteral feeding with human milk.
4. Exclusive breastfeeding for four or more months appeared to diminish the risk of respiratory hospitalization in infancy to one-third or less the risk observed for infants who were not breastfed [12-14]. Breastfeeding also result in reduction of upper respiratory symptoms in premature infants during their first year of life [15]. Exclusive breast-feeding for four or more months protects the infants from single and recurrent episodes of otitis media [16,17].
5. Exclusive breastfeeding also result in protection against diarrhea-specific morbidity and mortality throughout the first 2 years of life [18-20]. Quigley et al. [21] study also noted that breast feeding was associated with significantly less diarrhoeal disease, even in infants aged more than 6 months. Victora et al. [22] study noticed that deaths due to diarrhea are more in baby who are not breast feeding during 1st 2 months of life. Morrow et al. [23] study provides evidence that human milk oligosaccharides are clinically relevant to protection against infant diarrhoea. Coppa et al. [24] study results showed that oligosaccharides of human milk inhibit the adhesion of common pathogens like *E. coli* as well as the first time of other aggressive bacteria as *V. cholerae* and *Salmonella typhi*. Ogawa et al. [25] study described that breast feeding result in prevention in gastrointestinal infections as low pH, low volatile fatty acids, and high lactic acid concentrations make the colonic content of breast-fed babies an environment favourable for Bifidobacteria growth, and this is probably the main protective factor against gastrointestinal infections. Protection against necrotising enterocolitis by human milk is also well accepted by a numbers of studies [26,27]. Dewey et al. [28] study also concluded less diarrhoeal and otitis media episodes in breastfed baby as compared to formula fed baby.
6. Breastfeeding reduced the risk of acquiring urinary tract infections after birth [29,30].
7. Breastfeeding halved the risk of sudden infant death syndrome in children up to the age of one [31].
8. There is evidence that breastfeeding for at least 4 months, compared with feeding formula made with intact cow milk protein, prevents or delays the occurrence of atopic dermatitis, cow milk allergy, and wheezing in early childhood [32].

9. Breastfeeding is associated with a reduction in childhood obesity risk [33,34]. Huh et al. [35] study showed that among children who were never breast-fed (or formula-fed infants) or who stopped breast-feeding before the age of 4 months - introducing solid foods before the age of 4 month was linked to a sixfold increase in the risk of obesity. Koletzko et al. [36] studies indicate that breast feeding reduces the odds ratio for obesity at school age by about 20%, relative to formula feeding.
10. Isaacs et al. [37] study concluded the hypothesis that the practice of breast feeding is results in higher cognitive level, at least in males. Horwood et al. [38] suggest the similar opinion that breast milk feeding may have small long term benefits for child cognitive development. Kramer et al. [39] study also provides evidence that prolonged and exclusive breastfeeding improves children's cognitive development.
11. Pabst and Spady [40] findings gives evidence that breast-feeding enhances the active immune response in the first year of life.
12. Breastfeeding also helpful in slight prevention of childhood acute leukaemia or lymphoma [41,42]. Davis [43] study results suggest that children who are never breast-fed or are breast-fed short-term have a higher risk than those breast-fed for more than 6 months of developing Hodgkin's disease.
13. Pettitt et al. [44] study noticed that exclusive breastfeeding for the first 2 months of life is associated with a significantly lower rate of NIDDM in Pima Indians.

#### Benefits to the mother

1. Breastfeeding is convenient and less time consuming. Breast milk is readily available all the time at the desired temperature. There is no need to buy feeding bottles and artificial milk and no time is wasted for sterilization of bottles and preparation of feeds.
2. Women who breastfed their infants had less anxiety and more mutuality than the women bottle feeding their infants as proved by various studies [45].
3. Breastfeeding soon after birth provides protection against pregnancy due to lactational amenorrhoea. Elias et al. [46] study noticed that women remained amenorrhoeic who nursed frequently (more than eight times per day) during exclusive breastfeeding longer than infrequent nursers, introduced supplements later and did not resume menses as promptly thereafter.
4. Decreases in postpartum weight retention also noticed after encouraging prolonged breast feeding [47].
5. Long duration of lactation was associated with a reduced risk of coronary heart disease [48]. Schwarz et al. [49] study concluded that there are increased risks of vascular changes associated with future cardiovascular disease in mothers who do not breastfeed their infants.
6. Mothers who breast feed their babies have a reduced risk of breast cancer, ovarian cancer, and endometrial cancer [50-53].
7. Pikwer et al. [54] study concluded that long-term breast feeding, but not OC use, was associated with a significant reduction in the risk of RA.

## Substitute of Breast Milk (During its Unavailability)

In Ayurvedic texts, there are descriptions about the substitute milk in case of non availability of milk of mother or wet nurse. Acharya Sushruta [2] advised that when mother or wet-nurse is unable to feed due to any reasons, Goat or Cow's milk should be given in appropriate amount until the mother or wet-nurse does not regain sufficient milk or else till the child cannot thrive properly without milk. Vagbhata [6] advised that goat or cow's milk should be given to the child after medicating it either with decoction of laghu-panchmoola or both sthiraas and mixed with sugar. There are several nutritional, physiological and biochemical differences between the human and cow's milk. The whey protein in human milk is easily digestible and human milk lipase promotes fat digestion. The nutrients available in the human milk are more readily absorbed and better utilised due to higher biological efficiency. Antibodies that are in breast milk are not in cow's milk/formula and cannot be artificially produced. The amount of protein in cow's milk/formula is at least double the amount in breast milk and is also a different and less digestible type. Cow's milk/formula has smaller amounts of carbohydrates than breast milk. The fat in cow's milk/formula is very different than the fat in breast milk and digestibility is poor. Tetany, late onset metabolic acidosis, milk allergy, iron deficiency anaemia, dental caries, Zn and Copper deficiency are diseases related commonly to the cow's milk feeding. In Ayurvedic classics, it is clear advised that if the child is given breast milk of different woman or lactating woman is frequently changed, then the child suffers from various diseases because this changed milk becomes *asatmaya* (non congenial) [2].

## Stanya Apanayanakala (Weaning Period)

Acharya Vagbhata [6] told that gradual weaning should be done after eruption of teeth and child should be given goat or cow's milk with light and brihana diet. Stanya apanayana-vidhi (method of weaning) also discussed in detail in Ayurvedic texts. Weaning is a transition period in which solid and table foods replace the milk or formula. Between 6 and 12 month of age, after the baby become familiar to solid foods and liquids by bottle and/or cup, most infants decrease the volume and frequency of breast feeding. Weaning begins at 6 month of age, in the beginning introduce one food at a time while milk should continue to 12 month and gradually formula or cow's milk is then substituted. While introducing solid feed encourage a cup rather than a bottle.

## Conditions Unfit/Contraindication of Breastfeeding

In Ayurvedic texts, acharyas enlisted various physical and psychologically disorders of woman in which mothers breast feeding unfit as the woman who is *kshudhita* (hungry), *shokaarta* (having grief), *shranta* (get tired), *dustadhatu* (vitiating of bodily tissues), *garbhini* (pregnant), *javerita* (suffering from fever), *kshina* (emaciated), *atisthula* (obese), and taking non-congenial diets etc., should not give breast feeds to the child. The child whose recently ingested medicine is not assimilated should also not be given the breastfeed etc. [2,6]. In modern medicine, there are also few maternal contraindications to breastfeeding: mothers with septicemia, active tuberculosis, typhoid fever, breast cancer, or malaria should not breast-feed. Some conditions such as substance abuse and severe neuroses or psychoses, mother suffering with active HIV infection and infants with galactosemia are contraindications to breastfeeding.

## Treatment of Stanyanasa (Cessation of Breast Milk) and Stanyakshya (Loss of Milk)

Acharyas describe various treatment formulations in cases of stanyanasa and stanyakshya as cereals, meat, cow's milk, sugar, curd and use of desired things cure stanyakshya [8]. Happiness, absence of sorrow, anger, fear, and avoidance of excessive walking [7]. Use of stanyajanan dravya (drugs capable of increasing amount of milk) as decoction of roots of Viran, Shalli, Shshthika, Ekshuvalika (*Saccharum officinarum*), Darbha (*Imperata cylindrical*), Kusha (*Desmostachya bipinnata*), Kasha (*Saccharum spontaneum*), Gundra, Itkata, Katrina [1]. Pestled tila (*Sesamum indicum*), lashuna (*Allium sativum*), fish, sringataka (*Trapa natans*), vidarikanda (*Pueraria tuberosa*), madhuka, alabu also used to stanyajanan [8], Satavari (*Asparagus racemosus*) pestled with milk.

## Conclusion

In conclusion, significant and long-term health benefits are associated with breastfeeding for the individual mother, baby and society. Breastfeeding is the ideal way to feed babies; Breast milk serves both as a source of nutrition and immunological support for the developing infant. Ayurvedic texts describe in detail about normal/abnormal breasts and their effect upon the child, wet nurse, importance and formation of breast milk, method of breast feeding, conditions of woman unfit for breast feeding, abnormalities of breast milk, vitiating of breast milk, substitute milk, and general treatment of stanyanasa etc.

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