A conceptual study on Stanya: An ayurvedic review

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Abstract
Breast milk is the nectar to the child, which gives many benefits to both mother and child. Ayurveda Classics praised the breast milk very much and proposed the exclusive breast feeding up to 6 months and continuation up to 1yr or more. The WHO recommends exclusive breastfeeding for the first six months of life, after which “infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond. The AAP recommends exclusive breastfeeding for the first six months of life. Furthermore, “breastfeeding should be continued for at least the first year of life and beyond for as long as mutually desired by mother and child.

Keywords: Stanya, breastfeeding, breast milk

1. Introduction
Due to adaptation of Western life style and more expose towards stress and strain, the women facing many problems. Amongst these, Stanya Kshaya is major problem, which seems to be very simple condition but pertaining to children’s health it is a major problem. In Asian & Tropical countries like India prevalence of lactational deficiency may be 30-40%. Breast feeding promotes close physical and emotional bonding between the mother and child leading to better parent-child adjustment. It is clean, uncontaminated, contains several anti infective factors that protect baby from infection. It enhances development and intelligence. Breast feed infants have higher intelligence, social & psychomotor capabilities. Stanya kshaya is the common problem in day to day life due to stress and busy Schedule. Due to adaptation of Western culture, women get exposed to stress and strain. Lactation is the process associated with psychosomatic condition and life style. Breast milk is the perfect food for a normal neonate. It is the best gift a mother can give her baby. Breast feeding is the ideal form of infant feeding and is crucial for lifelong health and well being.

2. Stana (Breast)
2.1 Paryaya
Paryaya includes, Kucha, Payodhara, Dugdhotpadaka granthi.

2.2 Anatomy of stana
Stanas are the stanyashaya[1]. They are the place of the stanya. Ashaya[2] is defined as the spaces, where the dhatus are located in normal conditions. Stanyashaya is a reservoir of stanya or breast milk[3].

2.3 Number
Kashyapa while describing the organs of abdominal cavity mentioned that, breasts are two in number and are considered as sub-parts of the body[4]. Peshi:- Peshi is a complex structure made-up of mamsa[5]. Twenty additional peshis are present in female. Five in each breast, which develop during the youth.

2.4 Dhamani
There are two stanyavaha dhamanis in relation to stanya[6].

2.5 Srotas
Srotas are defined as the channel in which dhatus like rasa flow[7]. These are of two kinds. They are 1. Antarmukha srotas 2. Bahirmukha srotas
There are nine external apertures (bahirmukh srotas) are present in both male and female. In
female three more external apertures are counted as two stana and one garbhashaya mukha [8].

2.6 Marma
Marma is the seat for jeeva [9]. Charak explained that the marmas are such points, where the sense of pain is felt more intensively comparing to other parts of the body [10]. Stana moola and Stanarohita two marmas are found in the breast.

2.7 Stanamoola [11].
These are two in number, one on either side. According to effect on it, it is kalantara prana-hara marma and as per structural classification, it is mamsa marma. These marmas are located below the stana on both sides and measures about two anguli. On injury, they lead to kapha poorna koshta, kasa, swasa and consequently death.

2.8 According to Pramana Shareera
Breast areola (Chuchuka) measures two angula in length. The width between two breasts is 12 angulas [12]. Anguli is the unit of measurement. It is fixed as swanguli, length of one’s own middle phalanx of middle finger.

2.9 Importance of Stana
Bhavamishra divided 6 parts of the body (Shadangatwam) for descriptive purposes on the basis of their importance. Shiras is the seat for sensory organs. Hridaya, phuppusa, and stana are important structures in the URA (thoracic) region [13].

2.10 Stana-Sampat (Features of ideal breast)
The excellence of breasts consists of, breasts not too highly positioned, not too long, not too corpulent, not too thin, having nipples of appropriate size, presence of black mole, nipples not retracted and easy for suckling. Thus is the excellence breast [14].

3. Material and Method
Material related to this topics have been collected from different journals, Ayurvedic and Modern text books, Authentic websites (PubMed, Drug Bank, NCBI, Medicinal Plants websites like CMAP, CDRI etc.), Reputed Magazines, Authentic literatures, Manuscripts, Sanskrit Dictionary etc.

4. Stanya (Breast milk) Paryaya
Dugdha, Kshira, Payas, Stanya, Balajivana [15].

4.1 Formation of Stanya
After digestion of food the rasa is formed. Sweet essence, a part of this rasa, circulating though entire body by the action of vyana vata reaches breasts and is termed as stanya. Rasa and stany a both are derived from essence of rasadhatu. This is the opinion of Acharya Sushruta [16]. Acharya Bhavamisra [17] and Yogaratnakara [18] have same view. In the concept of garbiaposhana Acharya Charak [19] and Acharya Bhela [20] opine that, the ahara consumed by garbini serves three functions. They are -

1. Matru pusti
2. Garbha pusti
3. Stana pusti

It is accepted by Sushruta Acharya [21] also. According to Charak [22] rasadhatu nourishes, stanya. Sarangadhara consider stanya as upadhatu of rasa Dhatu [23], Harita explains that what-so-ever is ingested by the woman; same traveling through kshiravahisira and getting mixed with pitta reaches jathara. There it gets digested by agni, reaches the sira of breast and is ultimately discharged. The secretion having association of agni and soma is known as milk. The blood due to action of pitta gets suppurated and becomes white. In young girls due to less strength of dhatu and in vandhyya women due to filling-up of a milk-carrying channel by vyau, the milk is not formed [24]. In Astangasangraha while describing garbhaposhana, said that from the ahararasra itself stanya is formed [25]. Raja and stanya both are the derived from the essence part of rasa and stanya is upadhatu of rasadhatu [26]. So in the above description, formation of stanya from aharara and rasa dhatu is mentioned. But Maharshi Kashyapara while describing raktagulma says, some quantity of blood of mother nourishes the body– parts of fetus, some is for the production of breast-milk and remaining part for the nourishment of the mother’s body. So he explains about the formation of stanya from rakt. Further he explains, in the same way raja blood after delivery of fetus immediately forms the breast-milk. The left over part in the form of blood circulates in the body and yoni. After replenishment of dhatu and steadiness of body, thus accumulated blood, leaves the yoni in appropriate time [27]. So he explains formation of stanya from raja. In Astanga Sangraha Acharya Vagbhata, describe that the channels of menstrual blood get blocked by the fetus. Therefore, there will be no flow of menstrual blood. Thus being blocked in the downward path it goes, into the formation of the apara, some other say it forms jarayu, with the cessation of menstrual flow there will be appearance of lines of romaraji (linea nigra). The blood remaining after the formation of the jarayu moves still-up and makes for increase in size of the cheeks and breasts and black colouration of the lips and nipples. Getting localized in the breasts and associated with kapha, it helps in the production of the breast-milk which gets nourished by the food the women takes after delivery. So he describes formation of stanya from raja [28]. Bhela has included stanya amongst ten pranayatanas (seat of life) [29].

To conclude according to different Acharyas stanya utpatti is described as follows-

1. From rasa and from ahararasra.
2. From raka.
3. From raja.

4.2 Causes of stanya pravrutti
Stanya flows out by the sight, thought or touch of the child (sucking reflex). Even the remembrance of child, pravrutti of stanya takes place [30]. After delivery on 3rd or 4th day, the dhamanis or siras situated in hridaya region get dilated and initiate milk ejection (ejection reflex) [31]. Harita explains that due to the force used during bearing down efforts by the delivering (parturient) women, her srotases get clears, leading to sudden milk ejection. However, this milk is thick due to dominance of kapha, hence should be discarded [32]. Bhavaprakasha [33] and Madhavanidana [34] and Susruta have same opinions about the stanya pravrutti.

Stanya pramana (Quantity of stanya)
Amount of stanya is two Anjali [35].

4.3 Stanya Sampati
a. According to Charak
The excellent milk has normal colour, smell, taste and touch.
Dissolves completely in water if milked in a water pot because of its (watery) nature. Such milk is nourishing and health giving. Thus is the excellence of breast milk [36]. The woman’s milk promotes longevity and nourishment. It is wholesome and unctuous. Its nasal instillation cures raktapitta. When used in akshi-tarpana therapy it cures pain in the eyes used in netravisyanda [37].

b. According to Sushruta
The breast-milk, which put in water becomes one with it, is pale, sweet and free from abnormal colour, and should be known as normal [38].
Sushruta says that the pure milk is cold, clean or free from impurities, whitish yellow or just like the colour of conch-shell, sweet in taste and free from discoloration, when put in water it mixes evenly, neither produces froth nor streaks, neither floats nor settles down. This type of milk produces good health, growth, and development of body as well as gives strength to the child [39].

c. According to Astanga Sangraha and Astanga Hridaya
Both the Vagbhatas agreeing with above say that it should not be vitiated by doshas [40].

d. According to Kashyapa
Kashyapa without mentioning any physical characters says that the pure milk is that which provides unobstructed, easy and good growth of strength, different body. Parts, longevity as well as good health too the child and does not cause any pain or trouble to the child and wet-nurse [41].

e. According to Bhavaprakash
That milk is considered pure which mixes evenly with water, which is not discoloured, not having threads inside, white in colour, thin and cold [42].
Woman’s milk is easily digestible, cold in potency, increases digestive fire, mitigates vata and pitta, cures pain and injury of the eyes and is best for nasal medication, eye drops therapy [43].

f. According to Madhava nidana
That which mixes evenly with water, not vitiated, which has yellow colour, free from discoloration, pleasant sweet in taste is said to be pure [44].

g. According to Harita
Harita defining mrudusira as pure milk adds satwa and beauty also in the list which are achieved by using pure milk [45]. Harita has explained properties of stanya according to the complexion of the mother [46].

4.4 Stanya dusti
If stanya is abnormal in colour, smell, taste, touch and having other abnormal gunas, it will be impure. This stanya can’t provide nourishment and good health to child. This stanya may be called dusta. It is necessary to identify the difference between prakruta and dusta stanya. Due to indigestion, consumption of non-congenial, excessively salty, sour, hot, kshareeya food, diseases of body and mind, awaking in the night, over worry, suppression of natural urges and attempt to excrete faeces etc. in absence of their urges; use of dishes made of jaggery, oleo, curd, slowly formed curd, fish, abhishyandi articles, meat and wine, absence of exercise, trauma, anger, the doshas gets vitiated. These vitiated doshas moving through kshiravaha siras vitiate the milk and produce eight types of milk disorders [47]. Sushruta [48], Vagbhata [49], Madhava nidana [50], Bhavaprakash [51] and Yogaratnakar [52] have also given similar causes.

4.5 Milk vitiated by two doshas together or dwandwaja [56]
When the milk is vitiated by two dosha, physical characters of both the doshas appears and child also manifests the symptoms of both doshas.

4.6 Milk vitiated by all three doshas [47]
Milk vitiated by all the three doshas together exhibits physical characters as well as symptomatology of all doshas. Child becomes lame and dumb by consuming milk vitiated with tridoshas. Due to this the child passes stool mixed with ama, has various colours.

4.7 Abhhighata stanya dusti [58]
Milk vitiated due to trauma. Madhukosha commentary has explained that this causes similar symptoms as with milk vitiated due to vata. Milk vitiated by grahas [59]: Milk vitiated by shakuni graha will be hot and bitter. Milk vitiated by shakuni and shasthi graham will have characters of tridoshas. Milk vitiated by putana graham will be sweet and hot. Milk vitiated by other grahas will have features of two doshas.

4.8 Effect of consumption of milk of different colours and taste upon child
I. Disorders produced due to specific taste (Kashyapa) [60]
a. Kashyaya rasa - Retention of urine and feces.
   b. Madhura rasa - Excessive excretion of urine and feces.
II. Disorders produced by pitta (Vagbhata I) [61]
a. Tamravbhasa- Feeling of compression, cramps or pain in cardiac region.
b. Amla anuras- Amlapitta.
c. Katu anurasa- Vomiting, diarrhoea, cough and dyspnoea.
d. Bhrusoshana- Burning, fever and diarrhoea.
III. Disorders produced by kapha (Vagbhata I) [62]
a. Lavan anuras- Visarpa, kotha and kandu.
b. Tantumata- Weakness, dyspnoea and cough.
c. Guru- Lethargy, coryza and kshiralasaka.

5. Contra-indication for breast feeding acc. to Ayurveda
In Ayurveda classics, certain conditions are mentioned where breast- feeding is contraindicated.

5.1 According to Sushruta Samhita
The child should not be made to suck the breast of one is hungry, aggrieved, tried, has vitiated dhatus is present, suffering from fever, excessively emaciated or obese and using semi-cooked and incompatible food. Moreover the child should not suck the breasts when drug taken by him is not digested. Because there is risk of aggravation by doshas, dhatu and malas [65].

5.2 According to Astanga Sangraha
The child should not be fed with the breast milk of the women who is hungry, grief stricken, tired, exhausted, and angry, whose tissues are diseased, who is pregnant, and who is in habit of taking unhealthy foods. The women should not breast-feed the body when drug administered to the child is not digested.
5.3 According to Astanga Hridaya
Breast-milk of those who indulge in incompatible food, who are hungry (due to either fasting or starvation) unconscious, having vitiation of the tissues (suffering from disease) are pregnant, may produce disease in children (67).

6. Weaning
6.1 According to Astanga-sangraha: Stanpanayana
After the eruption of the teeth, the baby should be taken away from the breast slowly (Over long period). It should then be fed with milk described earlier (the child should drink the milk of a goat or a cow, possessing similar qualities, boiled and drugs of laghu panchamoola or with the two, shaliparni and prisniparni and anna (boiled rice or other solid foods). Which is easily digestible and stoutening the body (68).

6.2 According to Astanga-hridaya: Stanpanayana
With the eruption of the teeth, the child should be gradually weaned from the breast. Other kinds of milk (milk of goats and milk of cow) and boiled rice and such foods which are easily digestible and nourishing should be given (69).

7. Discussion
Stanya and Artava are upadhatus of Rasa. By definition, Upadhatus are those which get nourished by corresponding dhatu and they do not nourish other entities. That means there is no further transformation of that entity and Bhoja clearly indicates that upadhatus are free from Gati, they can’t move anywhere. Many times we fail to ask or some points may be escaped out of our mind while counseling a stanya kshaya patient, which do not yield proper result in treatment. First we have to be clear regarding rasa dhatu; Sushrutacharya in sutra sthana 14th chapter explained the transformation of rasa dhatu without leaving any doubts. Rasa dhatu is the ultimate outcome of food which possess all following criteria; It should include pancha bhoutika constitutes. It should include chaturvidha anna (bhojya, bhakshya, lehya & peya), Shadrasayukta food., Foods constituting dwi-vidha & ashta-vidha veerya., Food which include many properties sufficient to maintain the tridoshic balance. Such food after digestion becomes two parts viz, Sara and Kitta, the tejo rupa saara bhaga which is micro in size known as Rasa. Hence any defect in above criteria obviously vitiates rasa dhatu and further it vitiates its upadhatus.

From Rakta dhatu: According to Kashyapa, after fertilization, some quantity of blood nourishes breast milk in pregnant lady. Hormonal response in Mammonogenesis and Lactogenesis can be correlated with production of breast milk from raktha dhatu; blood is the only media for circulation of hormones and obviously the blood carries the breast milk producing hormones. In this way blood play role in production of breast milk.

From Raja: Even though upadhatus cannot nourish other entity in the body, the Raja nourish Stanya, it may seem like Shasra viruddha or tantra dosha. But virtually, the actual cause is the left over Raja after formation of garbha goes upward to Stana and there by the action of pitta, colour of raja changes from red to pale white and transformed into Stanya. The ‘Piyusha (Colostrum)’ actually resembles this type of Stanya. Charaka Maharshi in Nidana Sthana Idana adhyaya, in the context of Shonita Gulma Laxana told that that lady develops Stanya. Chakrapani commenting on this word told that Stanya exist only due to ‘avarodha of raja’. Anatomically we will find 2 urdhwagamani dhamani and 4 adhogami dhamani for shukra vahana in males. In that 2 urdhwagamani dhamanis are homologous with stanyavaha dhamani in female, where as 4 adhogami dhamanis are homologous with artava vahi dhamani in female. So there is same one channel for transportation of both stree shukra and artava in female, hence obstruction of artava causes Simarga gamana of that which reaches Stana ultimately as Stana is the mula sthana of Shukra. There by the action of pitta converts it physically into Stanya, this can be correlated with role of reproductive hormones such as estrogen, progesterone, prolactin, oxytocin, etc. in the formation of stanya.

Varieties of modes of therapies are available to correct the lactation. In Ayurveda (In Yoga Rathnakara) Bhumiikushmaha ksheerapaka is said to be stanya vriddhikara i.e. Lactogogue. Vidari is drug of choice for Stanya janana. Keeping these aspects in mind, this study has been undertaken. It is an attempt to verify the claim that Bhumiikushmaha is a Galactogogue.

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