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Review Article

A Literary Review of Stanya Janana Mahakashaya and Its Relevance to Low Breast Milk Production in Contemporary Women

Guide: Vd. Tejaswini A. Kondekar¹, Miss Zeba Mohamed Sajid Mogal²¹ Assistant Professor, Department of Dravyaguna Vigyan, Dr. JJ Magdum Ayurved Medical College, Jaysingpur, Maharashtra, India.Email: tejas27wini@gmail.com² 2nd Professional BAMS, Dr. JJ Magdum Ayurved Medical College, Jaysingpur, Maharashtra, India.Email: zebamogal19@gmail.com

Abstract

Breastfeeding is an important component of early-life nutrition and provides energy, nutrients, immunological protection and developmental support to the infant. Perceived or actual low milk production may interfere with successful breastfeeding and can arise from multiple maternal, infant and breastfeeding-related factors. Contemporary lactation physiology identifies prolactin as a major hormone involved in milk synthesis and oxytocin as the principal mediator of milk ejection, while effective and regular removal of milk remains a key determinant of ongoing production [1–6]. In Ayurveda, Stanya is described in relation to Rasa Dhatu, and inadequate lactation is discussed under the concept of Stanya Kshaya. Among the classical therapeutic groups, Stanya Janana Mahakashaya of Charaka Samhita comprises ten drugs traditionally indicated for promotion of breast milk [7,8]. This narrative review examines the classical basis of Stanya and Stanya Kshaya, the ten constituents of Stanya Janana Mahakashaya, their Rasa Panchaka and the possible relationship between Ayurvedic concepts and contemporary lactation physiology. The review also considers reported phytochemical and nutritional characteristics of the constituent drugs. Most members of the group are described as Madhura-dominant and nourishing, with properties that may be interpreted within Ayurveda as supportive of Rasa Dhatu Poshana and Stanya

Utpatti. However, direct clinical evidence for the galactagogue efficacy of the complete Mahakashaya or of individual constituents remains limited. Accordingly, the classical rationale should be viewed as a basis for further pharmacological, phytochemical and clinical investigation rather than as proof of clinical efficacy.

Keywords: *Stanya Janana Mahakashaya; Stanya Kshaya; lactation insufficiency; breastfeeding; prolactin; oxytocin; Rasa Dhatu; Ayurveda; galactagogue.*

Introduction

Human milk is biologically adapted to the nutritional and developmental needs of the infant and is an important source of nutrients and immune protection. Successful breastfeeding depends on the interaction of maternal physiology, infant feeding behaviour, breast stimulation and milk removal. Low milk production may be associated with ineffective attachment or milk transfer, infrequent feeding, maternal illness, severe fatigue, psychological stress, delayed initiation of breastfeeding and other maternal or infant factors [1–6].

From the modern physiological perspective, lactation is a neuroendocrine process. Suckling generates neural signals from the nipple–areola complex to the hypothalamus, resulting in pituitary hormonal responses. Prolactin supports milk synthesis, whereas oxytocin produces contraction of the myoepithelial cells surrounding the mammary alveoli and thereby

facilitates milk ejection. After establishment of lactation, regular and effective removal of milk is particularly important for maintaining production [3–6].

Ayurveda approaches breast milk as Stanya and relates its formation to the nourishment of Rasa Dhatu. The classics describe Stanya Kshaya as a state of reduced breast milk and discuss dietary, behavioural, psychological and medicinal approaches to its management [7–10]. Charaka Samhita places Stanya Janana Mahakashaya among the Mahakashaya groups and identifies ten substances with Stanyajanana action [7].

The present review therefore attempts to bring the classical description into a contemporary academic framework without equating traditional concepts with established biomedical mechanisms. The emphasis is on conceptual correlation and on identifying areas in which experimental and clinical research is still required.

Aim

To critically review Stanya Janana Mahakashaya in relation to the Ayurvedic concept of Stanya Kshaya, contemporary lactation physiology and the available information on the constituents of the ten-drug group.

Objectives

- To review the Ayurvedic concept of Stanya and Stanya Kshaya.
- To describe the ten constituents of Stanya Janana Mahakashaya according to classical literature.
- To examine the Rasa Panchaka and traditional pharmacodynamic rationale of the group.
- To explore possible conceptual relationships between Ayurvedic Stanyajanana action and contemporary lactation physiology.
- To identify limitations in the present evidence and areas for future research.

Materials and Methods

This manuscript was prepared as a narrative literary review. Classical Ayurvedic sources cited in the manuscript were used for information concerning Stanya, Stanya Kshaya, Stanya Janana Mahakashaya and Ayurvedic pharmacodynamic attributes. Standard obstetric and physiology texts and authoritative breastfeeding resources were consulted for contemporary lactation physiology. Published review literature and available pharmacognostic/phytochemical reports were considered for modern correlation. The review did not involve human participants, animals, intervention

or collection of primary clinical data; therefore, ethical approval was not applicable.

Review of Literature

Contemporary Physiology of Lactation

Lactation involves development of the mammary gland, initiation of milk secretion after delivery, maintenance of secretion and movement of milk from the alveoli to the nipple. During pregnancy, mammary tissue undergoes structural and functional preparation under the influence of several hormones. Following delivery and placental separation, the fall in progesterone and oestrogen permits prolactin-dependent secretory activity to become fully expressed [3–6].

Milk Synthesis and Prolactin

Prolactin is released from the anterior pituitary in response to suckling-related hypothalamic signalling. The hormone acts on mammary epithelial cells and supports synthesis of major components of milk. Regular nipple stimulation and effective milk removal are therefore central to the physiological maintenance of milk production [3–6].

Milk Ejection and Oxytocin

Milk that has been synthesized in the alveoli must be transferred into the ductal system for effective feeding. Sensory stimulation during suckling promotes oxytocin release from the posterior pituitary. Oxytocin causes contraction of mammary myoepithelial cells and facilitates milk ejection, commonly referred to as the let-down reflex. Psychological stress and discomfort may interfere with this reflex in some women [3–6].

Factors Associated with Reduced Milk Production or Ineffective Milk Transfer

- Infrequent or ineffective breast stimulation and milk removal.
- Poor positioning, attachment or infant milk transfer.
- Maternal exhaustion, anxiety or significant psychological distress.
- Maternal nutritional inadequacy or dehydration.
- Postpartum illness or substantial blood loss.
- Endocrine or other medical disorders affecting lactation.

- Delayed initiation of breastfeeding or unnecessary supplementation that reduces breast stimulation.
- Infant factors that interfere with effective suckling.

Ayurvedic Concept of Stanya

Ayurvedic texts describe Stanya as the nourishment provided by the lactating mother to the infant and associate its formation with Rasa Dhatu. The classical expression 'Rasasya Upadhatu Stanyam' is commonly used to convey the relationship of Stanya with Rasa Dhatu [7,8]. Within this framework, adequate formation and nourishment of Rasa Dhatu are considered important for the normal production of breast milk.

Stanya Utpatti may therefore be represented conceptually as: Ahara → Jatharagni → Ahara Rasa → Rasa Dhatu nourishment → formation of Upadhatu including Stanya. This is an Ayurvedic explanatory model and should not be interpreted as a direct anatomical description of mammary milk synthesis.

Stanya Kshaya

Stanya Kshaya refers to diminution of breast milk. Ayurvedic discussions associate reduced Stanya with inadequate nourishment, excessive exertion or fasting, emotional disturbances, disturbed sleep and factors that aggravate Vata, among other causes [7–10]. These classical descriptions show that Ayurveda considers lactation to be influenced by diet, activity, mental state and general maternal strength rather than by a single isolated factor.

Management Principles of Stanya Kshaya

- Rasa Dhatu Poshana through appropriate nourishment.
- Brimhana measures where depletion or weakness is present.
- Appropriate Ahara and Vihara during the postpartum period.
- Attention to psychological comfort and maternal rest.
- Management of factors associated with Vata aggravation.
- Use of Stanya Janana Dravyas when clinically appropriate.

Stanya Janana Mahakashaya

Stanya Janana Mahakashaya is one of the Mahakashaya groups described in Charaka Samhita

Sutra Sthana 4. The classical group contains ten substances designated for Stanyajanana, i.e., promotion of breast milk [7]. The list includes Veerana, Shali, Shashtika Shali, Ikshuvalika, Darbha, Kusha, Kasha, Gundra, Itkata and Katruna [7,11,12]. Classical and later Ayurvedic sources differ in the botanical identification assigned to some of these names. Therefore, botanical nomenclature should be confirmed against the Ayurvedic Pharmacopoeia of India and the pharmacopoeial source adopted by the journal before final publication. Where identity is disputed, the uncertainty should be explicitly reported rather than presenting one identification as universally established.

Ayurvedic Pharmacodynamic Rationale

The traditional rationale of Stanya Janana Mahakashaya is primarily understood through Rasa Panchaka and the relationship between nourishment and Stanya formation. Several constituents are described with Madhura Rasa, Madhura Vipaka and Sheeta Veerya, along with Guru or Snigdha qualities in individual drugs. Within Ayurvedic reasoning, Madhura and Brimhana attributes are associated with nourishment and tissue building, while Snigdha and Sheeta qualities are interpreted as supportive of fluid balance and reduction of excessive depletion [7,11,12].

These descriptions should be presented as traditional pharmacodynamic interpretations. They do not by themselves demonstrate increased prolactin concentration, increased milk volume or clinical effectiveness in women with lactation insufficiency.

Summary of the Ten Constituents

N o.	Class ical name	Reported identificatio n	Key tradition al attribute s	Propose d relevanc e
1	Veera na	Vetiveria zizanioides	Madhura/ Tikta; Laghu-Snigdha; Sheeta	Tradition al nourishm ent and Stanyaja nana rationale
2	Shali	Oryza sativa	Madhura; Guru-Snigdha; Sheeta	Nutritive and Brimhan a support

3	Shash tika Shali	A variety of rice; Oryza sativa is commonly cited	Madhura; Guru- Snigdha; Sheeta	Nutritive and restorativ e support
4	Ikshu valika	Hygrophila/ Asteracantha group reported in literature; identity requires pharmacopoe ial confirmation	Madhura- dominant; Snigdha/ Pichila; Sheeta	Tradition al Stanyaja nana and Balya rationale
5	Darbh a	Imperata cylindrica is reported in several secondary sources; identity should be pharmacopoe ially confirmed	Madhura- Kashaya; Laghu- Snigdha; Sheeta	Tradition al nourishm ent and fluid- related action
6	Kush a	Desmostachy a bipinnata	Madhura- Kashaya; Laghu- Snigdha; Sheeta	Tradition al Stanyaja nana and Mutrala action
7	Kasha	Saccharum spontaneum	Madhura/ Kashaya; Sheeta	Tradition al Balya and Stanyaja nana rationale
8	Gund ra	Identity varies among secondary sources	Madhura- Kashaya; Guru; Sheeta	Tradition al Stanyaja nana attributio n
9	Itkata	Identity is disputed in secondary literature	Madhura; Sheeta in several sources	Tradition al Stanyaja nana attributio n
10	Katru na	Cymbopogo n species are reported; exact identity	Tradition ally described differentl y from the	May have a distinct Deepana/ Pachana

		should be confirmed	predomin antly Madhura group	rationale in some sources
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Modern Nutritional and Phytochemical Perspective

Some constituents of the Mahakashaya have documented nutritional or phytochemical components, including carbohydrates, proteins, minerals, phenolic compounds, flavonoids, terpenoids and volatile constituents, depending on the plant and the part examined [13–15]. Such constituents may contribute to general nutritional adequacy or antioxidant capacity. However, the presence of a phytochemical in a plant should not be interpreted as evidence that the plant increases human milk production.

Similarly, the proposed relationship between plant constituents and prolactin, oxytocin or mammary function remains hypothetical unless demonstrated in appropriate experimental or clinical models. Evidence for individual plants in the Stanya Janana group is heterogeneous, and evidence for the complete ten-drug combination in lactating women is particularly limited. Consequently, the current literature supports a research hypothesis rather than a definitive pharmacological mechanism.

Conceptual Correlation with Modern Lactation

Physiology

Ayurvedic concept	Possible contempora ry correlate	Interpretiv e limitation
Rasa Dhatu Poshana	Adequate maternal nutritional status and physiologica l recovery	Rasa Dhatu is an Ayurvedic concept and is not equivalent to a single modern anatomical or biochemical compartment.
Brimhana	Nutritional and restorative support	Improved nutrition may support maternal health but

		does not automatically establish a galactagogue effect.
Stanya Janana	Potential support of milk production	Clinical increase in milk volume must be demonstrated experimentally or clinically.
Stanya Pravritti	Milk ejection/transfer	Oxytocin-mediated milk ejection is a modern physiological mechanism; Vata correlation remains conceptual.
Manasika factors	Stress and behavioural influences on breastfeeding	Psychological effects are multifactorial and should not be reduced to a single Dosha mechanism.
Sheeta/Snigdha/Madhura attributes	Traditional interpretation of fluid and nourishment	These properties do not have one-to-one biomedical equivalents.

Discussion

The principal strength of the Ayurvedic rationale for Stanya Janana Mahakashaya is its placement within a broader model of maternal nourishment, tissue support and postpartum balance. Rather than treating reduced milk production as an isolated mammary problem, the classical framework considers Ahara, Agni, Rasa Dhatu, mental state, activity and Dosha balance. This multidimensional approach has conceptual relevance because contemporary

breastfeeding outcomes are likewise influenced by maternal health, feeding technique, infant factors, milk removal and psychosocial circumstances [1–6]. The predominance of nourishing attributes among several members of the group is consistent with the classical interpretation that restoration of maternal nutritional status can support Stanya formation. Rice and other food-like or grass-derived materials may contribute nutrients, while some medicinal plants contain diverse secondary metabolites. Nevertheless, nutritional composition and phytochemical presence are indirect evidence and should not be used as substitutes for controlled lactation outcomes.

A second point of interest is the relationship between milk production and milk ejection. Modern physiology clearly distinguishes synthesis from ejection, with prolactin and oxytocin playing major roles respectively [3–6]. The Ayurvedic concept of Stanya Pravritti can be discussed as a conceptual parallel to milk flow, but the two frameworks should not be declared identical. Likewise, an Ayurvedic interpretation involving Vata and psychological factors can be presented as a traditional explanatory model rather than a demonstrated neuroendocrine pathway.

The existing literature on Stanya Janana Mahakashaya includes narrative reviews and pharmacological discussions, but there is a lack of well-designed clinical trials evaluating the complete Mahakashaya with standardized preparation, defined dosage and validated measures of milk production [12]. Future studies should distinguish perceived low supply from objectively assessed low milk transfer or production, control for breastfeeding technique and frequency, document maternal and infant characteristics, and use appropriate safety monitoring.

Another important issue is botanical authentication. Secondary Ayurvedic literature does not show complete agreement for some drug identities, including Ikshuvalika, Gundra, Itkata and Katruna [12–15]. For a publication intended for scientific or pharmacognostic readership, the source of botanical identification should therefore be stated explicitly and authenticated material should be used in experimental studies.

Limitations

- This is a narrative literary review and not a systematic review or meta-analysis.
- The available evidence for individual constituents and the complete Mahakashaya is limited and heterogeneous.

- Botanical identification of some classical drug names varies across secondary sources and requires pharmacopoeial confirmation.
- Most proposed modern mechanisms remain conceptual unless supported by experimental or clinical evidence.
- No primary clinical data were generated in the present work.

Conclusion

Stanya Janana Mahakashaya represents a classical Ayurvedic group of ten substances indicated for promotion of breast milk. Its traditional rationale is closely linked with nourishment of Rasa Dhatu, Brimhana and maintenance of maternal strength and fluid balance. These principles can be discussed alongside contemporary understanding of lactation, in which adequate maternal health, effective milk removal, prolactin-dependent synthesis and oxytocin-mediated milk ejection contribute to successful breastfeeding.

At present, however, the classical indication should not be presented as equivalent to clinically proven galactagogue efficacy. The available modern evidence is insufficient to establish the effectiveness, optimal dosage, standardized preparation, safety profile or mechanism of the complete Mahakashaya in women with low milk production. Well-designed pharmacological studies and adequately powered clinical trials are required before firm therapeutic recommendations can be made.

Future Scope

- Botanical authentication and pharmacognostic standardization of every constituent.
- Phytochemical profiling of the standardized ten-drug combination.
- Experimental assessment of possible effects on lactation-related pathways.
- Controlled clinical trials using objective measures of milk production or milk transfer.
- Evaluation of maternal and infant safety, dosage and duration of therapy.
- Research integrating Ayurvedic assessment with validated contemporary lactation measures.

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Publication Note

Before journal submission, the authors should verify all classical quotations against the edition of Charaka Samhita actually used, confirm botanical identities

against the current Ayurvedic Pharmacopoeia of India or the journal's accepted nomenclature, and update bibliographic details such as edition, year, volume, page range and DOI wherever available. Because this is a narrative review, the manuscript should be submitted as a Review Article rather than

an Original Research Article unless the target journal specifies otherwise.

