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A conceptual study of *Vachadi Gana*, *Haridradi Gana* and *Mustadi Gana* of *Sushruta* for its *Stanyashodhana* Property

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ABSTRACT

Stanya is a major source of nourishment for infants up to the age of one year, according to *Ayurvedic texts*. *Stanya* has all the required nutrients for a baby's growth and development. As a result, *Stanyapana* (breastfeeding) is needed from the beginning of a newborn's life. *Stanya* is beneficial not only for the baby's growth and development but also to the immune system, which aids in the battle against various ailments. However, if vitiated by *Doshas*, it can be the underlying cause of a variety of illnesses in both the mother and the child. So, the vitiated *Stanya* must be managed. In '*Dravyasmgrahaniya Adhyaya*' of *Sutrasthana*, *Acharya Sushruta* discussed 37 *Ganas*. Drugs in these *Ganas* are gathered so that they almost have common pharmacodynamic properties and similar pharmacological actions. Out of 37 *Ganas*, *Acharya Sushruta* specifically mentioned *Stanyashodhana* property under three *Ganas*: *Haridradi Gana*, *Vachadi Gana*, and *Mustadi Gana*.^[1] Hence, the purpose of this study is to compile, analyze, and justify the rationale for selecting these *Ganas* for their *Stanyashodhana* properties.

Key words: *Stanyashodhana*, *Stanya*, *Stanyadushti*, *Haridradi Gana*, *Vachadi Gana*, *Mustadi Gana*.

INTRODUCTION

The human race is experiencing a variety of health problems due to the adverse effects of globalization and urbanization. Plant-based medicines have long formed the bedrock of traditional medical systems in many countries. Because of the existence of phytochemical components, plant-based medicines continue to play a significant role in health care today.

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They serve a vital role in preventing disease and promoting good health.^[2] According to the World Health Organization, herbal medicines are used by 80% of people globally for basic health care. Around 21,000 plant species have the potential to be utilized as medicinal plants, according to the WHO. Plant pharmaceuticals are projected to account for up to 25% of total drugs in industrialized nations like the United States, while they account for up to 80% in fast-developing countries like India and China. Herbs, according to ancient experts, are only remedies to a variety of health-related issues and disorders.^[3]

In Classical literature, *Stanya* is mentioned as an *Upadhatu* of *Rasa Dhatu*,^[4] which is beneficial to the physiological and psychological development of newborns as *Stanya* promotes longevity and nourishment.^[5] This necessitates the need for a high-quality *Stanya*. *Stanyasodhana Gana* is a group of medicinal plants classified as Galacto-purifiers. The name is derived from two words: "*Stanya*," which means "Breast milk," and "*Shodhana*," which means

"Purify," implying that they enhance the quality of milk by cleansing and detoxifying if breast milk is vitiated.^[6] These drugs aid in the cleansing and detoxification of a mother's breast milk production, which is the source of a child's growth and wellness. As a result, this will aid in the prevention of probable breast illnesses in the mother as well as milk-borne infections in the newborn.

AIM AND OBJECTIVE

In this literary review, *Gana* having *Stanyashodhana* property described in *Sushruta Samhita* was compiled and reviewed to analyze their role in the purification of *Dushita Stanya* (impure breast milk).

MATERIALS AND METHODS

For the literary review, Classical texts as well as recent research papers and review articles were extensively searched to establish their relevance.

DRUG REVIEW

While managing the vitiation of *Stanya*, Classical texts of *Ayurveda* highlighted various drugs in different classical contexts. *Acharya Sushruta* mentioned three *Gana* for its *Stanyashodhana* property namely - *Vachadi Gana*, *Haridradi Gana*, and *Mustadi Gana*.

Ganas	No. of drugs
<i>Vachadi Gana</i>	6
<i>Haridradi Gana</i>	5
<i>Mustadi Gana</i>	16
Total 3 Ganas	27

Vachadi Gana

Drugs of Vachadi Gana

S N	Sanskrit Name	Botanical Name	Family	Part used
1.	<i>Vacha</i>	<i>Acorus calamus</i> Linn.	Araceae	Root

2.	<i>Nagarmotha</i>	<i>Cyperus rotundus</i> Linn.	Cyperaceae	Tubers
3.	<i>Ativisha</i>	<i>Aconitum heterophyllum</i> Wall.	Ranunculaceae	Root
4.	<i>Abhaya</i>	<i>Terminalia chebula</i> Retz.	Combretaceae	Fruit (pericarp)
5.	<i>Devadaru</i>	<i>Cedrus deodara</i> Roxb.	Pinaceae	Bark, heartwood, oil, leaves
6.	<i>Nagakeshara</i>	<i>Mesua ferrea</i> Linn.	Calophyllaceae	Stamens, leaves

Properties of Drugs of Vachadi Gana

S N	Sanskrit Name	Rasa	Vipaka	Virya	Guna	Dosha Pradhantia (As per P.V. Sharma)
1.	<i>Vacha</i>	<i>Katu, Tikta</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, Tikshna</i>	<i>Kapha-Vatashamka</i>
2.	<i>Nagarmotha</i>	<i>Tikta, Katu, Kashaya</i>	<i>Katu</i>	<i>Sheeta</i>	<i>Laghu, Ruksha</i>	<i>Kapha-Pittashamka</i>
3.	<i>Ativisha</i>	<i>Katu, Tikta</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu, Ruksha</i>	<i>Kapha-Pittashamka</i>
4.	<i>Abhaya</i>	<i>Pancharasa</i> (except <i>Lavana Kashayapradhana</i>)	<i>Madhur</i>	<i>Ushna</i>	<i>Laghu, Ruksha</i>	<i>Tridoshashamka</i>
5.	<i>Devadaru</i>	<i>Tikta</i>	<i>Katu</i>	<i>Ushna</i>	<i>Laghu Snighdha</i>	<i>Kapha-Vatashamka</i>

6.	Nagakeshara	Kashaya, Tikta	Katu	Ushna (Ishata)	Laghu Ruksha	Kapha-Pittashamka
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Haridradi Gana

Drugs of Haridradi Gana

S N	Sanskrit Name	Botanical Name	Family	Part used
1.	Haridra	Curcuma longa Linn.	Zingiberaceae	Rhizome
2.	Daru Haridra	Berberis aristata DC.	Berberidaceae	Root, stem, fruit, extract (Rasanjana)
3.	Kalasi / Prsniparni	Uraria picta Desv.	Fabaceae	Root
4.	Indrayava / Kutajabeeja	Holarrhena antidysenterica Wall.	Apocynaceae	Bark, leaves, seeds, flowers
5.	Yashti Madhu	Glycyrrhiza glabra Linn.	Fabaceae	Root

Properties of Haridradi Gana

S N	Sanskrit Name	Rasa	Vipaka	Virya	Guna	Dosha Pradhanta (As per P.V. Sharma)
1.	Haridra	Tikta, Katu	Katu	Ushna	Laghu, Ruksha	Kapha-Vatashamka
2.	Daru Haridra	Tikta, Kashaya	Katu	Ushna	Laghu, Ruksha	Kapha – Pittashamka
3.	Kalasi/ Prsniparni	Tikta, Kashaya	Katu	Ushna	Laghu, Snigdha	Tridoshashamka
4.	Indrayava/ Kutajabeeja	Tikta, Kashaya	Katu	Sheeta	Laghu, Ruksha	Tridoshashamka
5.	Yashti Madhu	Madhura	Madhura	Sheeta	Guru, Snigdha	Vata – Pittashamka

Mustadi Gana

Drugs of Mustadi Gana

S N	Sanskrit Name	Botanical Name	Family	Part used
1.	Musta	Cyperus rotundus Linn.	Cyperaceae	Tubers
2.	Haridra	Curcuma longa Linn.	Zingiberaceae	Rhizome
3.	Daru Haridra	Berberis aristata DC.	Berberidaceae	Root, stem, fruit, extract (Rasanjana)
4.	Haritaki	Terminalia chebula Retz.	Combretaceae	Fruit (pericarp)
5.	Amalaki	Embilica officinalis Gaertn.	Euphorbiaceae	Fruit (pericarp)
6.	Bibhitaki	Terminalia bellirica Roxb.	Combretaceae	Fruit (pericarp)
7.	Kushtha	Saussurea lappa C.B. Clarke	Asteraceae	Root
8.	Haimavati	Iris germanica Linn.	Iridaceae	Root
9.	Vacha	Acorus calamus Linn.	Araceae	Root
10.	Patha	Cissempeles pareira Linn.	Menispermaceae	Root
11.	Katurohini	Picrorrhiza kurroa Royle.	Scrophulariaceae	Root
12.	Sharngashata	Dregia volubilis Benth.	Asclepiadaceae	Root
13.	Ativisha	Aconitum heterophyllum Wall.	Ranunculaceae	Root

14.	Dravidi	<i>Elettaria cardamomum</i> Maton.	Zingiberaceae	Seed
15.	Bhallataka	<i>Semecarpus anacardium</i> Linn.	Anacardiaceae	Fruit
16.	Citraka	<i>Plumbago zeylanica</i> Linn.	Plumbaginaceae	Root

Properties of Mustadi Gana

S N	Sanskrit Name	Rasa	Vipaka	Virya	Guna	Dosha Pradhanta (As per P.V. Sharma)
1.	Musta	Tikta, Katu, Kashaya	Katu	Sheeta	Laghu, Ruksha	Kapha – Pittashamka
2.	Haridra	Tikta, Katu	Katu	Ushna	Laghu, Ruksha	Kapha-Vatashamka
3.	Daru Haridra	Tikta, Kashaya	Katu	Ushna	Laghu, Ruksha	Kapha – Pittashamka
4.	Haritaki	Pancharasa (Except Lavana, Kashaya Pradhana)	Madhura	Ushna	Laghu, Ruksha	Tridoshamka
5.	Amalaki	Pancharasa (Except Lavana, Amla Pradhana)	Madhura	Sheeta	Guru, Ruksha, Sheeta	Tridoshamka
6.	Bibhitaki	Kashaya	Madhura	Ushna	Laghu, Ruksha	Tridoshamka
7.	Kushta	Tikta, Katu, Madhura	Katu	Ushna	Laghu, Ruksha, Tikshna	Kapha-Vatashamka

8.	Haimavati	Katu, Tikta	Katu	Ushna	Laghu, Tikshna	Kapha-Vatashamka
9.	Vacha	Katu, Tikta	Katu	Ushna	Laghu, Tikshna	Kapha-Vatashamka
10.	Patha	Tikta	Katu	Sheeta	Laghu, Tikshna	Kapha – Pittashamka
11.	Katurhini	Tikta	Katu	Sheeta	Laghu, Ruksha	Kapha – Pittashamka
12.	Sharn gashta	Tikta, Kashaya	Katu	Ushna	Guru, Ruksha	Tridoshamka
13.	Ativisha	Katu, Tikta	Katu	Ushna	Laghu, Ruksha	Kapha-Pittashamka
14.	Dravidi	Katu, Madhura	Madhura	Sheeta	Laghu, Ruksha	Kapha-Vatashamka
15.	Bhallataka	Katu, Tikta, Kashaya	Madhura	Ushna	Laghu, Snigadha, Tikshana	Kapha-Vatashamka
16.	Citraka	Katu	Katu	Ushna	Laghu, Ruksha, Tikshana	Kapha-Vatashamka

- Note - In Mustadi Gana, Sharn geshta is a controversial drug which is considered as a variety of Murva (*Marsdenia tenacissima* W & A.) due to their similar properties.^[7]
- Reported pharmacological activities of Drugs in Stanyashodhana Gana as per Modern research paper

SN	Pharmacological activities	Drugs
1.	Anti-Microbial	<i>Acorus calamus</i> L., ^[8] <i>Aconitum heterophyllum</i> Wall, ^[9] <i>Cedrus Deodara</i> Roxb. ^[10] <i>Curcuma longa</i> . ^[11] <i>Berberis aristata</i> DC, ^[12] <i>Uria picta</i> Desv. ^[13] <i>Dregia</i>

		<i>volubilis</i> Benth. ^[14] <i>Picrorhiza kurroa</i> Royle, ^[15] <i>Plumbago zeylanica</i> Linn ^[16]
2.	Antioxidant	<i>Acorus calamus</i> L., ^[17] <i>Cyperus rotundus</i> Linn, ^[18] <i>Terminalia chebula</i> Retz, ^[19] <i>Mesua ferrea</i> L. ^[20] <i>Emblica officinalis</i> Gaertn, ^[21] <i>Terminalia bellirica</i> Roxb. ^[22] <i>Saussurea lappa</i> C.B, ^[23] <i>Dregia volubilis</i> Benth ^[14] <i>Cissampelos pareira</i> Linn, ^[24] <i>Plumbago zeylanica</i> Linn ^[16]
3.	Immunomodulator	<i>Terminalia chebula</i> Retz, ^[25] <i>Mesua ferrea</i> L. ^[20] <i>Glycyrrhiza glabra</i> L. ^[25] <i>Emblica officinalis</i> Gaertn, ^[21] <i>Cissampelos pareira</i> Linn. ^[24] <i>Elettaria cardamomum</i> Maton. ^[27]
4.	Anti-Inflammatory and Analgesic	<i>Acorus calamus</i> L., ^[28] <i>Cyperus rotundus</i> Linn, ^[29] <i>Aconitum heterophyllum</i> Wall, ^[30] <i>Cedrus Deodara</i> Roxb. ^[31] <i>Curcuma longa</i> L. ^[32] <i>Uraria picta</i> Desv. ^[33] <i>Holarrhena antidysentrica</i> Wall. ^[34] <i>Emblica officinalis</i> Gaertn, ^[35] <i>Saussurea lappa</i> C.B, ^[36] <i>Iris germanica</i> L. ^[37] <i>Cissampelos pareira</i> Linn, ^[38] <i>Semecarpus anacardium</i> Linn, ^[39] <i>Plumbago zeylanica</i> Linn. ^[40]

OBSERVATION

Detail assessment of all three *Ganas* based on the *Rasa*, *Guna*, *Virya*, *Vipaka* to justify its *Stanyashodhana* property

Rasa: Distribution of 61 *Rasa* components of 27 Drugs used for *Stanyashodhana* property.

SN	Rasa	No. of drugs	Percentage %
1.	Tikta	23	37.7
2.	Katu	16	26.2
3.	Kashaya	13	21.3
4.	Madhura	6	9.8
5.	Amla	3	4.9

Vipaka: Distribution of 27 components of *Vipaka* of 27 Drugs used for *Stanyashodhana* property.

SN	Vipaka	No. of drugs	Percentage %
1.	Katu	20	74.1
2.	Madhura	7	25.9

Virya: Distribution of 27 components of *Virya* of 27 Drugs used for *Stanyashodhana* property.

SN	Virya	No. of drugs	Percentage %
1.	Ushna	19	70.3
2.	Sheeta	8	29.6

Guna: Distribution of 58 components of *Guna* of 27 Drugs used for *Stanyashodhana* property.

SN	Guna	No. of drugs	Percentage %
1.	Laghu	24	41.4
2.	Ruksha	19	32.7
3.	Tikshna	7	12.2
4.	Snighdha	4	6.8
5.	Guru	3	5.2
6.	Sheeta	1	1.7

RESULT

As per above mentioned data (Table), all drugs with in mentioned *Gana* have *Pradhanata* of *Tikta Rasa*, along with *Laghu - Ruksha Guna*, *Ushna Virya*, and *Katu Vipaka*.^[41] All these properties are opposite to the properties of three *Dosha* as *Ushna Virya* may oppose *Vata Dosha*, *Tikta Rasa* may oppose *Pitta Dosha* whereas *Laghu-Ruksha Guna* and *Katu Vipaka* may oppose *Kapha Dosha*.

DISCUSSION

As per the Ayurvedic view

Stress and poor eating habits of the mother impact the quality and potency of breast milk, aggravating the

Doshas (Mainly *Kapha Dosh*). The aggravated *Doshas* are then incorporated into the *Rasa Dhatu*, further vitiating the *Stanya*, which is the *Rasa Dhatu's Upadhatu*. A *Stanya* will be called *Dushita* (Impure) if it has aberrant color, smell, taste, or touch, as well as other abnormal *Gun*as. This *Stanya* is incapable of providing nutrition and good health to the infant. This condition is known as *Stanya Dushti*.^[42] As a result, we require drugs that can cleanse the impurity and enhance the quality of *Stanya* (breastmilk).

On analyzing the result, it is clear that there is *Pradhanata* of *Tikta Rasa*, *Laghu - Ruksha Guna*, *Ushna Virya*, and *Katu Vipaka*. As *Tikta Rasa* has *Akash Mahabhuta Pradhanta*, which might be responsible for providing space (or passage) for obstructed channels (*Strotoavrodha*). Whereas the presence of *Laghu* and *Ruksha Gun*as, *Katu Vipaka*, and *Ushna Viryas*, aid in the *Samyak Pachana* (Absorption) of *Dosha* mainly *Kapha Dosh*a, which may be one of the causes of *Strotoavrodha*.

This explains that these pharmacodynamics properties have two main pharmacological actions, one is *Strotosudhi* and the second is *Samayka Panchna* of *Dosha*, which will clean the blocked channels and bring back the *Dosha* to their normal state, resulting in the restoration of the vitiating *Rasadhatu* and thus in the management of *Stanyadushti*.

Other than the *Stanyashodhana* property, *Acharya Sushruta* also gives other concrete indications for all these three *Ganas*. *Vachadi* and *Haridradi Gana* should be used in the case of *Amatisara* (A condition in which *Ama Dosaha* has developed excessively in the body), as these drugs especially act as *Amapachaka*. Whereas in the case of *Shleshma Vridhi* and *Yonidosha*, the *Mustadi Gana* should be chosen since the drugs in this *Gana* have mainly *Kapha-Dosha-Hara* properties, which also aid in the management of *Yonidosha*.

As per Modern science view

According to recent research studies, these drugs also possess Antimicrobial, Antioxidant, Immunomodulator, Anti-inflammatory, and Analgesic effects. Antimicrobial activity helps to manage breast-related diseases like mastitis, and breast abscess in the

mother and lowers the incidence of developing various infections in infants. Anti-inflammatory and analgesic effects will protect the mother from inflammatory damage and subside the pain if occur. The antioxidant effect reduces oxidative damage at the cellular level. Whereas the Immunomodulatory effect boosts maternal immunity.

CONCLUSION

Breast milk is regarded as an important source of energy for the health and development of infants. Any kind of impurity leads to *Stanyadushti*. Consumption of *Dushita Stanya* causes poor growth and development, as well as a weakened immune system. As a result, the fundamental cause must be addressed. The overall goal of this study is to give a mutual understanding of the *Vachadi*, *Haridradi*, and *Mustadi Ganas'* *Stanyashodhana* property. As all 27 drugs within the mentioned 3 *Gana* having *Pradhanata* of *Tikta Rasa*, along with *Laghu - Ruksha guna*, *Ushna Virya*, and *Katu Vipaka* help to cleanse the channels and *Pachana* of *Dosha* lead to *Stanyashuddhi*. These drugs also possess Antimicrobial, Antioxidant, Immunomodulator, Anti-inflammatory, and analgesic effects which have a significant role in enhancing the quality of breast milk and reducing its impurities. This collective knowledge of drugs will not only assist physicians in selecting appropriate drugs, either alone or in combination, to enhance the qualities of *Stanya* but will also motivate researchers to conduct further studies to identify their mechanism of action and efficacy in *Stanya Dushti*.

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