

A PHARMACEUTICO-ANALYTICAL STUDY OF PRIYANGVADI MOUTHWASH WITH REFERENCE TO SHEETADA (GINGIVITIS)

Dr. Prachi Patil^{*1}, Dr. Rachana Kale²

^{1,2}PG Scholar, Department of Rasashastra and Bhaishajya Kalpana, YMT Ayurvedic Medical College and Hospital, Navi Mumbai, India.

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*Corresponding Author

Dr. Prachi Patil

PG Scholar, Department of
Rasashastra and Bhaishajya Kalpana,
YMT Ayurvedic Medical College and
Hospital, Navi Mumbai, India.



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ABSTRACT

Oral diseases such as gingivitis and plaque-induced inflammation are among the most common conditions affecting oral health. Although several chemical mouthwashes are available, their prolonged use may be associated with undesirable effects, creating a need for safe and effective herbal alternatives. The present study aimed to formulate and evaluate an herbal mouthwash using *Priyangu* (*Callicarpa macrophylla*), *Musta* (*Cyperus rotundus*), and *Triphala* (*Terminalia chebula*, *Terminalia bellirica*, and *Emblica officinalis*). These Ayurvedic drugs are traditionally known for their anti-inflammatory, antimicrobial, antioxidant, wound-healing, and astringent properties, making them suitable for maintaining oral hygiene and managing gingival disorders. The mouthwash was prepared using standard pharmaceutical

procedures and evaluated for its organoleptic characteristics and physicochemical parameters. The formulation exhibited acceptable appearance, odor and taste. The combined action of *Priyangu*, *Musta*, and *Triphala* may help reduce plaque accumulation, gingival inflammation, microbial growth, and oral discomfort while promoting overall oral health. The study suggests that *Priyanguvadi* Mouthwash is a promising, cost-effective, and patient-friendly herbal formulation for oral care and may serve as a potential adjunct in the management of gingivitis and maintenance of oral hygiene.

KEYWORDS: *Sheetada*; Gingivitis; Polyherbal Mouthwash; *Priyanguvadi* mouthwash.

1. INTRODUCTION

Ayurveda, an ancient medicine, has long been utilized for oral hygiene. The *Mukha*, or oral cavity, is a vital part of the *Urdhwa-jatru* system since it serves as the entryway to the alimentary canal and reflects overall health. Oral hygiene is regarded as an essential component of daily healthcare (*Dinacharya*), with practices such as *Dantadhavana* (tooth cleaning), *Jivha nirlekhana* (scraping of tongue), *Kavala* (gargling), and *Gandusha* (holding medicated liquids in the mouth)^[1] advised for maintaining oral health and preventing oral cavity diseases. These treatments employ natural herbal compositions with antibacterial, anti-inflammatory, wound-healing, and rejuvenating effects.

The *Sushruta Samhita* has references to *Sheetada*. He made reference to it in *Mukharoga Prakarana* under *Danta Moolagata Roga*.^[2] Vitiating of *kapha* and *rakta* will cause soft, bleeding, moist gingiva along with an unpleasant odor and a blackish discoloration. *Sheetada*'s clinical characteristics are similar to those of gingivitis, a common inflammatory gingival disease that is mostly brought on by the buildup of tooth plaque and microbial biofilms.^[3] Gingivitis is distinguished by gingival inflammation, redness, swelling, bleeding when brushing, and irritation.

Modern dentistry emphasizes mechanical plaque removal, antibiotics, and surgical therapies in advanced stages. This research focuses on providing insights into holistic approach of gingivitis and even though gingivitis is curable in its early stages, if left untreated, it can develop into periodontitis, which can destroy the tooth's supporting tissues and ultimately result in tooth loss.

Polyherbal medicines have fewer, if any, negative effects than conventional medications. Excessive amounts of fluoride and alcohol in mouthwash^[4] might have negative consequences. As a result, the Ayurvedic preparation of this mouthwash is safer for children, pregnant women, persons with dry mouth, and diabetics because it contains no harmful ingredients.

Ayurvedic formulations are available in a variety of dose forms, allowing clinicians to choose the most appropriate preparation based on the disease state and patient needs. *Priyavadi Lepa* is classically indicated for local application in oral disorders.^[5] Traditional dosage forms, such as *Lepa* (local application), have some drawbacks, including a large dose volume, an unpleasant taste, a shorter shelf life, difficulties in transportation, and inconvenience in

preparation and administration. In the present era, converting traditional formulas into patient-friendly dosage forms without sacrificing therapeutic efficacy has become critical. These adjustments enhance palatability, convenience, stability, bioavailability, and patient compliance. Hence In the present study, the extract of same ingredients was derived and further developed into an herbal mouthwash as a modified dosage form to improve patient acceptability, ease of administration, and compliance while retaining its classical medicinal benefits.

2. MATERIALS AND METHODS

Table 1: Ingredients of Priyangvadi Extract.

Ingredients	Latin name	Quantity
Priyangu	<i>Callicarpa macrophylla Vahl.</i>	17 gm
Musta	<i>Cyperus rotundus</i>	17 gm
Triphala – Haritaki Amalaka Bibhitaki	<i>Terminalia chebula</i> <i>Emblica officinalis</i> <i>Terminalia bellirica</i>	17 gm
Water		90 ml
Ethanol		210 ml

Table 2: Ingredients Priyangvadi Mouthwash.^[6]

Ingredients	Proportion
Priyangvadi Extract	10 gm
Glycerin	25 ml
Sodium benzoate	1.25 gm
Peppermint oil	0.5 ml
Water	q.s. (till 200 ml achieved)



Priyangu



Musta



Triphala



Extract by Soxhlet method

2.1 Collection of raw materials & drug preparation

Raw materials such as *Priyangu*, *Musta* and *Triphala* were procured from the authenticated source. Pharmaceutical preparation was carried out at Y.M.T. Ayurvedic Medical Collage & Hospital, Kharghar, Navi Mumbai, Maharashtra. Organoleptic characters, physicochemical analysis, were studied in Quality Control lab as per API standards.

2.2 Preparation of *Priyanguvadi* Extract

The flowers of *Callicarpa macrophylla* Vahl. Plant, Rhizome of *Cyperus rotundus*, Pericarp of *Terminalia chebula*, *Emblica officinalis*, *Terminalia bellirica* were collected. Any foreign material was removed, the ingredients were coarsely ground, and was weighed according to formula. About 51 grams of total coarsely ground material were filled in the thimble chamber of the Soxhlet apparatus and extraction process was carried out by using 300 ml of hydroethanolic solvent comprising 210 mL of ethanol and 90ml of water in a 70:30 (V/V) ratio for 8 hr. The solubility of both solvents is good for the majority of organic compounds. The solvents were heated in the round bottom flask, vaporized into the sample thimble, condensed in the condenser, and then dripped back into the flask. The procedure was resumed once the liquid content reached the syphon arm and drained back into the bottom flask. This process was continued till three cycles to obtain required quantity of extract. This extract was placed on water bath at 50°C to obtain required concentrated extract and then was calculated and kept it at room temperature.^[7]

2.3 Preparation of *Priyanguvadi* Mouth wash

Step 1: Take 10 gm of hydroethanolic *priyanguvadi* extract and 25ml of glycerin and mix them in a clean beaker.

Step 2: Add suitable quantity of purified water to a clean beaker. Add 1.25 gm of sodium benzoate to this beaker and mix until it dissolved to prepare the mouth wash base.

Step 3: Add extract mixture to the mouthwash base in the beaker. Mix well until the extract is fully incorporated into the mouthwash base.

Step 4: Add 0.5 ml of peppermint oil to the mouthwash mixture and mix well.

Step 5: Add purified water gradually to make the final volume up to 200ml. Filter through filter paper.

**Priyangvadi extract****Mixing of ingredients****Final product**

3. RESULTS

3.1 Analysis of *Priyangvadi* mouthwash Organoleptic characters

Organoleptic characters of the test sample were documented through an examination using sense organs.

3.2 Physicochemical parameters

Determination of pH

The pH of the prepared *Priyangvadi* Mouthwash was determined using a calibrated digital pH meter. The instrument was calibrated using standard buffer solutions of pH 4.0 and 7.0 before analysis. Approximately 50 ml of the mouthwash sample was transferred into a clean beaker, and the electrode was immersed completely in the sample. The reading was allowed to stabilize, and the pH value was recorded at room temperature. The pH of the prepared *Priyangvadi* Mouthwash was found to be 6.28.

Table 3: Organoleptic Characters.

Parameters	Observation
Color	Brown
Odor	Pleasant, Characteristic
Consistency	liquid
Taste	Astringent

Table 4: Physicochemical Parameters.

Parameters	Results
pH	6.28
Viscosity	1.6 cp
Refractive index	1.37

The classical formulation (*lepa*) was modified into mouthwash form. The reference of *lepa* was taken from *Bhaishajya Ratnavali* and treated chemically to form a mouthwash. The

extract of *Priyangu*, *Musta*, and *Triphala* was obtained and then transformed into a mouthwash. This new formulation makes application easier and provides a pleasant mouthfeel. It was produced with minimal chemicals.

Organoleptic and physicochemical analysis were carried out to test the final product. The product is brown with a characteristic pleasant odor and liquid in consistency with a pH of 6.28.

The current research aims to modify the traditional *lepa* into a mouthwash form for treating *Sheetada* (Gingivitis). This modification is being done to take advantage of the benefits offered by a mouthwash, such as being pleasant and refreshing, good spreadability throughout the oral cavity, non-irritating, palatable and non-drying.

The researchers believe that transforming the *lepa* into a mouthwash will enhance its effectiveness in treating the oral disorders. Bad breath, swollen bleeding gums, discomfort during speaking or smiling may cause self-consciousness and embarrassment in young individuals. Gingivitis has a big impact, thus finding effective therapies is vital.

4. DISCUSSION

The goals of Ayurvedic gingivitis treatment (*Dantamula Roga*) are to minimize inflammation, regulate bacteria development, encourage healing, and uphold oral hygiene. *Gandusha/Kavalagraha* (oil pulling), *Pratisarana* (application of herbal powders), and *Dantadhavana* (cleaning teeth with herbal twigs) are examples of preventive techniques. In addition to internal administration of herbs like *Priyangu*, *musta*, and *Triphala* for their anti-inflammatory and antibacterial qualities, therapeutic interventions include the local application and mouth rinsing. Clinical evidence suggests that oil pulling and *triphala*-based therapies are useful adjuncts in the treatment of gingivitis because clinical evidence indicates that they can successfully lower plaque buildup, gingival irritation, and oral microbial load.

A traditional Ayurvedic remedy called *Priyangvadi Lepa* is used to treat oral conditions, especially *Sheetada* (gingivitis).^[5] The formulation is typically used in the form of *Lepa*, but there are some practical restrictions on its application. For regular use, it is inconvenient and time-consuming to prepare fresh *Lepa* before each application. Furthermore, because *Lepa* is semisolid, it is difficult to apply consistently across the gingival tissues, has limited retention at the site of action, and is less portable. Additionally, it can be difficult to preserve the

consistency and quality of freshly made *Lepa* for recurrent use. An attempt was undertaken to transform *Priyangvadi Lepa* into a mouthwash formulation in light of these disadvantages and the growing need for patient-friendly dosing forms. The advantages of mouthwash are ease of application, better acceptance by patients, uniform distribution throughout the oral cavity, better contact with the gingival tissues, increased portability and convenience of frequent use. To increase the acceptability, compliance and therapeutic utility of *Priyangvadi Lepa* without changing the basic Ayurvedic principles and therapeutic qualities of the original preparation it was decided to convert it into a mouthwash.

Priyangu

According to descriptions found in *Nighantus* and *Samhitas*, *Priyangu* is a climber/shrub. Its flowers have sweet aroma and the plant looks very beautiful in the flowering season.

Priyangu is mentioned in *Pittashamak* (pacifies vitiated *Pitta*) *Dravyas*.

Rasa Panchak of *Priyangu*^[8] is as follows:

Rasa -*Kashaya*, *Tikta*, *Madhur*

Virya-*Sheeta*

Vipaka-*Katu*

Guna-*Guru*, *Ruksha*

Doshaghanata -*Pittashamak*

In *Charak Samhita*, it is mainly recommended in bleeding disorders (*Raktapitta*). It is also recommended in disorders related to vitiated *pitta*.^[9] In *Ashtanga Hrudaya*, it is recommended for stopping excessive bleeding.^[10,11]

Scientific research is being done extensively on *Callicarpa macrophylla*. A number of studies have proven the efficacy of extracts from its flowers, stem, leaves, and other aerial components. It is seen to have anti-inflammatory, analgesic, antibacterial, antifungal activity.^[12] Which may help in reducing plaque, inflammation, and bacterial growth caused by gingivitis.

Musta

Ayurvedic Properties^[13]

Rasa:*Tikta*, *Katu*, *Kashaya*

Guna:*Laghu*, *Ruksha*

Veerya:Sita

Vipaka:Katu

Doshakarma:Pittakaphahara, Shleshmaraktajit

Musta's Shothahara property may assist reduce gingival inflammation, while its *Kashaya rasa* aids in lowering *kleda* and preserving the integrity of oral tissues. Because of these characteristics, it can be helpful in situations including inflammation, edema, and excessive secretions.

Musta (*Cyperus rotundus*) has strong antibacterial, anti-inflammatory, and antioxidant effects. Previous research has shown that it inhibits oral pathogens such as *Streptococcus mutans* and *Aggregatibacter actinomycetemcomitans*, which are linked to tooth plaque and periodontal disease. These pharmacological properties may assist to minimize gingival inflammation and promote periodontal health. As a result, including *Musta* in *Priyangvadi* mouthwash may help manage plaque-induced gingivitis.^[14]

Triphala

Ayurvedic Properties^[15]

Rasa - Pancharasa (Kashaya predominance, Lavana rahita)

Guna - Laghu, Ruksha

Virya - Ushna

Vipaka - Madhura

Prabhava - Tridosahara

Dosha karma - Mainly kapha pitta shamaka.

Parts used - Fruits

Sushruta Samhita emphasizes *triphala's* hemostatic, anti-inflammatory, analgesic, and wound-healing effects. *Haritaki* is especially effective for bleeding gums, gingival ulcers, and carious teeth.^[16] On the other hand, *Amalaki* includes a considerable amount of vitamin C, which is the most efficient in preventing bleeding from gums.^[17]

Bibhitaki (*Terminalia bellirica*) has *Kashaya rasa* and *Kaphahara* properties which may help maintain oral tissues healthy. Previous research has shown that *Terminalia bellirica* has substantial antibacterial, antioxidant, and free radical scavenging activity. Since bacterial biofilm production is the primary cause of dental plaque and gingivitis, *Bibhitaki's*

antibacterial action may help suppress plaque-forming micro-organisms and promote oral hygiene. Furthermore, its antioxidant properties may help protect gingival tissues from oxidative stress and inflammation. As a result, *Bibhitaki* may help in the treatment of plaque-related gingivitis.^[18]

Triphala has been found to be effective in inhibition of bacterial growth that is a part of dental plaque, very safely when absorbed on to the tooth surface.^[19] According to an Indian study, *triphala* was effective in reducing incipient dental caries as well as microbial growth, plaque, and gingivitis.^[20]

Peppermint (*Mentha piperita*) is a medicinal herb widely used in oral healthcare due to its antibacterial, anti-inflammatory, antiseptic, and antipruritic properties. Its essential oil, rich in menthol and other bioactive compounds, inhibits the growth of oral pathogens such as *Streptococcus mutans* and *Streptococcus pyogenes*, helping to reduce plaque accumulation and oral infections. *Peppermint* also exhibits anti-inflammatory activity, which can soothe inflamed gingival and oral mucosal tissues. Its antiseptic action helps maintain oral hygiene by preventing microbial colonization, while menthol provides a cooling and soothing effect that relieves irritation, itching, and discomfort of the oral mucosa. These properties make peppermint a valuable ingredient in herbal mouthwash formulations for promoting oral health and managing gingival inflammation.^[21]

5. CONCLUSION

The present study successfully developed a mouthwash dosage form based on the classical Priyangvadi Lepa indicated in Sheetada. The prepared formulation exhibited a brown colour, pleasant characteristic odour, astringent taste, and liquid consistency. The physicochemical parameters were found to be pH 6.28, viscosity 1.6 cP, and refractive index 1.37. Appropriate hygienic conditions should be maintained during preparation to minimize the risk of microbial contamination. As specific standards for Priyangvadi Mouthwash are not available in the Ayurvedic Pharmacopoeia of India, the findings of the present study may serve as preliminary reference data for the formulation. Further microbiological, stability, and clinical studies are required to establish its safety and efficacy in Sheetada/gingivitis.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

6. REFERENCE

1. Chavan UR, Pingale M. Importance of Kawal and Gandusha in maintaining oral hygiene. *Journal of Biological Innovation*, 2022; 11(3b): 81-87. doi:10.46344/JBINO.2022.v11i03(b).12
2. Prof. K. R. Srikanthamurthy, *Susrutha Samhita Nidanasthana*; published by Chaukhambha Orientalia 2008, pg no: 566.
3. Shekhawat MS, Sharma A, Bhatnagar S. Ayurvedic review article on Shitada with special reference to Gingivitis. *J Ayurveda Integr Med Sci.*, 2024; 9(1): 239-243. Available from: <https://jaims.in/jaims/article/view/3037>.
4. Tidke S, Chhabra GK, Madhu PP, Reche A, Wazurkar S, Singi SR. The effectiveness of herbal versus non-herbal mouthwash for periodontal health: a literature review. *Cureus*, 2022; 14(8): e27956. doi: 10.7759/cureus.27956. PMID: 36120261; PMCID: PMC9465625
5. Das G, Bhaishajyaratnavali with Vidyotini Hindi Commentry, Ch.61, Ver. 15-16: Chaukahamba Prakashan, 2007; 964.
6. Ramacharan PS, Aathithya J, Aravidhan A, Gowtham D, Lokesh M. Formulation and evaluation of herbal mouthwash enriched with neem and clove: a natural approach to oral hygiene. *Int J Adv Pharm Sci.*, 2025; 12(2): 416-426. doi:10.5281/zenodo.14906810.
7. Chaudhary P, Sharma R, Rupanar S, Jadhav S, Bongade A, Shinde P, Gavit S. Preparation and Evaluation of Herbal Mouthwash Containing Hydroalcoholic Extract of *Pongamia pinnata*. *Asian J Biol Life Sci.*, 2023; 12(1): 172-8.
8. Priya Vrata Sharma, *Dravyaguna Vijnana*, Vol-2. Edition: 2009. Chaukhambha Bharati Academy, Varanasi, 781-783.
9. Shastri, Kashinath and Chaturvedi, Gorakhnath, [ed.]. *Charak Samhita*. Lucknow: Chaukhamba Bharti Academy, 1996. Vimansthana 6/17.
10. Garde G. *Sartha Vagbhata*. 7th ed. Pune: Gajanan Book Depot; 1983. Sutrasthana 15/7.
11. Chunekar K, Pandeya G, [ed.]. *Bhavprakash Nighantu*. Varanasi: Chaukhamba Bharti Academy, reprint, 2006; 248 shloka 102-103.
12. Paprikar M, Paprikar M. Systematic review of Priyangu (*Callicarpa macrophylla*). *J Ayurveda Integr Med Sci.*, 2021; 5: 227-233.
13. Priya Vrata Sharma, *Dravyaguna Vijnana*, Vol-2. Edition: 2009. Chaukhambha Bharati Academy, Varanasi, 370-372.
14. Khojaste M, Yazdanian M, Tahmasebi E, Shokri M, Houshmand B, Shahbazi R, et al. Cell toxicity and inhibitory effects of *Cyperus rotundus* extract on *Streptococcus mutans*,

- Aggregatibacter actinomycetemcomitans and Candida albicans. Eur J Transl Myol., 2018; 28(4): 7917. doi:10.4081/ejtm.2018.7917.
15. Chouhan B, Kumawat RC, Kotecha M, Ramamurthy A, Nathani S. Triphala: a comprehensive Ayurvedic review. Int J Res Ayurveda Pharm., 2013; 4(4): 612-617. doi: 10.7897/2277-4343.04433.
16. Dar PA, Sofi G, Parray SA, Jafri MA. Halelah siyah (Terminalia chebula retz): in unani system of medicine and modern pharmacology: a review. Int J Inst Pharm Life Sci., 2012; 2: 138–149.
17. Maurya DK, Mittal N, Sharma KR, Nath G. Role of triphala in the management of peridontal disease. Anc Sci Life, 1997; 17: 120–127.
18. Dharmaratne MPJ, Manoraj A, Thevanesam V, Ekanayake A, Kumar NS, Liyanapathirana V, et al. Terminalia bellirica fruit extracts: in vitro antibacterial activity against selected multidrug-resistant bacteria, radical scavenging activity and cytotoxicity study on BHK-21 cells. BMC Complement Altern Med., 2018; 18(1): 325. doi: 10.1186/s12906-018-2382-7. PMID: 30526562; PMCID: PMC6286530.
19. Jagdish L, Kumar VK, Kaviyarasan V. Effect of Triphala on dental. biofilm. Indian J Sci Technol., 2009; 2: 30-3.
20. Bhattacharjee R, Nekkanti S, Kumar NG, Kapuria K, Acharya S, Pentapati KC, et al. Efficacy of triphala mouthwash (aqueous extracts) on dental plaque and gingivitis in children. J Investig Clin Dent., 2015; 6: 206-210.
21. Datta AK, Paul R. An updated overview on peppermint (Mentha piperita L.). Int Res J Pharm., 2011; 2(8): 1-10.