

Effect of Vyoshadi Pratisarana and Suntyadi taila Gandusha in Upakusha (Chronic gingivitis)

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Abstract—Background: Upakusha is a disease explained in the context of Dantamoola roga (periodontal disease) which has clinical resemblance with Chronic gingivitis that can progress to periodontitis. Although progressive, it is a reversible disease that can be prevented by early intervention. **Methodology:** A pre-post interventional study was conducted using Vyoshadi Pratisarana (with Sunti, Maricha, Pippali, Saindhava Lavana, and honey as ingredients) and Gandusha with Suntyadi Taila (prepared from Sunti, Tila, Tila Taila, and milk). The study included 15 patients aged 10 to 40 years presenting with signs and symptoms of Upakusha (Chronic Gingivitis) such as gum bleeding, gingival swelling, halitosis and loosening of teeth, while excluding known cases of HIV infection, malignant oral lesions and pregnancy. Pratisarana (local application) was done with 3 gm of Vyoshadi choorna with equal amount of honey twice daily at 7 am and 5pm for a period of 15 days. After one hour of Pratisarana, Suntyadi taila gandusha (oil retention) was done by fixing the dose as half the oral capacity (Uttama matra according to Ashtanga Sangraha). The condition was assessed on the 0th day, 16th day, 31st day and 61st day based on change in gingival index, bleeding index, severity of bleeding, halitosis and loosening of the teeth. **Results:** Statistical analysis was done by paired test and Wilcoxon's signed rank test. The study showed significant reduction in gingival index ($p<0.001$), bleeding index ($p<0.001$), severity of bleeding ($p<0.001$) and halitosis ($p<0.001$) but got no significant result in loosening of teeth. **Conclusion:** Significant improvements were observed in inflammation, bleeding, and halitosis, though the intervention was not effective for tooth mobility within the short study duration. Further studies with larger sample sizes are required to validate the findings of this study.

Index Terms— Gingivitis, Upakusha, Pratisarana, Gandusha, Oral hygiene

I. INTRODUCTION

Oral hygiene, the practice of maintaining a clean mouth and teeth, is essential for preventing dental caries, gingivitis, halitosis, and periodontal diseases. It supports the healing of oral tissues and contributes to overall wellbeing. Most oral diseases share risk factors with non-communicable diseases (NCDs) such as cardiovascular disorders, diabetes, and cancers—primarily due to poor diet, tobacco, alcohol use, and psychosocial stress. Hence, WHO advocates integrating oral health promotion with chronic disease prevention.^[1]

The challenges posed by oral diseases and antibiotic resistance underscores the need for safe, effective, and cost-effective alternatives. Medicinal plants possess proven antibacterial and healing properties, yet many classical formulations remain underexplored scientifically. Ayurveda provides a comprehensive approach to oral care through emphasizing preventive and promotive oral health.

Gingivitis, the mildest form of periodontal disease, results from plaque accumulation and inadequate oral hygiene. Its prevalence increases with age, affecting nearly all adults. Clinically, it presents with bleeding gums, swelling, and halitosis, and may progress to periodontitis if untreated. In Ayurveda, it correlates with Upakusha, a Pitta-Rakta predominant disorder of the gums (Dantamoola), also involving Kapha due to its localization in the mouth.^[2]

The current study on the management of this condition was done using Vyoshadi Pratisarana and Suntyadi Taila Gandusha. Pratisarana is a therapeutic procedure involving the topical application of medicinal substances directly onto the oral cavity to manage local diseases ^[3]. It is mentioned in the context of Gandushadi vidhi according to Acharya Vagbhata,

Susruta, Sarangdhara and Bhavamisra which is a commonly used procedure for treating diseases of oral cavity. Gandusha is filling the oral cavity with specially prepared medicine to its full capacity without swallowing and active movements ^[4]. Vyoshadi Pratisarana is mentioned by Acharya Susruta in the treatment of Upakusha under Mukharoga Chikitsa. It contains ingredients as Sunti (Zingiber officinale, Maricha (Piper nigrum), Pippali (Piper longum), Saindhava Lavana (rock salt) and honey ^[5]. Suntyadi Taila is described in Chikitsa Manjari under Mukharoga Chikitsa, specifically indicated for disorders of the gums ^[6]. It is prepared using Sunti (Zingiber officinale) and Tila (Sesamum indicum) as Kalka Dravyas, while milk serves as the Drava Dravya in the Taila Kalpana.

The selection of this formulation for the management of gingivitis is justified as its ingredients—Sunti (Zingiber officinale), Maricha (Piper nigrum), Pippali (Piper longum), Saindhava Lavana (rock salt), Tila Taila (Sesamum indicum oil), and milk—exhibit Kaphahara, Raktapittahara, Vranashodhana, and Ropana properties, which collectively impart anti-inflammatory, antimicrobial, and tissue-regenerative effects. ^{[7] [8] [9]}

II. METHODOLOGY

- Study Design: A pre-post interventional study
- Study Setting: Outpatient Department (OPD) of Swasthavritta and the Dental Unit, Department of Shalakyatantra, Government Ayurveda College, Thiruvananthapuram.
- Sample Size: Fifteen participants
- Sampling Technique: Convenient sampling.
- Ethical Considerations: Written informed consent was obtained from all participants prior to the study.
- Study Tools: Clinical case proforma, Gingival Index (Löe and Silness), Bleeding Index, and organoleptic scoring scale (Rosenberg scale) were used for data collection.
- Diagnostic criteria: The subjects with signs and symptoms of Upakusha (Chronic Gingivitis) like Adhmana (swelling), Vedana (pain), Sonithasrava (Bleeding of gums), Pootivaktrata (Bad breath) and Chaladanta (Loosening of teeth)

- Inclusion criteria: The inclusion criteria comprised patients aged 10 to 40 years of either sex presenting with clinical features of Upakusha (chronic gingivitis).
- Exclusion criteria: Patients with known malignant lesions in the oral cavity, HIV infection, or those who were pregnant were excluded from the study.

III. INTERVENTION

After clinical examination and baseline assessment, patients received the interventions using Vyoshadi Pratisarana and Suntyadi Taila Gandusha.

Vyoshadi Pratisarana Authentic samples of the required drugs were procured and thoroughly washed, cleaned, and sun-dried. After the complete drying and removal of moisture, the ingredients were crushed, finely powdered, and uniformly blended to obtain a homogeneous mixture. The formulation was then packed in airtight packets, each containing 10 g. Every patient received 10 such packets. Additionally, a certified Agmark sample of honey was procured, and each patient was provided with 100 g of it.

The patients were advised to thoroughly wash the hands using soap and warm water. They were given plastic spoon which was standardized by measuring 3 gm of medicine. They were advised to take one spoon of medicine, mixed with equal amount of honey, made into paste and applied over the affected gingiva using clean finger ^[10]. The medicine applied for Pratisarana was allowed to retain for a period of 5-10 minutes or till the salivary secretions got filled up in the mouth. The procedure was performed twice daily (7 am and 5 pm).

Suntyadi Taila Gandusha: Taila was prepared according to the classical reference described in Sarngadhara Samhita ^[11]. Sunti (Zingiber officinale) and Tila (Sesamum indicum) were used as Kalka Dravyas. Since milk served as the Drava Dravya, the quantity of Kalka added was one-eighth of the Sneha, and milk was incorporated in four times the volume of Taila. To ensure optimal extraction of the medicinal properties of each ingredient, four times the quantity of water was added.

The dose was determined according to the individual's oral capacity, which varies with sex, age, and body stature (ranging from 70 to 120 ml) ^[12]. Each patient was instructed to fill the mouth completely with oil, then spit it into a measuring glass to record the volume.

Half of this measured quantity (approximately 35 to 60 ml) was considered the dose for Gandusha, following the Uttama Matra described in Ashtanga Sangraha^[13]. The oil was retained in the mouth until the patient was unable to hold it further due to excessive salivation (Kaphapoomnasyata, as mentioned in the classics). Approximately 1.1 to 1.8 litres of Taila were provided to each patient for the treatment. Participants were advised to perform Gandusha one hour after Pratisarana.

The intervention continued for 15 days, with assessments conducted on Day 0 (baseline) and Day 16. Follow-ups were done on Day 31 and Day 61 to assess sustained effects.

IV. OUTCOME MEASURES

Table 1. Gingival Index (Löe and Silness)^[14]

Score	Criteria
0	Normal gingiva, no inflammation
1	Mild inflammation – slight change in color, slight edema, no bleeding on probing
2	Moderate inflammation – redness, edema, glazing, bleeding on probing
3	Severe inflammation – marked redness and edema, ulceration, tendency to spontaneous bleeding

Table 2. Bleeding Index^[15]

Score	Criteria
0	No bleeding on probing
1	Bleeding on gentle probing

Table 3. Severity of Bleeding^[16]

Score	Criteria
0	No bleeding
1	Single discreet bleeding point after probing
2	Fine line or multiple points of bleeding
3	Interdental triangle filled with blood
4	Profuse bleeding immediately after probing

Table 4. Gingival Inflammation^[17]

Score	Criteria
0	No inflammation
1	Mild inflammation – slight color change, minimal edema
2	Moderate inflammation – redness, edema, glazing
3	Severe inflammation – marked redness, swelling, tendency to bleed

Table 5. Halitosis (Rosenberg Organoleptic Scale)^[18]

Score	Odor Intensity
0	No odor
1	Barely noticeable odor
2	Slight odor detectable
3	Moderate malodor
4	Strong malodor
5	Extremely strong malodor

Table 6. Tooth Mobility^[19]

Grade	Criteria
0	Physiologic mobility (normal)
1	Slight mobility, <1 mm horizontally
2	Moderate mobility, >1 mm horizontally
3	Severe mobility, vertical displacement possible

V. RESULTS

The data were analysed under four main categories: demographic characteristics, personal history, clinical presentation, and treatment response.

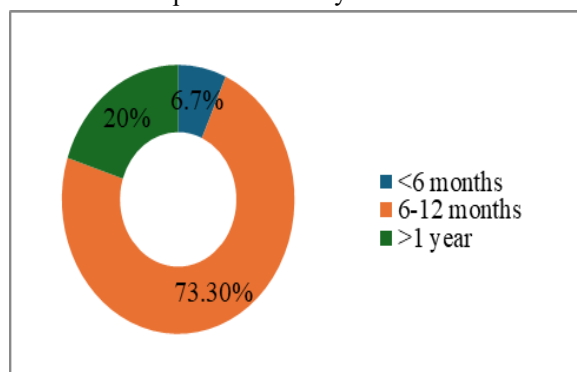
Demographic Profile: Most patients (60%) were aged 31–40 years, and females constituted 73.3% of the sample. The majority were housewives (40%), followed by manual labourers (26.7%). About 60% had primary-level education, and 86.7% resided in rural areas. Most participants (66.7%) were Hindus, and 60% were married.

Personal History: More than half (53.3%) were of Kapha-Pitta prakṛti and had Mandagni (53.3%). The majority (53.3%) had Krura Koṣṭha. Most (87%) were non-vegetarians and preferred Katu, Amla, and Lavana rasa (53.3%). Madhyama Sattva was predominant (73.3%). Smoking (20%), alcohol intake (13.3%), and pan chewing (6.7%) were less frequent. Over half (53.3%) reported inadequate sleep (<4 hours). A positive family history of gingivitis was seen in 13.3% of cases. Most brushed once daily (80%) using toothpaste (93.3%). Common Aharaja nidanas included frequent fish intake (86.7%) and Viharaja nidanas included sleeping after meals (40%).

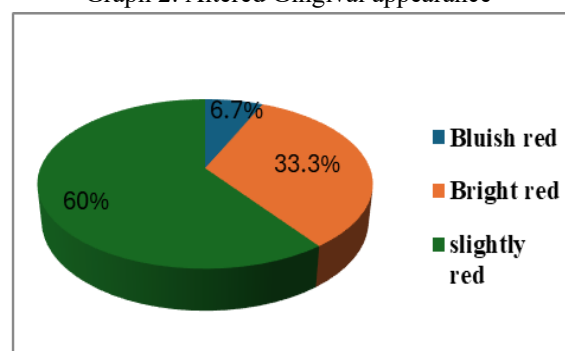
Clinical Features: Most patients (73.3%) had a disease duration of 6–12 months. All (100%) presented with gum bleeding, predominantly during brushing (93.3%). Gingival swelling (93.3%), plaque accumulation (93.3%), and mild pain (6.7%) were noted. Altered gingival colour (slightly red) was seen

in 60% of cases. Pus discharge occurred in 26.7%, and dental caries in 60% of patients

Graph 1: Chronicity of disease



Graph 2: Altered Gingival appearance



Response to Treatment: Significant improvement was observed in all major clinical parameters following 15 days of intervention with Vyoshadi Pratisarana and Suntyadi Taila Gandusha.

Table 7. Summary of Clinical Outcomes

Outcome Measure	Observation / Result	Statistical Significance (p-value)	Interpretation
Gingival Index	Mean score reduced from 1.91 to 1.08	$p < 0.001$	Marked reduction in gingival inflammation
Bleeding Index	73.3% of patients showed no bleeding post-treatment	$p < 0.001$	Significant improvement in gingival bleeding
Severity of Bleeding	73.3% attained Grade 0 (no bleeding) after treatment	$p < 0.001$	Highly significant reduction in bleeding severity
Halitosis	73.3% showed complete absence of oral malodour	$p < 0.001$	Significant improvement in halitosis
Tooth Mobility	No significant change observed	$p = 1.000$	Statistically insignificant change

Overall, the combined therapy demonstrated statistically significant improvement in gingival inflammation, bleeding, and halitosis, with sustained benefits during follow-up assessments on the 31st and 61st days.

VI. DISCUSSION

The present study aimed to pacify Mukha Roga by employing treatment modalities grounded in classical principles. The synergistic action of Vyoshadi Pratisarana and Gandusha with Suntyadi Taila was evaluated. Pratisarana Karma is widely advocated for oral diseases, and the combination of Vyosha, Saindhava Lavana, and honey was selected to primarily pacify Kapha Dosha and associated disease manifestations. Katu Rasa ingredients Sunti (*Zingiber officinale*), Maricha (*Piper nigrum*), and Pippali (*Piper longum*)-exhibit Srothosodhana, Krimihara and Kanduhara properties reducing Kapha Dosha and microbial load.

Sunti possesses Sopahara properties, effectively managing exudates and inflammation, with proven topical anti-inflammatory and antimicrobial effects^[20]. Maricha acts against oral bacterial infections without aggravating Pitta Dosha, while Pippali, with its Rasayana and anti-inflammatory properties, supports tissue healing. Saindhava Lavana enhances drug penetration and promotes Kapha removal, whereas honey contributes Vrana Sodhana, Ropana, Sandhana, and Yogavahi actions, promoting healthy gingival tissue formation and antibacterial effects, validated against common oral pathogens. Gandusha was performed using Suntyadi Taila, prepared from Tila Taila (*Sesamum indicum*) processed with Sunti, Tila, and milk in Madhyamapaka. Tila Taila exhibits Twak Prasadana, Krimihara, Brimhana, and wound-healing properties, while milk (Ksheera) balances Pitta and Rakta and supports tissue regeneration. Oil pulling with Tila

Taila has been shown to reduce salivary and plaque bacterial counts, supporting its clinical efficacy.

VII. CONCLUSION

The study highlights the significance of the buccal mucosa as a drug delivery system, given its rich vascularity and permeability, making Gandusha a potentially effective local and systemic therapy. Overall, the combination of Vyoshadi Pratisarana and Suntyadi Taila Gandusha demonstrated efficacy in alleviating clinical features of Upakusha, resembling chronic gingivitis with risk of periodontitis. Significant improvements were observed in inflammation, bleeding, and halitosis, though the intervention was not effective for tooth mobility within the short study duration. Further studies with larger sample sizes are required to validate the findings of this study.

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