

## Review Article



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**“ROLE OF KAVALAGRAHA AND GANDUSHA (OIL PULLING) IN ORAL AND DENTAL HEALTH”****Dr. Jalpa Gandhi<sup>1</sup>****AFFILIATIONS:**

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**ABSTRACT**

**Introduction:** Oral health is a vital component of systemic well-being, and its neglect can lead to various dental, periodontal, and systemic disorders. Ayurveda emphasizes daily oral hygiene through practices such as *Kavalagraha* and *Gandusha*, commonly referred to as oil pulling. These practices, mentioned in classical Ayurvedic texts, are claimed to prevent oral diseases, strengthen gums, and promote overall health. **Methods:** A structured review was conducted by retrieving data from Ayurvedic classics (*Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*), modern dental literature, PubMed, Scopus, and Web of Science databases. Studies focusing on the therapeutic role of oil pulling in dental plaque, gingivitis, halitosis, caries, and systemic implications were included, while non-relevant and anecdotal reports were excluded. **Results:** Classical texts describe *Kavalagraha* and *Gandusha* as preventive and curative measures for *Mukharoga* (oral diseases) and systemic disorders. Modern clinical studies indicate that oil pulling with sesame, coconut, or sunflower oil significantly reduces *Streptococcus mutans* counts, dental plaque, halitosis, and gingival bleeding. Randomized controlled trials have shown comparable efficacy of oil pulling with chlorhexidine mouthwash in reducing plaque and gingivitis, though with fewer side effects. Additionally, its antioxidant and anti-inflammatory properties suggest broader systemic health benefits. **Discussion:** The integrative evidence suggests that *Kavalagraha* and *Gandusha* provide a safe, cost-effective, and holistic approach to oral hygiene. However, gaps remain in long-term randomized trials, mechanistic studies, and standardization of oils used. Bridging Ayurvedic wisdom with contemporary research may strengthen preventive dentistry.

**KEYWORDS:** Ayurveda, dental health, Gandusha, Kavalagraha, oil pulling

## INTRODUCTION

Oral health has a direct influence on systemic health, impacting conditions such as cardiovascular disease, diabetes, and respiratory infections<sup>[1-2]</sup>. Conventional dentistry largely relies on mechanical cleaning and chemical agents like chlorhexidine for oral hygiene<sup>[3]</sup>. However, long-term use of chemical agents often leads to adverse effects such as altered taste sensation and mucosal irritation. This highlights the need for complementary, safe, and sustainable alternatives<sup>[4-5]</sup>.

Ayurveda, the ancient Indian system of medicine, provides several daily practices under *Dinacharya* (daily regimen) aimed at preserving oral health<sup>[6]</sup>. Among these, *Kavalagraha* and *Gandusha* (oil pulling) are specifically recommended for strengthening teeth, preventing oral diseases, and maintaining systemic health. Classical Ayurvedic texts elaborate on different oils, medicated decoctions, and formulations for their preventive and therapeutic use<sup>[7-8]</sup>.

The objective of this review is to comprehensively analyze the role of *Kavalagraha* and *Gandusha* in maintaining oral and dental health by integrating classical Ayurvedic principles with modern scientific evidence, thereby highlighting their relevance in contemporary preventive dentistry<sup>[9-10]</sup>.

## MATERIALS AND METHODS

This review was conducted using a systematic approach:

1. **Databases searched:** PubMed, Scopus, Web of Science, Google Scholar, AYUSH Research Portal<sup>[11]</sup>.
2. **Search terms:** “Kavalagraha,” “Gandusha,” “oil pulling,” “Ayurveda and oral health,” “Ayurvedic dentistry,” “gingivitis Ayurveda.”<sup>[12]</sup>
3. **Inclusion criteria:** Studies published between 2000–2025, clinical trials, systematic reviews, animal studies, and relevant Ayurvedic references<sup>[13]</sup>.
4. **Exclusion criteria:** Anecdotal reports, non-peer-reviewed sources, and articles not related to oral or dental health<sup>[14]</sup>.
5. **Ayurvedic texts:** *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, *Bhavaprakasha*, and *Sharangadhara Samhita* were reviewed for classical references.

6. **Data extraction:** Information on mechanisms, clinical outcomes, oil types, and therapeutic benefits was synthesized thematically<sup>[15]</sup>.

## OBSERVATION AND RESULTS

### 1. Classical Ayurvedic Perspective

Ayurvedic texts identify *Kavalagraha* (holding oil in the mouth with movement) and *Gandusha* (filling the mouth completely with oil or medicated fluid without movement) as daily regimens under *Dinacharya*. The *Charaka Samhita* describes them as preventive measures for *Mukharoga* (oral diseases) and systemic disorders. The practice is believed to strengthen teeth (*danta*), gums (*dantamula*), jaw (*hanusandhi*), and improve voice quality. *Sushruta Samhita* specifies indications in dryness of mouth, foul smell, and toothache.

Four types of *Gandusha* are mentioned—*Sneha Gandusha* (with oil/ghee), *Kshira Gandusha* (with milk), *Takra Gandusha* (with buttermilk), and *Kashaya Gandusha* (with herbal decoctions), each indicated based on *dosha* predominance. Oils such as sesame oil (*Tila Taila*), coconut oil, and medicated oils like *Irimejadi Taila* and *Dantashodhana Taila* are most frequently prescribed.

### 2. Mechanisms of Action (Ayurvedic and Modern Correlation)

From an Ayurvedic standpoint, oil pulling pacifies aggravated *Kapha* and *Vata dosha* in the oral cavity, removes *ama* (toxins), and enhances lubrication. Modern science suggests that oil pulling acts through mechanical cleaning, antibacterial properties, and saponification, which disrupts microbial adherence to teeth and gums. Oils also have antioxidant and anti-inflammatory properties, reducing oxidative stress in periodontal tissues.

### 3. Antimicrobial Efficacy

Several studies confirm the antimicrobial action of oil pulling. Asokan et al. (2009) demonstrated significant reduction in *Streptococcus mutans* counts after daily sesame oil pulling for two weeks. Coconut oil, due to lauric acid, has broad-spectrum antimicrobial activity against oral pathogens including *Candida albicans*. Clinical trials show oil pulling as effective as chlorhexidine in reducing bacterial counts, with fewer side effects such as staining or mucosal irritation.

### 4. Plaque and Gingivitis Control

Dental plaque is a biofilm central to gingivitis and

periodontitis. Randomized controlled trials (RCTs) indicate that oil pulling reduces plaque indices comparably to chlorhexidine. A study by Peedikayil et al. (2016) using coconut oil reported significant reduction in plaque and gingival indices after 30 days. Amith et al. (2007) found improvement in gingival bleeding and inflammation within 2 weeks of sesame oil pulling.

### 5. Effect on Halitosis

Halitosis (bad breath) is linked to volatile sulfur compounds produced by bacteria. Oil pulling reduces halitosis by lowering bacterial load and improving oral mucosa health. Jauhari et al. (2015) reported that sesame oil pulling was as effective as chlorhexidine mouthwash in halitosis reduction among adolescents.

### 6. Role in Dental Caries Prevention

Dental caries arises from acidogenic bacteria, primarily *S. mutans*. Oil pulling reduces bacterial adherence and plaque accumulation, lowering cariogenic potential. Though evidence is limited, preliminary studies support its role in caries prevention, particularly in children.

### 7. Periodontal Health and Systemic Links

Ayurveda considers oral cavity as a gateway to systemic health. Chronic gingivitis and periodontitis are linked with systemic inflammation, cardiovascular disease, and diabetes. The anti-inflammatory properties of oil pulling oils may lower systemic inflammatory burden. A few studies reported improvement in oral hygiene scores among diabetic patients practicing oil pulling, though robust evidence is limited.

### 8. Comparative Efficacy with Modern Agents

Chlorhexidine is the gold standard for chemical plaque control. However, long-term use causes staining, altered taste, and mucosal irritation. Oil pulling offers comparable efficacy in plaque reduction, gingivitis control, and halitosis, with better tolerability and cost-effectiveness. While chlorhexidine acts rapidly, oil pulling requires regular, sustained practice for benefits.

### 9. Patient Acceptability and Safety

Oil pulling is inexpensive, non-invasive, and culturally rooted in India, enhancing patient compliance. No significant adverse effects are reported except occasional gag reflex. The absence of chemical side effects makes it suitable for children and long-term preventive use.

## 10. Thematic Summary of Literature

- **Ayurvedic texts:** Emphasize oil pulling as preventive and curative for oral and systemic diseases.
- **Modern clinical trials:** Support plaque, gingivitis, and halitosis reduction.
- **Pharmacological studies:** Confirm antimicrobial, antioxidant, and anti-inflammatory actions.
- **Limitations:** Small sample sizes, short durations, lack of multicentric long-term trials.

## DISCUSSION

Oil pulling practices—*Kavalagraha* and *Gandusha*—represent an intersection between Ayurveda and preventive dentistry. The Ayurvedic perspective emphasizes *dosha* balance, toxin removal, and strengthening of oral structures. Modern dentistry focuses on microbial control, mechanical cleaning, and prevention of plaque accumulation. Despite differing paradigms, both approaches converge in highlighting the importance of maintaining oral hygiene for systemic health<sup>[16]</sup>.

The critical advantage of oil pulling lies in its holistic, preventive nature. Unlike chlorhexidine and synthetic mouthwashes, which act through potent but short-term antimicrobial effects, oil pulling provides gradual yet sustained benefits without adverse reactions. The absence of staining, altered taste, or mucosal irritation improves patient compliance, especially for children and elderly individuals<sup>[17]</sup>.

Another important dimension is the systemic impact of oral health. With mounting evidence linking periodontal inflammation to cardiovascular disease, diabetes, and adverse pregnancy outcomes, oil pulling offers a low-cost adjunct that may indirectly reduce systemic inflammation. The antioxidant and anti-inflammatory properties of sesame and coconut oils align well with this preventive potential<sup>[18]</sup>.

However, gaps remain. Most clinical trials conducted so far are small-scale, single-centered, and of short duration (2–4 weeks). Variations in oil types, duration of practice, and evaluation indices make it difficult to establish standardized protocols. Moreover, mechanistic studies are sparse—future research should focus on microbial genomic analysis, cytokine modulation, and salivary biomarkers to elucidate precise pathways<sup>[19]</sup>.

From a public health perspective, oil pulling can be integrated into school dental health programs, community oral hygiene campaigns, and preventive dentistry curricula. It is especially relevant for resource-limited settings where access to dental care is poor. However, for global acceptance, standardization and scientific validation are essential<sup>[20]</sup>.

In conclusion, oil pulling embodies Ayurveda's preventive ethos while complementing modern dental science. Collaborative research bridging traditional practices with contemporary methodologies can establish oil pulling as a globally accepted preventive dental health strategy.

## CONCLUSION

*Kavalagraha* and *Gandusha* (oil pulling) are time-tested Ayurvedic practices with significant relevance in modern oral and dental health care. Evidence from classical texts, modern clinical trials, and pharmacological studies converges to demonstrate their role in reducing dental plaque, controlling gingivitis, preventing halitosis, and lowering oral microbial load. Their systemic benefits, derived from anti-inflammatory and antioxidant properties, further enhance their preventive potential.

Compared to conventional chemical mouthwashes like chlorhexidine, oil pulling is safe, inexpensive, culturally acceptable, and free from side effects. It holds particular promise as a sustainable public health intervention in both developing and developed settings.

Nonetheless, the current body of evidence is limited by small-scale studies, lack of standardized protocols, and insufficient long-term data. Future multicentric randomized controlled trials, mechanistic studies, and standardized guidelines for oil selection, duration, and practice frequency are necessary to establish oil pulling as a mainstream preventive dental practice.

This review concludes that oil pulling, when practiced regularly as part of daily oral hygiene, represents a holistic, natural, and sustainable approach to oral healthcare. Its integration with modern dentistry can significantly strengthen preventive strategies, improve population oral health, and reduce the global burden of oral diseases.

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