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# Oil Pulling: Fact or Fad?

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# Oil Pulling: Fact or Fad?

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## Abstract

**Problem:** There is a greater need in today's world for better oral care across all populations. In developing countries, the tradition of oil pulling has provided an affordable and accessible alternative to antimicrobial rinse agents. Western society has taken note of this and oil pulling has emerged as the latest oral hygiene fad.

**Methods:** This review of literature used the following databases: PubMed, CINAHL and Google Scholar to identify relevant research articles. Search terms included oil pulling, coconut oil, sesame seed oil, oil swishing, oral health, periodontitis, gingivitis, and bacterial adherence. The studies reviewed used previously validated data collection methods to report their results. Articles included in this review had to be published after 2015.

**Major findings:** Many studies have shown oil pulling to be comparable to chlorhexidine in antimicrobial properties and even reduce plaque adherence.

**Conclusions:** Oil pulling shows to be an additional method for improving oral hygiene by reducing bacterial counts, plaque adherence, malodor and aid in enhancing overall gingival health. Although there have been promising outcomes there needs to be larger scale, long term studies to definitively prove the benefits of oil pulling in the oral cavity. Additionally, these studies need to include subjects from varied geographic locations and cultures worldwide.

## Methods and Materials

This review of literature used the following databases: PubMed, CINAHL and Google Scholar to identify relevant research articles. Search terms included oil pulling, coconut oil, sesame seed oil, oil swishing, oral health, periodontitis, gingivitis, and bacterial adherence. The studies reviewed used previously validated data collection methods to report their results. Articles included in this review had to be published after 2015.

## Introduction

There is a greater need in today's world for better oral care across all populations. In developing countries, the tradition of oil pulling has provided an affordable and accessible alternative to antimicrobial rinse agents. The incorporation of oil pulling into daily routines has been proven to improve oral and general health, specifically to those in lower socioeconomic groups.<sup>1</sup> Western society has taken note of this and oil pulling has emerged as the latest oral hygiene fad. The most commonly used oils are coconut and sesame oil. Regardless of which oil used, it is orally administered, swished for 20 minutes, spit out or "pulled", and followed by conventional hygiene practices.<sup>2</sup> This practice comes from ancient Ayurvedic medicine, which is one of the world's oldest holistic healing systems.<sup>3</sup> Ayurveda utilizes plant-based alkaloids to treat a variety of systemic diseases.<sup>4</sup> It is believed to prevent or treat 30 different types of systemic diseases including headaches, diabetes mellitus, asthma and oral diseases.<sup>1</sup> Proponents of oil pulling state it has the ability to remove harmful bacteria, treat tooth decay, reduce halitosis, improve gingival and dental health, and systemically reduce chances for heart disease.<sup>4</sup>

Property found	Effect
High lauric acid content	Inhibits growth of <i>S. aureus</i> , <i>B. cereus</i> , <i>S. typhimurium</i> , and <i>E. coli</i>
Lauric acid + sodium in saliva = sodium laurate	Base for many soaps; reduces microbes
Mechanical force	Emulsifies oil, forms oil layer over tooth surface and prevents bacterial adhesion
Alkali hydrolysis of fat	High saponification value aids in removing microbes

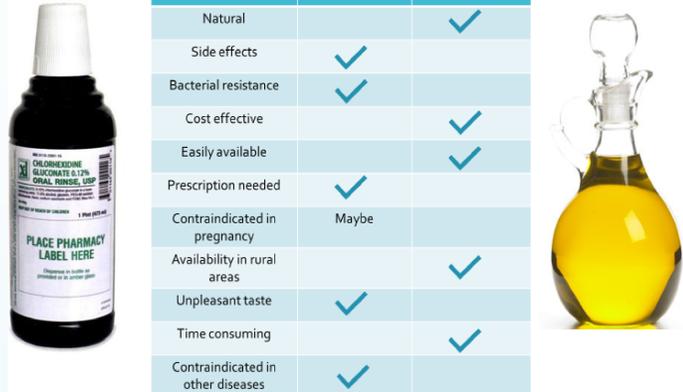
## Results

### Studies in favor of oil pulling

- Chalk et al.
  - Purpose:** In 2017, a study was conducted to understand the effect of coconut oil pulling on plaque-induced gingivitis.
  - Results:** In a 30-day period, there was an observed improvement of gingival index and a reduction in plaque index scores. Oil pulling cannot be used as a substitute for toothbrushing, however, it can be an easy and effective aid to daily oral hygiene.<sup>11</sup>
- Kandaswamy et al.
  - Purpose:** In 2018, a randomized trial was conducted to evaluate the effectiveness of a probiotic mouthwash, sesame oil pulling and chlorhexidine-based mouthwash on plaque accumulation and gingival inflammation.
  - Results:** The study concluded that in comparison to chlorhexidine, which is currently highly used and recommended by dental professionals, sesame oil pulling was equally effective in improving the plaque and gingival health of the children. Oil pulling was better tolerated by the children than chlorhexidine and was easily available to families financially.<sup>12</sup>

### Studies against oil pulling

- Rayner et al.
  - Purpose:** In 2016, a pilot study was completed by Rayner et al in order to assess changes in gingival bleeding and biofilm accumulation in young adults.<sup>4</sup>
  - Results:** There was no statistically significant evidence that oil pulling for 10 minutes for a period of 10 days has any significant benefit over brushing and flossing alone. However, this study did acknowledge limitations due to time period, population and instruction compliance.
- Jauhari et al.
  - Purpose:** A study to compare the antimicrobial effects of oil pulling, herbal mouth rinses and fluoride mouthwash on *S. mutans* counts in saliva.
  - Results:** After treatments, maximum reduction in *S. mutans* was seen in the fluoride and herbal mouth rinse groups while there was no statistically significant difference in the oil pulling group.



Attribute	Chlorhexidine mouthwash	Oil pulling
Natural		✓
Side effects	✓	
Bacterial resistance	✓	
Cost effective		✓
Easily available		✓
Prescription needed	✓	
Contraindicated in pregnancy	Maybe	
Availability in rural areas		✓
Unpleasant taste	✓	
Time consuming		✓
Contraindicated in other diseases	✓	

## Conclusion

Studies show the integration of oil pulling into daily oral hygiene can have the potential to be effective in preventing plaque accumulation, plaque-induced gingivitis and improvement of gingival health. There remains a need for further studies to definitively prove if this fad is indeed fact.

## Acknowledgements

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