

## Original Article

**OIL PULLING : A TRADITIONAL INDIAN FOLK REMEDY**

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**ABSTRACT**

**Aim:** The aim of this study was to evaluate the effect of oil pulling with sesame oil, coconut oil, as compared to chlorhexidine on plaque induced gingivitis.

**Material and Method:** Sample size consisted of 30 subjects 10 in each group with plaque induced gingivitis. Subjects underwent scaling root planing and were randomly assigned to either of the 3 groups. Clinical and microbiological parameters were assessed at regular intervals and results were subjected to statistical analysis.

**Results:** The results of the current study show that there is a statistically significant difference in the clinical and microbiological parameters in all 3 individual groups; however intergroup comparison showed no statistically significant difference in clinical and microbiological parameters.

**Conclusion :** Oil-pulling therapy has been as equally effective as chlorhexidine against plaque-induced gingivitis. Oil pulling has the following advantages over chlorhexidine: no staining, no lingering after-taste, and no allergy. There are no disadvantages for oil pulling therapy except for the extended duration of the procedure compared with chlorhexidine.

**KEYWORDS :** Oil Pulling, Sesame oil, Coconut oil, Chlorhexidine

**INTRODUCTION**

Plaque induced gingivitis is the most common form of periodontal disease. Gingivitis is

reversible if subjected to early diagnosis and treatment regular maintenance schedules and good oral hygiene. The conventional method to treat gingivitis is mechanical plaque control combined with chemical plaque control measures.<sup>1</sup> Currently herbal products and the field of Ayurveda have been researched for their role in plaque control. Numerous techniques in Ayurveda have been advocated to maintain good oral hygiene as such as oil pulling. Oil pulling or oil swishing therapy is a traditional procedure in which the practitioners rinse or swish oil in their mouth.<sup>2</sup> Numerous herbal extracts such as sesame oil and coconut oil have shown promising results when used to treat oral infections. Sesame oil is considered to be the queen of oil seed crops because of its beneficiary effects. Sesame oil has been noted to have excellent antioxidant properties.<sup>2</sup> Coconut oil has been exhibiting good antibacterial properties.<sup>3</sup>

**AIM AND OBJECTIVE**

To evaluate the effect of oil pulling with sesame oil, coconut oil, as compared to chlorhexidine on plaque induced gingivitis

**MATERIALS AND METHOD****Inclusion Criteria**

- Subjects with plaque-induced gingivitis
- All 30 subjects were age-matched

**Exclusion Criteria**

- Use of any kind of medication in past 6 months
- History of dental treatment

Total of 30 patients with plaque induced gingivitis were included in the study and were

divided into 3 groups. 10 patients were assigned in each group. Informed consent was obtained from study subjects.

**GROUP I** – Given 0.2% chlorhexidine mouthwash for 1 minute everyday in morning before brushing for 21 days.

**GROUP II** – Subjected to oil pulling with sesame oil for 8-10 minutes every day in morning before brushing for 21 days.

**GROUP III** – Subjected to oil pulling with coconut oil for 8-10 minutes every day in morning before brushing for 21 days.

Clinical parameters assessed were Plaque Index (Figure 1) by Silness and Loe (1964) and Gingival Index (Figure 2) by Loe and Silness (1963). The plaque samples were collected using sterile paper point (Figure 3) and analysed for anaerobic bacterial count (Figure 4 & 5) by incubating samples in 5% CO<sub>2</sub> condition using candle jar desiccator at 37°C for 48 hours. The values for both clinical and microbiologic parameter were assessed at baseline and 21<sup>st</sup> day.



**Figure 1 : Plaque Index**



**Figure 2 : Gingival Index**



**Figure 3 : Plaque sample using Paper Point**



**Figure 4 : Anaerobic Bacterial Colony count**



**Figure 5 : Anaerobic Bacterial Colony  
count post treatment**

## **RESULTS AND STATISTICAL ANALYSIS**

Table 1 shows Comparison within groups between variables using paired T test.

\* P Value <0.05 is considered significant. Before and after comparison

VARIABLES		Chlorhex	Sesame oil	Coconut oil	P value
ANAEROBIC Bacterial Count	Baseline	3.1 (0.6)	2.8 (0.4)	3.2 (0.4)	<0.05
	21 days	2.6 (0.4)	2.1 (0.2)	2.5 (0.3)	
Gingival Index	Baseline	0.7 (0.2)	0.6 (0.04)	0.6 (0.06)	<0.05
	21 days	0.2 (0.06)	0.3 (0.03)	0.3 (0.05)	
Plaque Index	Baseline	0.5 (0.1)	0.7 (0.1)	0.6 (0.02)	<0.05
	21 days	0.2 (0.04)	0.3 (0.08)	0.3 (0.06)	

**Table 1 shows Comparison within groups between variables using paired T test**

**Table 2– Comparison Between Groups using one way ANOVA**

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		N	Mean	Std. Deviation	95% Confidence Interval for Mean		P value
					Lower Bound	Upper Bound	
ABC	Chlorhex	10	3.333	0.686	1.6108	4.4459	0.527
	Sesame oil	10	2.8	0.4359	1.7172	3.8828	
	Coconut oil	10	3.1667	0.4163	2.2324	4.3009	
21 Days	Chlorhex	10	2.6667	0.4163	1.6324	3.7009	0.139
	Sesame oil	10	2.1667	0.2082	1.6496	2.6838	
	Coconut oil	10	2.5333	0.3055	1.9744	3.4922	
GI_Baseline	Chlorhex	10	0.7533	0.2281	0.1133	1.02	0.274
	Sesame oil	10	0.6067	0.0462	0.4919	0.7214	
	Coconut oil	10	0.6467	0.0611	0.4949	0.7984	
GI_21days	Chlorhex	10	0.24	0.06	0.091	0.389	0.169
	Sesame oil	10	0.28	0.0346	0.1939	0.3661	
	Coconut oil	10	0.3333	0.0577	0.1899	0.4768	
PI_Baseline	Chlorhex	10	0.5067	0.0982	0.2628	0.7505	0.096
	Sesame oil	10	0.7467	0.165	0.3367	1.1566	
	Coconut oil	10	0.5933	0.0231	0.536	0.6507	
PI_21 days	Chlorhex	10	0.2533	0.0451	0.1413	0.3653	0.581
	Sesame oil	10	0.3	0.0866	0.0849	0.5151	
	Coconut oil	10	0.31	0.0656	0.1471	0.4729	

## DISCUSSION

The results of the current study show that there is a statistically significant reduction in the clinical and microbiological parameters in all 3 individual groups.(Table 1& 2) In Group I- (Chlorhexidine) The results may be attributed to cationic bisbiguanide with broad antibacterial activity and antimicrobial property on reducing plaque and gingivitis. (Axelsson and Lindhe 1987) <sup>4</sup> Oil pulling activates the enzymes and draws the toxins out of the blood.<sup>2</sup> In oil pulling as the oil is swished in the mouth the mechanical shear forces exerted on the oil leads to its emulsification and the surface area of the oil is greatly increased.<sup>4</sup>The oil film thus formed on the surface of the teeth and the gingiva can reduce plaque adhesion and bacterial co-aggregation.<sup>5</sup>The alkalies in the saliva can react with the oil leading to saponification which can reduce the adhesion of plaque.(Dr. Karach 1990) <sup>4</sup> In group II-(sesame oil) sesamin or sesamol protects the oral cavity from infection and inflammation by its anti-oxidant property.<sup>4</sup> In Group III – (Coconut Oil) The lauric acid reacts

with sodium hydroxide in saliva during oil pulling to form sodium laureate. The main constituent of soap which is responsible for cleansing action and decreased plaque accumulation.<sup>3</sup> However according to results, intergroup comparison showed no statistically significant difference in clinical and microbiological parameters.(Table 1&2)

## CONCLUSION

Oil pulling therapy has been equally effective as chlorhexidine against plaque induced gingivitis.<sup>7</sup> Oil pulling has certain advantages over chlorhexidine like no lingering after taste, no allergy and also cost effective. There are no disadvantages for oil pulling therapy except for the extended duration of the procedure compared with chlorhexidine.<sup>2</sup>

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