

Clinical Study:

Randomized, controlled, double blind parallel arm study conducted over 90 days on 90 subjects at The Oxford Dental College, Hospital and Research Center, Bangalore.

A randomized, controlled, double blind parallel arm study was conducted over 90 days on 90 subjects. The subjects were randomly divided into three groups and baseline data was collected using **Loe & Silness gingival index** and **Quigley Hein plaque index** and oral prophylaxis was performed on all the subjects.

The mouthrinses included in the study were

1. **Placebo** (Mint water),
2. **Befresh** (Essential oil) and
3. **Hexodent** (Chlorhexidine gluconate 0.2%).

Intervention regarding mouthrinsing was given to the subjects and were followed up for 45 days and 90 days, after this, post intervention changes were assessed using the respective indices.

Part I - Distribution of Subjects & recording of Baseline Data

1. Distribution of study subjects according to Age:

Variable	Placebo	Essential oil	Chlorhexidine
n	30	30	30
Mean Age (years)	20.1	21.4	20.8

n = number of subjects.

2. Distribution of study subjects according to Gender:

Variable	Placebo	Essential oil	Chlorhexidine
N	30	30	30
Male (%)	12 (40)	9 (30)	12 (40)
Female (%)	18 (60)	21 (70)	18 (60)

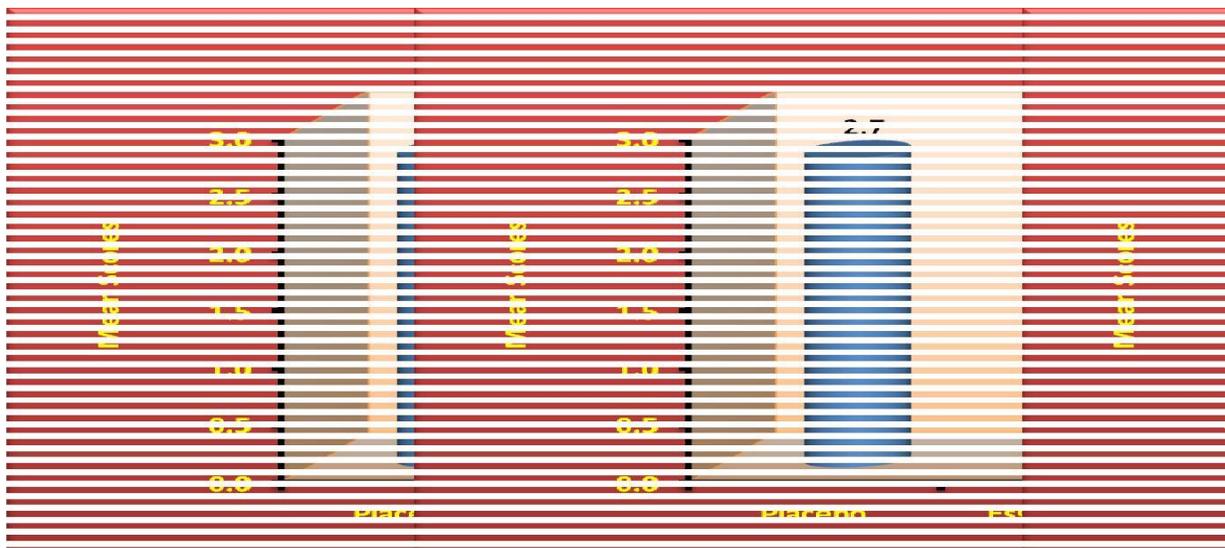
3. Distribution of study subjects according to baseline mean Gingival index scores:

During the analysis of the gingivitis using Loe & Silness gingival index (1963), the gingival scores were recorded and the mean of the total gingival scores of all the study subjects were compared.



4. Distribution of study subjects according to baseline mean Plaque index scores:

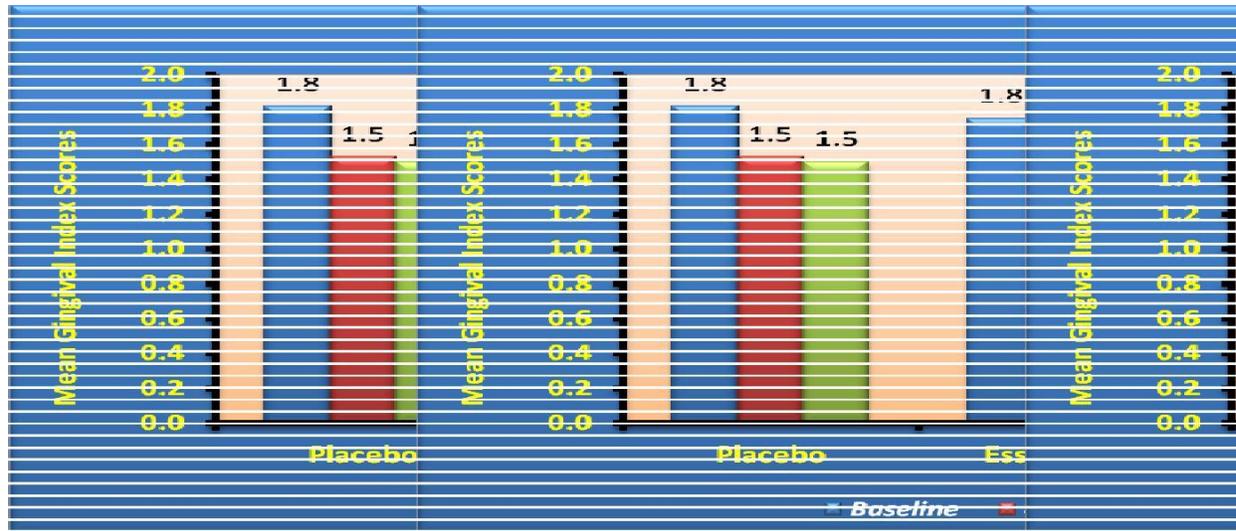
During the analysis of the plaque levels, using Turesky, Gilmore, Glickman modification of Quigley Hein Plaque Index (1962), the buccal and lingual surfaces of the tooth were scored and the mean of the total plaque scores of all the study subjects were compared.



Part II - RESULTS

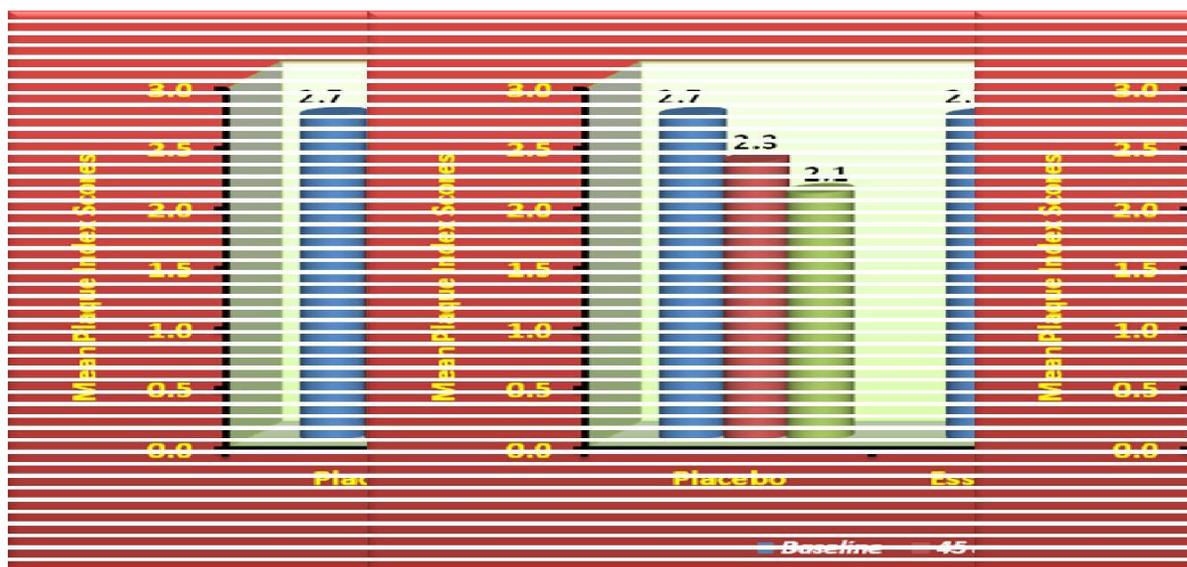
1. Comparison of intergroup difference in Gingival index scores at various time intervals:

Essential oil (Befresh) had a higher reduction in gingival scores - 34.5% and 57.1% at 45 and 90 days respectively. Whereas Chlorhexidine had a reduction of 33.3% and 55.3% at 45 and 90 days respectively.



3. Comparison of intergroup difference in Plaque index scores at various time intervals:

This shows that the essential oil (Befresh) and chlorhexidine mouthrinse had demonstrable effect on plaque at 45 and 90 days when compared with control.



3. Intra group comparison of means between various intervals - Essential oil group:

Variables	Gingival Scores		Plaque Scores	
	Paired t	p- value	Paired t	p -value
Baseline Vs 45 days	17.29	p < 0.001*	13.95	p < 0.001*
45 days Vs 90 days	15.81	p < 0.001*	17.34	p < 0.001*
Baseline Vs 90 days	22.26	p < 0.001*	20.57	p < 0.001*

(* p value significant)

4. Intra group comparison of means between various intervals - Chlorhexidine group:

Variables	Gingival Scores		Plaque Scores	
	Paired t	p- value	Paired t	p -value
Baseline Vs 45 days	18.06	p < 0.001*	17.85	p < 0.001*
45 days Vs 90 days	10.58	p < 0.001*	11.76	p < 0.001*
Baseline Vs 90 days	22.96	p < 0.001*	21.63	p < 0.001*

(* p value significant)

CONCLUSION:

- ♣ Essential oil group showed reduction of 57.1% in the gingival index scores from baseline and post intervention, where as chlorhexidine group showed a reduction of 55.3%, but there was no statistical difference between the groups.
- ♣ Chlorhexidine group showed reduction of 61.4% in the plaque index score from baseline and post intervention, where as essential oil group showed a reduction of 50.9%, but there was no statistical difference between the groups.
- ♣ The Antigingival effectiveness was seen more in the Essential oil group and the Antiplaque effectiveness was seen more in the 0.2% Chlorhexidine gluconate group.

IT IS THUS CONCLUDED THAT ESSENTIAL OIL MOUTHRINSE (BEFRESH) AND 0.2% CHLORHEXIDINE GLUCONATE MOUTHRINSE (HEXODENT) HAVE SIMILAR ANTIPLAQUE AND ANTIGINGIVAL EFFECTIVENES