



**“AN INVESTIGATION OF THE ANTIMICROBIAL EFFICACY  
OF COMMERCIALY AVAILABLE HERBAL AND NON-  
HERBAL TOOTHPASTES - AN IN-VITRO STUDY”**

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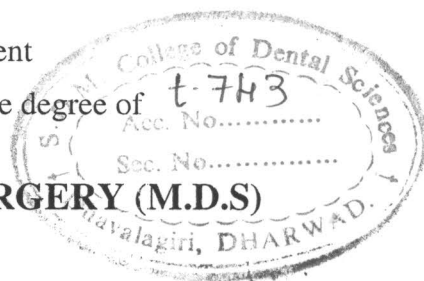
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## **ABSTRACT**

**BACKGROUND:** Toothpastes are the most common and most accessible means of preventive oral health care. Many commercially available dentifrices claim to have antimicrobial properties, but little research has been conducted to investigate these claims. **OBJECTIVE:** The present study was conducted to assess the in-vitro antimicrobial efficacy of commercially available herbal and non-herbal toothpastes. **METHODOLOGY:** In-vitro antimicrobial efficacy of seven commercially available herbal and non-herbal toothpastes was assessed by Minimal Inhibitory Concentration method against *Streptococcus mutans*, *Lactobacillus* and *Candida albicans*. Antimicrobial sensitivity was determined by presence or absence of turbidity in solutions containing serially diluted toothpastes and microorganisms. Results were subjected to statistical analysis. **RESULTS:** Statistically significant difference was seen in antimicrobial efficacy of Smyle of non-herbal group when compared with Meswak ( $p=0.0470$ ) & Dentobac ( $p=0.0171$ ) of herbal group and between Anchor White of non-herbal group and Dentobac ( $p=0.0470$ ) of herbal group against *Candida*. Antimicrobial efficacy of Ajanta ( $p=0.0171$ ), Anchor White ( $p=0.0171$ ), Smyle ( $p=0.0470$ ), Pepsodent ( $p=0.0470$ ), Colgate total ( $p=0.0171$ ) of non-herbal group was statistically significantly different when compared with Dentobac of herbal group against *S mutans*. Against *Lactobacillus*, statistically significant difference was seen between Close-up (toothpaste No 4) of non-herbal group when compared with Neem Active ( $p=0.0470$ ) of herbal group. **CONCLUSIONS:** Although various toothpastes in both groups showed significant differences in their antimicrobial efficacy against the three microorganisms, there was no statistically significant difference in the overall antimicrobial efficacy between herbal and non-herbal group of toothpastes

**Key words:** Herbal & non-herbal toothpastes; Antimicrobial Efficacy; in-vitro; Minimum Inhibitory Concentration.