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Original Research

Comparative evaluation of clinical effects of simultaneous ultrasonic scaling and irrigation with medicated water containing 2% *Occimum sanctum* on gingivitis- A Clinical Intervention Study

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ABSTRACT:
Background-Antimicrobial therapy is considered essential as an adjunct to mechanical therapy for periodontal disease. To compare and evaluate the effectiveness of ultrasonic scaling and irrigation with2%*Occimum sanctum* extract, 0.2% chlorhexidine and distilled water in patients with chronic gingivitis. **Methods**-A sample size of 45 subjects in the age group of 20 – 65 years were randomly allocated via simple random sampling technique into three groups. Group A - Ultrasonic scaling using medicated water containing extract of 2% occimum sanctum. (test group), Group B – Ultrasonic scaling using 0.2% chlorhexidine (test group) and Group C – Ultrasonic scaling using Distilled water(control group). The Gingival Index, Plaque Index and Sulcular Bleeding Index were obtained at baseline, 7 days and 21 days. **Results-** Intra-group comparison shows significant reduction in the Plaque score for all the groups while intergroup comparison did not show any significant difference in group A and B. Intragroup comparison shows significant reduction in the Sulcular Bleeding Score for all the groups while intergroup comparison did not show any significant difference in group A and B. Intragroup comparison shows significant reduction in the Gingival score for all the groups while intergroup comparison did not show any significant difference in group A and B. Gingival inflammation was also significantly reduced in both group A and B when individually compared with group C. (p value <0.05). **Conclusion-**The results of the study has shown that ultrasonic scaling and irrigation with Tulsi extract has better effect on plaque control and gingival health and is at par with the gold standard of chlorhexidine.
Key words: *Occimum sanctum,* chlorhexidine, gingival, plaque.

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INTRODUCTION

Periodontitis is a chronic inflammatory destruction of tooth supporting tissues resulting in clinical attachment loss and radiographic bone loss.[1] Degenerative changes as a result of periodontitis mainly include collagen tissue breakdown and alveolar bone destruction, leading to periodontal pocket formation. Another key biologic feature of periodontitis is bleeding on probing that is due to the chronic inflammation in periodontal tissues provoked by a mechanical stimulus such as probing with a periodontal probe. Gingivitis is the inflammation of gingiva without apical migration of junctional epithelium.[2] A recent study by Balaji et al 2018 has shown a high prevalence of periodontal disease of 42.3% in an urban study population of 1000 individuals from South India.[3] Mechanical debridement is the prerequisite for controlling periodontal infections. However, there are some limitations of scaling and root planning. Certain deep periodontal pockets experience recolonization of pathogenic bacteria by 120-240 days despite multiple sessions of subgingival debridement.[4] Bacteria like P. gingivalis, A. actinomycetemcomitans etc. have the ability to invade the gingival tissues and dentinal tubules.[5,6] These bacteria therefore cannot be eradicated completely by mechanical debridement alone. Other niches in the oral cavity such as tongue, tonsils and buccal mucosa also harbour the pathogenic microorganisms which cannot be eradicated by scaling and root planning.[7] Therefore antimicrobials were introduced as an adjunct to conventional mechanical