An in-vitro study of the antimicrobial efficacy of personal productive herbal-made toothpaste on oral pathogens

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Background & Aim: The Dental plaque is an important risk factor for the development of the dental and periodontal disease. In most cases tooth brushing only removes a limited amount of dental plaque and other chemical agents are required to reduce the microbial load. The purpose of this survey was to determine in vitro antimicrobial effects of herbal-made toothpaste containing the extracts of Artemisia dracunculus, Satureja khuzestanica and Myrtus communis against oral pathogens related to caries and oral fungal infections.

Materials and Methods: Antimicrobial effectiveness and herbal-made toothpaste were evaluated against five microorganisms: Streptococcus mutans, Lactobacillus casei, Streptococcus sanguis, Streptococcus salivarius and Candida albicans by agar well diffusion method. The herbal-made toothpaste was tested at four different concentrations: 1:4(25%), 1:1(50%), 3:4(75%) and full strength (100%) with sterile distilled water as the diluent.

Results: After 24 hours of incubation, the maximum mean diameter of inhibition zone against tested oral pathogens by Lactobacillus casei (17 to 30mm), C. albicans (15-27mm) and the minimum mean diameter of inhibition zone against Streptococcus mutans (17-20mm).

Conclusions: The results indicate tested herbal toothpaste was a significant product to inhibit the growth of plaque bacteria and yeast.

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