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

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Background & Aim: Dental plaque is an important risk factor for the development of 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 the study is to determine the anti-microbial effects of herbal made tooth paste mainly extracts of *Artemisia dracunculus*, *Satureja khuzestanica* and *Myrtus communis*. The study mainly evaluates the *in vitro* effects against oral pathogens related to caries and oral fungal infections.

Materials and methods: Antimicrobial effectiveness an herbal-made toothpaste was evaluated against five microorganisms: *Streptococcus mutans*, *Lactobacillus caseie*, *Streptococcus sanguis*, *Streptococcus salivarius* and *Cadida albicans* by agar well diffusion method. Agar well diffusion method. The herbal made extracts were tested at four different concentrations: 1:4(25%), 1:1(50%), 3:4(75%) and full strength (100%) using sterile distilled water as diluent.

Results: After 24 hours of incubation, the maximum mean diameter of inhibition zone against tested oral pathogens by *Lactobacillus caseie* (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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