Title: In vitro evaluation of antibacterial activity of hydroalcoholic extract of Salvia officinalis and Pimpinella anisum against cariogenic bacteria

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Background and Aim: The microbial cause of dental caries has been proved among its multifactorial etiologies. The prevention and control of dental caries is very critical because of high prevalence and cost especially in high risk patient such as xerostomia. Based on the world attraction to traditional treatment and importance of drug extraction of natural materials and plants, in this in vitro study effect of hydroalcoholic extract of Salvia officinalis and Pimpinella anisum which were very useful in traditional treatment of mouth and teeth disease has been determined against cariogenic bacteria.

Materials and Methods: In this experimental study, hydroalcoholic extracts have been prepared from Salvia officinalis and Pimpinella anisum with maceration method. Their antibacterial activity against Streptococcus mutans, Lactobacillus rhamnosus and Actinomyces viscosus have been evaluated with broth macrodilution method. Data were analyzed with Mann-Whitney test.

Results: Minimum Inhibitory Concentration for Salvia officinalis and Pimpinella anisum for streptococcus mutans were respectively 6.25 and 12.5 µg/ml, for Lactobacillus rhamnosus were 1.56 and 12.5 µg/ml and for Actinomyces viscosus were 12.5 and 50 µg/ml.

Conclusion: Both extracts had growth inhibitory effect on all three bacteria. Salvia officinalis had significantly greater effect on inhibition of growth of all three bacteria. Both extracts had bactericidal effect in the range of concentration.

Key Words: Cariogenic Bacteria; Plant Extract; Antibacterial Activity; Salvia Officinalis; Pimpinella Anisum