

**Antibacterial Efficiency of
Salvia officinalis Extracts and Their Effect
on Growth, Adherence and Acid
Production of Oral Mutans Streptococci**

A thesis

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Abstract

Back ground: The use of antimicrobial agent to control plaque and oral disease has been advocated for a number of years. Different compounds have been delivered through mouth rinses or tooth pastes or by topical application.

Objective: The purpose of this research is to find out and to compare between the anticariogenic properties of aqueous and alcoholic sage extract on the most causative cariogenic bacteria in the oral cavity (Mutans streptococci).

Materials and Methods: In the present study Mutans streptococci were isolated from saliva often dental students (age range between 21-23 yrs) .These bacteria were isolated, purified and diagnosed according to morphological characteristic and biochemical tests.

The result: Agar diffusion technique showed that sage extracts (aqueous and alcoholic) were inhibited the growth of Mutans Streptococci, and the diameter of inhibition zone increased as the concentration of sage extract increased, but the effect of aqueous extract was less than the effect of alcoholic extract. The minimum bactericidal concentration of aqueous and alcoholic sage extract were 50%, 20% respectively. Also the alcoholic extract was high significant inhibit ($P < 0.01$) the viable count of Mutans Streptococci *in vitro* in comparison to aqueous extract.

Conclusions: Alcoholic sage extract was interfered with acid production and adherence of Mutans Streptococci higher than aqueous extract resultant in reducing of acid production and inhibition of the adherence of this cariogenic bacteria.

The result of the present study showed that alcoholic sage extract have substantively phenomenon similar to those in chlorohexidine in comparison to aqueous extract.