

**The Antimicrobial Effect of Aqueous and
Alcoholic Extracts of Eucalyptus
Leaves on Oral Mutans Streptococci,
Lactobacilli and *Candida albicans*
(an *in vitro* study)**

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ABSTRACT

World health organisation (2001) ranked caries as the third priority among those non-infectious chronic diseases. The purpose of this research is to find out and to compare between the antimicrobial properties of Eucalyptus leaves aqueous and alcoholic extracts on the most cariogenic bacteria in mouth (Mutans streptococci and Lactobacilli) and against *Candida albicans*.

In the present study, Mutans streptococci, Lactobacilli & *Candida albicans* were isolated from 25 saliva samples from dental students. These isolates were purified and diagnosed according to morphological characteristics and biochemical tests. Aqueous and alcoholic (ethanol) extracts were prepared from Eucalyptus leaves in different concentrations and estimated in mg/ml. Chlorhexidine 2mg/ml (0.2%) was used in the in vitro experiments while absolute ethanol used as control.

Susceptibility of Mutans streptococci, Lactobacilli and *Candida albicans* were tested by agar diffusion technique. Results showed that there was statistically highly significant difference ($p < 0.001$) between different concentrations of the aqueous and alcoholic extracts on the sensitivity of the isolates, whilst the alcoholic extract was more effective than aqueous extract just at low concentrations.

At 100mg/ml and 150mg/ml the alcoholic and the aqueous extracts were better than the 2mg/ml Chlorhexidine in relation to Mutans streptococci and *Candida albicans*.

Minimum bactericidal concentration for the aqueous extract was 5-8mg/ml, 6-10mg/ml and 3-7mg/ml for Mutans streptococci, Lactobacilli and *Candida albicans* respectively while that of the alcoholic extract was 4-8mg/ml, 6-10mg/ml and 2-6mg/ml in relation to Mutans streptococci, Lactobacilli and *Candida albicans* respectively.