

Growth inhibitory role of *Psidium guajava* leaf extracts towards *Streptococcus mutans* in Dental caries

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ABSTRACT

Herbs are nature's healing gift to human kind. Use of herbs and herbal remedies has been an integral part of the Indian life and culture from time immemorial. It is common in India to goggle decoction of guava leaves for relieving toothache, swollen gums and oral ulcers. Modern studies revealed that guava leaves contains antioxidants, anti-inflammatory agents, antibacterial, and other beneficial tannins. Guava plant leaves are best known as a natural pain reliever. There are numerous studies that have documented the benefits of guava leaves in controlling blood pressure, lowering cholesterol, battling diabetes, combating cancer and protecting prostate. *Streptococcus mutans* (*S.mutans*) is a normal flora bacteria found in human oral cavity and it is the predominant cause for dental caries. This study attempts to present the effectiveness of guava leaves extract and *in vitro* inhibitory effect of *Psidium guajava* by its active components from aqueous and different organic solvents towards *Streptococcus mutans* in dental caries. The phytochemical analysis revealed many bioactive compounds and structural characteristics of the identified phytochemicals have been confirmed by GC-MS analysis. The qualitative analysis of GC-MS found some of the major components viz Azulene, Copaene, Caryophyllene, Alloaromadendren oxide etc. The antibacterial activity of *Psidium guajava* leaf extracts with different concentrations were determined by BHI agar disk diffusion method and zone of inhibition has been calculated. In addition, the possible synergistic effects when associated with antibiotics were studied. The salivary bacterial sensitivity testing has been carried out with saliva samples before, during and after utilization of aqueous extract as oral mouth wash.