

ABSTRACT

Uncontrolled accumulation of disease causing microorganisms in the oral cavity leads to oral diseases such as dental caries. Synthetic antimicrobial agents that are incorporated into dentifrices to enhance the efficacy of the product possess side effects which led to studies on the incorporation of plant derived antimicrobials as an alternative to synthetic antimicrobial agents. Thus, the objectives of this study are to isolate *Streptococcus mutans* and *Candida albicans* from 200 individuals, investigate the antimicrobial activity of ethanol extracts of *Moringa oleifera* Lam. and *Mimusops elengi* Linn. against *S. mutans* and *C. albicans* and also to compare the efficacies of plant extracts successfully inhibiting the test organisms with the antimicrobial efficacies of triclosan and chlorhexidine. In this study, ethanol extracts of barks and leaves of *M. oleifera* and *M. elengi* were tested against the isolates. The antimicrobial efficacies were tested via disc diffusion assay whereas minimum inhibitory concentrations (MIC) were determined via agar dilution method. All the extracts did not exhibit antifungal activity against *C. albicans* whereas only the ethanol bark extracts of both the plants exhibited antimicrobial activity against *S. mutans* in a concentration dependent manner. Ethanol bark extract of *M. elengi* exhibited antibacterial activity against *S. mutans* with a mean inhibition zone of 23.9 ± 2.4 mm at 100 mg/mL with MIC of 0.8 mg/mL whereas ethanol bark extract of *M. oleifera* exhibited antibacterial activity against *S. mutans* with a mean inhibition zone of 14.8 ± 1.4 mm at 100 mg/mL with MIC of 6.3 mg/mL. Chlorhexidine exhibited the biggest mean inhibition zone 24.3 ± 1.1 mm and lowest MIC between <0.2 mg/mL-0.4 mg/mL against *Streptococcus mutans* at 0.1%. Findings from this study revealed that the ethanol bark extracts of the both the plants exhibit antibacterial activity against *S. mutans*. In addition, *M. elengi* was the most effective in inhibiting *S. mutans* when compared with triclosan and *M. oleifera*. Further investigations on the potential of these plants to combat dental caries need to be carried out.