

Antibacterial Activity of *Salvadora persica* Extracts against Oral Cavity Bacteria

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Abstract : Despite medical progress worldwide, dental caries are still widespread. Miswak is derived from the plant arak (*Salvadora persica*). It is used by Muslim people as a natural product for the cleansing of teeth, to ensure oral and dental hygiene. This study was designed to evaluate the antimicrobial effects of ethanol, methanol, and ethanol/methanol extracts of miswak against three bacterial pathogens of the oral cavity. The pathogens were isolated from the oral cavity of volunteers/patients and were identified on the basis of 16S rRNA gene amplification data. Sequence comparisons were made with 16S rRNA gene sequences available in the GenBank database. The results of sequence alignment and phylogenetic analysis identified the three pathogens as being *Staphylococcus aureus* strain KKU-020, *Enterococcus faecalis* strain KKU-021 and *Klebsiella pneumoniae* strain KKU-022. All miswak extracts showed powerful antimicrobial activity against the three pathogens. The maximum zone of inhibition (40.67 ± 0.88 mm) was observed against *E. faecalis* with ethanolic extracts whilst methanolic extracts showed the minimum zone of inhibition (10.33 ± 0.88 mm) against *K. pneumoniae* KKU-022. Based on the significant effects of the miswak extracts against the oral cavity pathogens in our study, we recommend that miswak is to be used as a dental hygiene method to prevent tooth caries.

Keywords : antibacterial, miswak, *Salvadora persica*, oral cavity pathogens

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