

IN VITRO ANTIMICROBIAL ACTIVITY OF TRADITIONAL MOUTHWASH PREPARATIONS: A PRELIMINARY STUDY

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Antimicrobial agents administered systemically or locally can help to suppress periodontal pathogens. In *Siddha* medicine, *Padikkaraneer (PN)*, *Panchathuvarpikasayam (PT)* and *Mayakaaineer (MN)* are used as mouthwashes in treating oral diseases. In this study, the herbal mouthwash preparations (HMP) were tested for their antimicrobial activity (AMA) against oral ulcer-causing pathogens viz, *Candida albicans*, *Escherichia coli*, *Pseudomonas aeruginosa* (Gram-negative) and *Staphylococcus aureus* (Gram-positive). Recommended guidelines in the *Siddha* texts were used to prepare the mouthwashes. AMA of each HMP was checked using the agar well diffusion method. Each experiment was carried out in duplicate and repeated thrice. Significant differences among HMP were analyzed using one-way ANOVA. HMPs showed significant antimicrobial activity ($p < 0.001$) against tested strains. It was observed that *PN* was the most effective among the three HMPs. The inhibitory effect of the three HMPs and the positive control on the standard organisms and clinical isolates demonstrated that *PN* contains higher antimicrobial activity. *MN* showed a zone of inhibition against *E.coli*, *P.aeruginosa* and *S.aureus*. No activity was reported against the fungi. *PT* was less effective against both Gram-negative and Gram-positive bacteria and fungi. This study revealed a potent *in vitro* activity of HMP on certain oral ulcer-causing pathogens. Results scientifically validate the inhibitory capacities of *PN* and *MN* in *Siddha* medicine, and the findings contribute towards developing new treatment options based on herbal mouthwashes.

Keywords: Antimicrobial activity, Gram-negative, Gram-positive, Herbal mouthwash preparations, *Siddha*