

## **Antimicrobial efficacy of selected commercially available mouthwashes**

Rathnayake R.M.S.U.\* and Jayaratne D.L.

*Department of Microbiology, University of Kelaniya, Kelaniya, Sri Lanka*

Mouthwashes are often used by people as they are prescribed by the dentistry, with the intention of prevention and treatment of several oral conditions. Many of commercially available mouthwashes claim to have antimicrobial properties. This *in vitro* study mainly aims to determine the antimicrobial efficacy of commercially available mouthwashes. Four commercially available mouthwashes including an Ayurvedic mouthwash were included in the study. The antimicrobial efficacies of selected mouthwashes were tested against five selected microorganisms namely, *Staphylococcus aureus* ATCC 25923, *Escherichia coli* ATCC 25922, *Pseudomonas aeruginosa* ATCC 27853, *Streptococcus pyogenes* and *Candida albicans* using agar well diffusion method and disc diffusion method. The experiments were replicated thrice. A validation test was done to determine whether there is an antimicrobial effect of the mouthwashes. The results obtained from the Tukey test indicated that, the highest effectiveness was shown by mouthwash 1 against *Candida albicans* in both disc and well diffusion methods (average inhibition zone diameter of 20.67 mm in both cases) The second highest effectiveness was shown by the mouthwash 1 against *Streptococcus pyogenes* and the third highest effectiveness was showed by the mouthwash 1 against *Escherichia coli*. Mouthwash 1 contained chlorohexidine gluconate as the active antimicrobial component. Between the two non-herbal mouthwashes, the least effectiveness was showed by the mouthwash 2 against *Pseudomonas aeruginosa*. It contained chlorohexidine-digluconate as the active ingredient. The Herbal and Ayurvedic mouthwashes didn't show antimicrobial properties.

**Keywords:** Antimicrobial, mouthwash

\*Corresponding Author: shashi.rathnayake44@gmail.com