

The comparison of the antibacterial effect of various mouth rinses towards common oral bacteria

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ABSTRAK

Aim: The aim of this study was to evaluate and compare the antibacterial effect of the commercially available mouth rinses containing 0.12% w/v chlorohexidine (CHX), 0.05% w/w cetylpyridinium chloride (CPC) and alcohol base mouthwash containing thymol (THY) towards mixed three common oral bacteria *Streptococcus mutans*, *Streptococcus mitis* and *Streptococcus sanguis*. The effect of these compounds will be used to suggest the mechanism of action of these mouth rinses as antibacterial agent in any mouth rinses product. **Material and method:** The mouth rinses were tested for sensitivity using Kirby-Bauer susceptibility test with principle of agar disc diffusion while broth micro-dilution assay was used to determine the minimal inhibition concentrations (MIC) and the minimal bactericidal concentration (MBC). Pure solution of 0.12% CHX was used as positive control and sterile deionised water was used as negative control. **Results:** Disc diffusion assay showed that the CHX and CPC are able to prevent the growth of the mixed oral bacteria at the tested concentrations. CHX significantly exhibited stronger antibacterial effect with inhibition zone (diameter mean: 2.73cm) compared to CPC inhibition zone (diameter mean: 2.27cm). THY showed less susceptibility effect (resistant – no clear zone) when compared with blank control and positive control (diameter mean: 2.53). The MIC and MBC for CHX was 0.00375% w/v while for CPC 0.0125% w/w. This showed that CHX and CPC exhibited profound antibacterial activity on selected common oral bacteria as demonstrated by the very low MIC and MBC values. THY showed its antibacterial effect only at higher concentration (>50% v/v). **Conclusion:** This implies that the incorporation of CHX and CPC in mouth rinses are better than that containing THY.