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SEMINAR KEBANGSAAN TEKNOLOGI MAKMAL KE - 11

- FARALIZA ALIAS -

"MENTRANSFORMASI TEKNOLOGI MAKMAL DALAM MENZAHIRKAN KECEMERLANGAN PENYELIDIKAN DAN INOVASI SAINTIFIK"

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ANTI-FUNGAL EFFECT OF CHEMICAL-BASED ORAL RINSES TOWARDS CANDIDA ALBICANS

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ABSTRACT

Objective: The objectives of this study were (1) to determine the anti-adherence effect of chemical-based oral rinses containing 0.12% Chlorohexadine (CHX) and alcohol-based mouth rinses containing Thymol (THY) on the adherence of Candida albicans (2) to determine the anti-fungal effects of the oral rinses in reducing the attachment of Candida albicans. Material and Method: An artificial mouth system (N.A.M model) was used in this study. The glass beads (3 mm) coated with saliva represented the experimental pellicles. In the first objective, the pellicles were initially treated with the oral rinses for 3 min before being exposed to candidal suspension for 24 hr. For the second objective, the cell attachment and biofilms were developed before being treated with the oral rinses for 3 min. The pellicles from both assays were immersed in phosphate-buffered saline (PBS) and sonicated to detach the adherent cells. The suspension was cultured on Sabaroud dextrose agar (SDA) and incubated for 48 hr. The candidal population (cfu mL-1) was enumerated. The effectiveness of oral rinses was determined based on their capacity to prevent and reduce the candidal population compared to the untreated. Results: The results obtained showed that CHX was significantly (P < 0.05) exhibited strong anti-adherence effect towards Candida albicans (10.2x10³) compared to THY (18.6x10⁵). No growth of candida colonies was observed on the SDA agar demonstrated that both CHX and THY were effectively inhibited the adherent cells on the pellicles. Conclusion: This shows that CHX exhibited stronger anti-fungal and anti-adherence effects towards Candida albicans compared to THY. The effects however were dose dependant. This implies that the incorporation of CHX is better than that of THY-containing oral rinse.