ABSTRACT

Effectiveness of mangosteen peel extract (Garcinia mangostana l) in inhibiting the formation of fungus Candida albicans on acrylic plate

Background: Acrylic resin is the most common material used for removable denture base. However, the character of porous in acrylic resin can possibly become a place for leftovers. As a result, this condition can increase the number of microorganisms in oral cavity, one of which is Candida albicans. C. albicans even can grow rapidly in dentures with poor oral hygiene. Mangosteen peel extract contains active compounds that are anti-fungal, among others, xanthones, flavonoids, saponins, and tannins. Objective: This study is aimed to determine the effectiveness of mangosteen peel extract in inhibiting the growth of C. albicans on acrylic resin as removable denture base. Materials and Methods: First, for the treatment groups acrylic plates that had been contaminated with C.albicans were soaked in mangosteen peel extract with a concentration of 50%, 25%, 12.5%. Meanwhile, for control group the plate was soaked in sterile distilled water. Next, after the acrylic plates were placed over a vibrator to loss fungal colonies, spreading was conducted on Sabboroud Dextrose Agar to count the number of C. albicans manually with colony forming unit (cfu/ml) Results: Based on the results of Kruskal-Wallis test, it is known that there was no significant difference among those treatment groups with $p = 0.000$ ($p \leq 0.05$). Conclusion: Mangosteen peel extract can inhibit the growth of C. albicans effectively at a concentration of 12.5% and 25%. It is also known that mangosteen peel extract can terminate C. albicans at a concentration of 50%.

Keywords: Acrylic resin, Candida albicans, mangosteen peel extract