

INTISARI

Resin akrilik digunakan sebagai material basis gigi tiruan karena estetika yang baik, namun tidak bersifat antimikroba, sehingga mudah dilekati *denture plaque*. Kulit nanas mengandung zat yang bersifat antimikroba. Tujuan penelitian ini untuk mengetahui pengaruh konsentrasi ekstrak kulit nanas (*Ananas comosus* (L.) Merr.) dalam *denture cleanser* terhadap perlekatan *mucin* dan *Candida albicans* (*C. albicans*) pada resin akrilik.

Bahan utama penelitian adalah resin akrilik polimerisasi panas dan kulit nanas. Sampel resin akrilik berbentuk *disk* (diameter 12 mm dan tebal 2 mm) sebanyak 72 buah (n=6). *Denture cleanser* dengan zat aktif ekstrak kulit nanas dibuat dengan konsentrasi 0%, 15%, 20%, 25%, 30%, dan 35%. Sampel resin akrilik dikontakkan dengan *mucin* selama 1 jam, direndam dalam *denture cleanser* selama 8 jam. *Mucin* pada resin akrilik dirontokkan dan dihitung konsentrasi dengan metode *optical density* (mg/ml). Koloni *C. albicans* yang melekat dirontokkan dari resin akrilik dihitung pada media *Sabouraud Dextrose Agar* (SDA) dengan *colony counter* (CFU/ml). Data dianalisis menggunakan ANAVA satu jalur dan *post-hoc* Tamhane_{0,05}.

Rerata konsentrasi *mucin* tertinggi pada konsentrasi 0% sebesar 0,757 mg/ml, sedangkan rerata terendah pada konsentrasi 35% sebesar 0,030 mg/ml. Rerata koloni *C. albicans* tertinggi pada konsentrasi 0% sebesar $214,50 \times 10^4$ CFU/ml, sedangkan rerata terendah pada konsentrasi 35% sebesar $1,33 \times 10^4$ CFU/ml. Hasil uji ANAVA satu jalur menunjukkan konsentrasi ekstrak kulit nanas dalam *denture cleanser* berpengaruh signifikan terhadap perlekatan *mucin* dan *C. albicans* pada resin akrilik ($p < 0,05$). Hasil analisis Tamhane_{0,05} menunjukkan terdapat perbedaan bermakna terhadap perlekatan *mucin* dan *C. albicans* antar semua kelompok ($p < 0,05$), kecuali konsentrasi 30% dengan konsentrasi 35% ($p > 0,05$). Kesimpulan penelitian ini konsentrasi ekstrak kulit nanas (*Ananas comosus* (L.) Merr.) dalam *denture cleanser* menurunkan perlekatan *mucin* dan *C. albicans* pada resin akrilik.

Kata kunci: *C. albicans*, *denture cleanser*, kulit nanas, *mucin*, resin akrilik

ABSTRACT

*Acrylic resin is commonly used as a denture base material because of its good aesthetics, but it is not antimicrobial, so it is easily attached to denture plaque. Pineapple peel contains substances that are antimicrobial. The purpose of this study was to determine the effect of pineapple peel extract (*Ananas comosus* (L.) Merr.) concentration in denture cleanser on mucin and *Candida albicans* (*C. albicans*) adhesion to acrylic resin.*

*The main materials of the study were hot polymerized acrylic resin and pineapple peel. The acrylic resin samples were in the form of discs (diameter 12 mm and 2 mm thick) as many as 72 pieces (n=6). Denture cleanser with active substance of pineapple peel extract was made with concentrations of 0%, 15%, 20%, 25%, 30%, and 35%. Acrylic resin samples were contacted with mucin for 1 hour, soaked in denture cleanser for 8 hours. Mucin on the acrylic resin was removed and the concentration was calculated using the optical density method (mg/ml). The attached *C. albicans* colonies were removed from the acrylic resin and counted on Sabouraud Dextrose Agar (SDA) media with a colony counter (CFU/ml). Data were analyzed using one-way ANOVA and post-hoc Tamhane_{0.05}.*

*The highest mean mucin concentration in concentration of 0% was 0.757 mg/ml, while the lowest mean was in concentration of 35% at 0.030 mg/ml. The highest mean *C. albicans* colony in concentration of 0% was 214.50×10^4 CFU/ml, while the lowest mean was in concentration of 35% at 1.33×10^4 CFU/ml. The results of the one-way ANOVA test showed that the concentration of pineapple peel extract in denture cleanser had a significant effect on the attachment of mucin and *C. albicans* to acrylic resin ($p < 0.05$). The results of the Tamhane_{0.05} analysis showed that there was a significant difference in the attachment of mucin and *C. albicans* between all groups ($p < 0.05$), except for concentration of 30% and concentration of 35% ($p > 0.05$). The conclusion of this study is that the concentration of pineapple peel extract (*Ananas comosus* (L.) Merr.) in denture cleanser reduces the attachment of mucin and *C. albicans* to acrylic resin.*

Keywords: *acrylic resin, C. albicans, denture cleanser, mucin, pineapple peel*