

## INTISARI

*Candida albicans* merupakan flora normal di rongga mulut yang berpotensi menjadi patogen. *Candida albicans* dapat melekat pada permukaan gigi tiruan terutama yang menghadap mukosa karena teksturnya kasar. Propolis mengandung senyawa aktif yang mempunyai efek antijamur yaitu flavonoid, fenol dan tanin. Penelitian ini bertujuan untuk mengkaji pengaruh konsentrasi larutan propolis terhadap pertumbuhan *Candida albicans* pada plat gigi tiruan *thermoplastic nylon*.

Penelitian ini menggunakan 24 plat *thermoplastic nylon* dengan diameter 10 mm dan tebal 2 mm. Plat *thermoplastic nylon* direndam dalam saliva buatan selama 1 jam kemudian direndam dalam suspensi *Candida albicans* selama 24 jam dengan suhu 37°C. Subjek dibagi menjadi 4 kelompok kemudian setiap kelompok direndam dalam akuades (kontrol) dan larutan propolis konsentrasi 5%, 10% dan 15% selama 8 jam. Sampel dibilas dengan akuades steril kemudian digetarkan dengan *vortex mixer* selama 1 menit. Sebanyak 0,1 ml larutan dari pengenceran seri  $10^{-3}$  ditanam dalam media *Saboraud Dextrose Agar* dan diinkubasi selama 48 jam dengan suhu 37°C. Koloni yang terbentuk dihitung menggunakan *colony counter*. Hasil data penelitian diuji menggunakan ANAVA satu jalur dan LSD dengan signifikansi 95%.

Hasil uji ANAVA satu jalur menunjukkan perbedaan bermakna antara larutan propolis konsentrasi 5%, 10%, 15% dan kontrol terhadap pertumbuhan *Candida albicans* ( $p < 0,05$ ). Uji LSD menunjukkan bahwa terdapat perbedaan bermakna antara masing-masing kelompok perlakuan ( $p < 0,05$ ). Kesimpulan dari penelitian ini adalah larutan propolis konsentrasi 5%, 10% dan 15% berpengaruh menghambat pertumbuhan *Candida albicans* pada plat gigi tiruan *thermoplastic nylon* dengan daya antijamur tertinggi terdapat pada larutan propolis konsentrasi 15% yang bersifat fungistatik.

**Kata Kunci:** Propolis, *Candida albicans*, *Thermoplastic nylon*

## ABSTRACT

*Candida albicans* is a normal flora in the oral cavity that has the potential to become pathogenic. *Candida albicans* can adhere to denture surfaces, especially those facing the mucosa because of its rough surface. Propolis contains active compounds that have antifungal effects, namely flavonoids, phenols and tannins. This study aims to examine the effect of propolis solution concentration on the growth of *Candida albicans* on thermoplastic nylon denture plates.

This study used 24 thermoplastic nylon plates with a diameter of 10 mm and a thickness of 2 mm. Thermoplastic nylon plate was immersed in artificial saliva for 1 hour then immersed in a *Candida albicans* suspension for 24 hours at 37°C. Subjects were divided into 4 groups, then each group was immersed in distilled water (control) and propolis solution with a concentration of 5%, 10% and 15% for 8 hours. The sample was rinsed with sterile distilled water then vibrated with a vortex mixer for 1 minute. A total of 0.1 ml of solution from the 10<sup>-3</sup> series dilution was grown in Sabouraud Dextrose Agar medium and incubated for 48 hours at 37°C. Colonies formed were counted using a colony counter. The results of the research data were tested using one-way ANOVA and LSD with a significance of 95%.

The results of the one-way ANOVA test showed a significant differences between propolis solutions with concentrations of 5%, 10%, 15% and control on the growth of *Candida albicans* ( $p < 0.05$ ). The LSD test showed that there were significant differences between each treatment group ( $p < 0.05$ ). The conclusion of this study is that a concentration of 5%, 10% and 15% propolis solution can inhibit the growth of *Candida albicans* on a thermoplastic nylon denture plate with the highest antifungal power found at concentration of 15% propolis solution which is fungistatic.

**Keywords:** Propolis, *Candida albicans*, Thermoplastic nylon