

INTISARI

Candida associated denture stomatitis merupakan infeksi yang disebabkan oleh jamur *Candida albicans* pada pengguna gigi tiruan. Salah satu kandungan kayu manis yaitu sinamaldehyd memiliki sifat antijamur terhadap *Candida albicans*. Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi dan lama perendaman larutan sinamaldehyd terhadap jumlah koloni *Candida albicans* pada permukaan plat resin akrilik *heat cured*.

Sebanyak 75 plat resin akrilik *heat cured* yang telah dikontaminasi dengan *Candida albicans* direndam dalam kontrol negatif DMSO 0,01%, larutan sinamaldehyd konsentrasi 0,05%, 0,1%, 0,2% dan kontrol positif *chlorhexidine gluconate* 0,2% dalam waktu 15 menit, 30 menit dan 60 menit. Plat resin akrilik dipindahkan dalam akuades steril dan di *vortex* selama 1 menit, kemudian dilakukan serial dilusi sampai 10^{-3} . Sebanyak 1 ml larutan ditanam pada media *Saboraud Dextrose Agar* dan diinkubasi selama 48 jam pada suhu 37°C. Pengamatan dan penghitungan jumlah koloni *Candida albicans* dilakukan secara langsung pada cawan petri dan dinyatakan dalam satuan CFU/ml. Data dianalisis secara statistik menggunakan *Two Way Anova* dan *Post Hoc LSD*.

Hasil *Two Way Anova* menunjukkan konsentrasi dan lama perendaman larutan sinamaldehyd berpengaruh signifikan ($p < 0,05$) terhadap jumlah koloni *Candida albicans* pada permukaan plat resin akrilik *heat cured*. Hasil *Post Hoc LSD* menunjukkan tidak terdapat perbedaan yang signifikan ($p > 0,05$) antara larutan sinamaldehyd 0,2% dan kontrol positif *chlorhexidine gluconate* 0,2%. Kesimpulan penelitian ini adalah terdapat pengaruh konsentrasi dan lama perendaman larutan sinamaldehyd terhadap jumlah koloni *Candida albicans* pada permukaan plat resin akrilik *heat cured*.

Kata kunci : *Candida albicans*, sinamaldehyd, plat resin akrilik *heat cured*.

ABSTRACT

Candida associated denture stomatitis is an infection caused by the yeast Candida albicans on denture wearers. Cinnamaldehyde has an antifungal properties against Candida albicans. The aim of this study was to determine the effect of concentration and soaking time of cinnamaldehyde solution on the number of Candida albicans colonies on the surface of heat cured acrylic resin plate.

Seventy five heat cured acrylic resin plates which contaminated with Candida albicans soaked in negative control 0.01% of DMSO solution, 0.05%, 0.1%, and 0.2% of cinnamaldehyde solution and positive control 0.2% of chlorhexidine gluconate solution in 15 minutes, 30 minutes and 60 minutes respectively. Acrylic resin plates was transferred in sterile distilled water, vortex for 1 minute, then made serial dilution into 10^{-3} . One mililiters of that solution was planted in the growth media Saboraud Dextrose Agar and incubated for 48 hours at 37°C. Observation and counting number of Candida albicans colonies examined directly on a petri dish and is expressed in units of CFU/ml. Data was analyzed with Two Way Anova test and Post Hoc LSD.

The result of Two Way ANOVA showed concentration and soaking time of cinnamaldehyde solution had significant effect ($p < 0.05$) to the number of colonies of Candida albicans on the surface of the heat cured acrylic resin plates. Post Hoc LSD showed there was no significant difference ($p > 0.05$) between 0.2% of cinnamaldehyde solution and positive control 0.2% of chlorhexidine gluconate solution. The conclusion of this study is there are significant effect of concentration and soaking time of cinnamaldehyde solution to the number of colonies of Candida albicans on the surface of heat cured acrylic resin plate.

Keyword : *Candida albicans, cinnamaldehyde, heat cured acrylic resin plates.*