

ABSTRAK

Candida albicans merupakan penyebab utama infeksi jamur pada pengguna gigi tiruan. Penghambatan infeksi jamur diperlukan dengan cara perendaman gigi tiruan menggunakan desinfektan. *Chitosan* merupakan larutan desinfektan alternatif karena sifatnya biodegrabel, biokompatibilitas, dan tidak menyebabkan perubahan warna. Penelitian ini bertujuan untuk mengetahui pengaruh larutan *chitosan* terhadap jumlah *Calbicans* pada *base plate thermoplastic nylon*.

Metode penelitian ini berjenis *true experimental* dengan *post test only design* sebanyak 25 *base plate* yang dibagi 5 kelompok yaitu perlakuan I, perlakuan II, perlakuan III, kontrol positif dan negatif. *Base plate thermoplastic nylon* diinkubasi pada suspensi *C.albicans* selama 24 jam dengan pengenceran *McFarland* dan pengenceran seri 10^{-3} . Bilas plat menggunakan *aquadest* kemudian rendam dengan larutan *chitosan* 0,3%, larutan *chitosan* 0,8%, larutan *chitosan* 2%, *chlorhexidine gluconate* 0,2%, dan *aquadest* selama 15 menit. *C.albicans* yang masih menempel plat dilepaskan pada SDB menggunakan *centrifuge* kemudian dibiakkan pada SDA dan diinkubasi selama 24 jam. Hasil koloni *C.albicans* dihitung secara visual menggunakan *colony counter*.

Data jumlah koloni *Candida albicans* dianalisis dengan uji *One-Way ANOVA* lalu dilanjutkan dengan uji *Post Hoc Tukey HSD*. Hasil penelitian menunjukkan bahwa terdapat perbedaan rerata yang signifikan antara masing-masing kelompok ($p < 0.05$).

Kesimpulan dari penelitian ini adalah terdapat pengaruh perendaman *chitosan* terhadap jumlah *C.albicans* pada *base plate thermoplastic nylon*.

Kata Kunci: *base plate thermoplastic nylon, Candida albicans, chitosan*

ABSTRACT

Candida albicans is main cause of fungal infections in denture users. Prevention is needed by soaking dentures using a disinfectant. Chitosan is an alternative disinfectant emulsion because it is biodegradable, biocompatible, and does not cause discoloration. This study aims to determine the effect of chitosan emulsion on the number of *C.albicans* on base plate thermoplastic nylon.

The research method used was true experimental with post-test only design by using 25 base plates divided into 5 groups namely treatment I, treatment II, treatment III, positive and negative control. Plate was incubated in *C.albicans* suspension for 24 hours in McFarland and 10^{-3} series dilution. The plates was rinsed with aquadest, then soaked with 0.3% chitosan emulsion, 0.8% chitosan emulsion, 2% chitosan emulsion, 0.2% chlorhexidine gluconate, and aquadest for 15 minutes. The attached *C.albicans* colony in the plate was released to the SDB by using centrifuge device, then proliferated on the SDA and incubated for 24 hours. The results of the *C.albicans* colony were counted visually by using a colony counter.

The number of *Candida albicans* colonies data were analyzed using the One-Way ANOVA test, then followed by the Post Hoc Tukey HSD test. The results showed that there were significant mean differences between each group ($p < 0.05$).

Based on the research, it can be concluded that there is an effect of soaking various chitosan on the number of *C.albicans* on base plate thermoplastic nylon.

Keywords: base plate thermoplastic nylon, *Candida albicans*, chitosan.