INTISARI

Pemakaian peranti ortodonti lepasan dapat meningkatkan akumulasi mikroorganisme di dalam rongga mulut, seperti *Candida albicans*. *Candida albicans* dapat menyebabkan *oral candidiasis* bila jumlahnya berlebih. Pencegahan akumulasi *Candida albicans* dapat dilakukan menggunakan disinfektan. Penggunaan *chlorhexidine* 2% sebagai disinfektan dalam waktu lama akan mengakibatkan *staining*. Rimpang temulawak diketahui memiliki kandungan antijamur yang berpotensi menghambat *Candida albicans*. Penelitian ini bertujuan untuk mengetahui perbandingan efektivitas disinfektan *chlorhexidine* 2% dan ekstrak etanolik rimpang temulawak (*Curcuma xanthorrhiza Roxb.*) 90% terhadap jumlah koloni *Candida albicans* pada peranti ortodonti lepasan.

Penelitian menggunakan 27 buah sampel plat aktif peranti ortodonti lepasan yang telah direndam dalam suspensi *Candida albicans* selama 24 jam. Sampel dibagi menjadi 3 kelompok perlakuan, yaitu perendaman ekstrak etanolik rimpang temulawak 90%, *chlorhexidine* 2%, dan aquades. Sampel di vortex lalu ditanam pada *Sabouraud Dextrose Agar* dan diinkubasi 24 jam. Penghitungan jumlah koloni yang tumbuh pada *Sabouraud Dextrose Agar* dilakukan menggunakan *colony counter*. Data yang dihasilkan dianalisis menggunakan uji *One-Way Anova* dan *Post-hoc* $LSD_{0,05}$.

Hasil uji *One-way Anova* menunjukkan perbedaan bermakna ($p<0,05$) pada rerata jumlah koloni *Candida albicans* antar kelompok perlakuan. Hasil uji *Post-hoc* $LSD_{0,05}$ menunjukkan rerata jumlah koloni *Candida albicans* berbeda bermakna antara kelompok ekstrak etanolik rimpang temulawak 90% dengan aquades dan kelompok *chlorhexidine* 2% dengan aquades ($p<0,05$), sedangkan antara kelompok ekstrak etanolik rimpang temulawak 90% dengan *chlorhexidine* 2% tidak berbeda bermakna ($p>0,05$). Kesimpulan penelitian ini adalah efektivitas disinfektan *chlorhexidine* 2% dan ekstrak etanolik rimpang temulawak 90% terhadap jumlah koloni *Candida albicans* pada peranti ortodonti lepasan sama efektifnya.

Kata kunci: Ortodonti Lepasan, *Candida albicans*, Ekstrak Etanolik Rimpang Temulawak 90%, *Chlorhexidine* 2%

ABSTRACT

Removable orthodontic appliances usage can increase the accumulation of microorganism in the oral cavity such as *Candida albicans*. *Candida albicans* can cause oral candidiasis if the amount is excessive. Prevention of accumulation of *Candida albicans* can be executed by using disinfectant. The use of 2% *chlorhexidine* as a disinfectant for a long time will cause staining. Temulawak rhizome is known for its antifungal content that have the potential to inhibit *Candida albicans*. This research aims to determine the effectiveness comparison between 2% *chlorhexidine* and 90% ethanolic extract of temulawak rhizome (*Curcuma xanthorrhiza Roxb.*) as disinfectant to against the number of *Candida albicans* colonies on removable orthodontic appliances.

This research was conducted by using 27 removable active plates soaked in a *Candida albicans* suspension for 24 hours. Samples were divided into 3 different groups soaked in 90% ethanolic extract of temulawak rhizome, 2% *chlorhexidine*, and aquades. Samples vortexed and planted on *Sabouraud Dextrose Agar* and incubated for 24 hours. Counting of the number of colonies that grew on *Sabouraud Dextrose Agar* using a colony counter. The resulting data were analyzed using *One Way Anova* and *Post-hoc* $LSD_{0,05}$ test.

The result of *One Way Anova* test showed there was a significant difference ($p<0.05$) in the mean number of *Candida albicans* colonies between treatment groups. The result of *Post-hoc* $LSD_{0,05}$ test showed that the mean number of *Candida albicans* colonies was significantly difference between 90% ethanolic extract of temulawak rhizome with aquades and 2% *chlorhexidine* with aquades ($p<0.05$), while between 90% ethanolic extract of temulawak rhizome with 2% *chlorhexidine* there was no significant difference ($p>0.05$). The conclusion of this research was that the effectiveness 2% *chlorhexidine* disinfectant and 90% ethanolic extract of temulawak rhizome against the number of *Candida albicans* colonies on removable orthodontic appliances are the same.

Keywords: Removable Orthodontic, *Candida albicans*, Ethanolic Extract of Temulawak Rhizome, *Chlorhexidine* 2%