

## ABSTRAK

Alat ortodonti lepasan rentan terhadap kolonisasi dan pertumbuhan mikroorganisme, salah satunya *Candida Albicans*. Pertumbuhan *Candida Albicans* yang berlebihan dapat menyebabkan oral kandidiasis. Bahan desinfektan yang digunakan sebagai *gold standard* yaitu *Chlorhexidine* 2%. Ekstrak etanolik kulit batang jambu mete memiliki aktivitas antifungi. Tujuan penelitian untuk mengetahui perbandingan efektivitas ekstrak etanolik kulit batang jambu mete (*Anacardium occidentale* L.) 50% dan *chlorhexidine* 2% terhadap *Candida albicans* pada alat ortodonti lepasan. Sampel terdiri dari 12 alat ortodonti lepasan, dibagi menjadi 3 kelompok yaitu kelompok ekstrak etanolik kulit batang jambu mete 50% (4), *Chlorhexidine* 2% (4) dan aquades (4). Alat ortodonti lepasan direndam dalam saliva buatan selama 2 jam kemudian direndam suspensi *Candida Albicans* selama 24 jam supaya terdapat perlekatan *Candida*. Alat direndam sesuai dengan kelompok perendaman, kemudian dimasukkan kedalam *aquades* dan digetarkan menggunakan *vortex mixer*. *Aquades* dilakukan pengenceran berseri ( $10^{-3}$ ), kemudian *Candida albicans* yang terkandung dalam *aquades* dibiakkan pada media *saboraud agar*. Koloni *Candida albicans* yang terbentuk dihitung menggunakan *colony counter*. Data dianalisis menggunakan *One-Way ANOVA* dan uji *Pos-hoc LSD<sub>0,05</sub>*. Hasil penelitian menunjukkan adanya perbedaan yang bermakna antar kelompok perlakuan pada rerata jumlah *Candida albicans* ( $p < 0,05$ ). Hasil uji *LSD<sub>0,05</sub>* dan persentase jumlah *Candida albicans* menunjukkan terdapat perbedaan rerata yang tidak bermakna antara kedua desinfektan ( $p > 0,05$ ). Ekstrak etanolik kulit batang jambu mete (*Anacardium occidentale* L.) 50% memiliki persentase penurunan jumlah *Candida albicans* yang hampir sama dengan *chlorhexidine* 2%. Kesimpulan penelitian adalah ekstrak kulit batang jambu mete 50% memiliki efektivitas yang sama dengan *chlorhexidine* 2% dalam menurunkan *Candida albicans*.

**Kata Kunci**-alat ortodonti lepasan, *Candida albicans*, Ekstrak etanolik kulit batang jambu mete, *chlorhexidine* 2%

## ABSTRACT

Removable orthodontic appliance are susceptible to accumulation of microorganism, one of them is *Candida albicans*. Excessive growth of *Candida albicans* can cause oral candidiasis. 2% chlorhexidine was used as the gold standard disinfectant. The ethanolic cashew bark extract antifungal activity towards the growth of *Candida albicans*. This research aims to examine the effectiveness comparison between 50% ethanolic cashew bark extract (*Anacardium occidentale* L.) and 2% Chlorhexidine to *Candida albicans* on the removable orthodontic appliance (in vitro). It was conducted by using 12 samples of removable orthodontic appliance, divided into 3 groups namely 50% ethanolic cashew bark extract (4), 2% *Chlorhexidine* (4) and aquades (4). Removable orthodontic appliance soaked in artificial saliva for two hours and *Candida albicans* suspension for 24 hours so there an attachment to *Candida*. They were divided into three different groups, then were put inside aquades then vibrated by using vortex mixer. Aquades carried out serial dilutions ( $10^{-3}$ ), then *Candida albicans* was planted on solid saboraud agar. The *Candida albicans* colony formed counted by using colony counter. Data were analyzed using *One-Way ANOVA* and *Pos-hoc LSD<sub>0,05</sub>* test. The results showed differences between groups on the mean number of *Candida albicans* ( $p < 0.05$ ). The result of *LSD<sub>0,05</sub>* test and the percentage amount of *Candida albicans* showed that there is an average difference between the two disinfectants ( $p > 0.05$ ), but the difference is not significant. 50% ethanolic cashew bark extract (*Anacardium occidentale* L.) has same decreasing percentage compared to 2% chlorhexidine. The conclusion of this research is that 50% ethanolic cashew bark extract has same effectiveness compared to 2% chlorhexidine in decreasing *Candida albicans*.

**Keywords**-Removable orthodontic appliance, *Candida albicans*, Ethanolic cashew bark extract, 2% Chlorhexidine