

## INTISARI

*Tissue conditioner* merupakan bahan viskoelastik yang dapat mengalir dan beradaptasi erat dengan mukosa mulut dan basis gigi tiruan. Bahan ini berfungsi sebagai bantalan yang menyerap energi yang ditimbulkan dari gerakan mastikasi. *Tissue conditioner* juga dapat digunakan pada gigi tiruan yang sudah longgar dan dapat langsung digunakan setelah prosedur bedah atau *immediate denture*. *Tissue conditioner* mengandung polietil metakrilat, aromatik ester dan alkohol. Pada gigi tiruan sering ditemukan adanya pertumbuhan *Candida albicans* yang dapat menyebabkan *denture stomatitis*. Salah satu tanaman tradisional Indonesia yang mempunyai daya antijamur adalah jahe (*Zingiber officinale*).

Penelitian ini menggunakan ekstrak minyak atsiri jahe (*Zingiber officinale*) yang ditambahkan kedalam *tissue conditioner* dengan konsentrasi 5%, 10%, dan 15%. Suspensi *Candida albicans* dengan standar McFarland 0,5 ditanam pada media *Sabouraud dextrose agar* pada cawan petri, kemudian dibuat 4 sumuran dengan diameter 6 mm. Masing-masing sumuran diisi dengan bahan *tissue conditioner* yang telah dicampur minyak atsiri jahe dan kontrol negatif yaitu *tissue conditioner* tanpa minyak atsiri jahe. Cawan petri diinkubasi selama 48 jam pada suhu 37°C dan diukur zona hambatnya menggunakan jangka sorong.

Hasil penelitian diperoleh rerata diameter zona hambat pertumbuhan *Candida albicans* pada konsentrasi 5%, 10%, dan 15% secara berurutan yaitu 2,50±0,14 mm, 3,19 ±0,18 mm, dan 4,50 ±0,15 mm. Hasil uji *One-way ANOVA* menunjukkan bahwa minyak atsiri jahe memiliki pengaruh yang signifikan terhadap daya hambat *Candida albicans*. Hasil uji *Post-hoc LSD* menunjukkan bahwa terdapat perbedaan yang signifikan antar kelompok perlakuan. Kesimpulan penelitian ini yaitu penambahan 5%, 10% dan 15% minyak atsiri jahe (*Zingiber officinale*) pada *tissue conditioner* memiliki pengaruh dalam menghambat *Candida albicans*. Konsentrasi 15% memiliki kemampuan paling efektif dalam menghambat *Candida albicans*.

Kata kunci: *Tissue conditioner*, *Candida albicans*, *Zingiber officinale*

## ABSTRACT

Tissue conditioners are viscoelastic materials which flow and intimately adapt to the oral mucosa and denture base. Their function as a cushion to absorb part of the energy elicited by the impact of mastication. Tissue conditioners can be used to improve the fit of ill fitting entures and can used immediately after surgery. These tissue conditioners usually consist of polyethyl methacrylate powder, aromatic esters and alcohol. Dentures are easily colonized by *Candida albicans*. Subsequent biofilm produced by them lead to denture stomatitis. Ginger (*Zingiber officinale*) is one of the traditional indonesian plant that can be used as an antifungal.

This research used ginger essential oil (*Zingiber officinale*) incorporated into a tissue conditioner with a concentration of 5%, 10% and 15%. *Candida albicans* according to McFarland 0,5 standard were inoculated in petridishes contain SDA followed by making 4 wells with 6 mm diameter. Each well was filled by the tissue conditioner incorporated with ginger essential oil and the negative control is tissue conditioner without ginger essential oil. Petridishes were incubated for 48 hours at 37°C in the incubator then the diameter of inhibition zone was measured using sliding caliper.

The result showed the mean number of inhibition zone of *Candida albicans* in concentration groups 5%, 10% and 15% respectively 2,50±0,14 mm, 3,19 ±0,18 mm, and 4,50 ±0,15 mm. The result of One-way ANOVA showed that ginger essential oil had significant effect on inhibition of *Candida albicans*. The result of Post-hoc LSD test showed that there were significant differences between each group of treatment. The study concludes that the incorporation of 5%, 10% and 15% ginger essential oil into tissue conditioners have effect to inhibit *Candida albicans*. The most effective concentration to inhibit *Candida albicans* is 15%.

Keywords: Tissue conditioners, *Candida albicans*, *Zingiber officinale*