

INTISARI

Penambahan minyak atsiri cengkeh 5% pada *tissue conditioner* bertujuan untuk menghambat pertumbuhan jamur *Candida albicans*. Adanya keberadaan komponen asing tersebut akan mempengaruhi sifat dari *tissue conditioner*. Kegagalan yang paling sering terjadi pada gigi tiruan dengan *tissue conditioner* adalah pengelupasan antara kedua material yang saling melekat. Tujuan penelitian ini adalah untuk mengkaji pengaruh penambahan 5% minyak atsiri cengkeh terhadap *peel bond strength tissue conditioner*.

Sejumlah 16 sampel resin akrilik polimerisasi panas dengan lapisan *tissue conditioner* terbagi dalam 4 kelompok, yaitu kelompok kontrol 4 hari perendaman, kelompok kontrol 7 hari perendaman, kelompok perlakuan *tissue conditioner* dengan penambahan 5% minyak atsiri cengkeh 4 hari perendaman, dan kelompok perlakuan 7 hari perendaman. Sampel penelitian memiliki panjang 75 mm, lebar 10 mm, dan tebal 3 mm dengan bagian yang menempel sepanjang 350 mm² menyisakan 400 mm² bagian yang terkelupas. Sampel direndam pada saliva buatan dengan interval waktu selama 7 jam dan akuades selama 17 jam serta diinkubasi dengan suhu 37⁰ C. Sampel diuji menggunakan *Universal Testing Machine* untuk dicatat beban maksimal yang diperoleh.

Hasil penelitian diperoleh rerata nilai *peel bond strength* terendah terdapat pada kelompok perlakuan yang direndam selama 7 hari yaitu sebesar 4,92. Hasil dari uji *two-way ANOVA* menunjukkan perbedaan bermakna dari nilai *peel bond strength* antar kelompok ($p < 0,05$). Hasil uji *post-hoc* LSD menunjukkan perbedaan rerata nilai *peel bond strength* yang signifikan ($p < 0,05$) antar kelompok. Kesimpulan penelitian ini yaitu penambahan 5% minyak atsiri cengkeh (*Syzygium aromaticum*) pada *tissue conditioner* dapat menurunkan *peel bond strength* plat resin akrilik.

Kata kunci: *Syzygium aromaticum*, *Tissue conditioner*, *Peel bond strength*

ABSTRACT

The addition of 5% clove essential oil to the tissue conditioner aims to inhibit the growth of *Candida albicans*. The presence of these foreign components will affect the properties of tissue conditioner. Bond failure is the most common failure of dentures with tissue conditioner. This study aimed to evaluate the effect of adding 5% clove essential oil to peel bond strength of tissue conditioner.

A total of 16 sample of heat polymerized resin with a layer of tissue conditioner were divided into 4 groups. Control groups were immersed for 4 days and 7 days and the treatment groups were immersed for 4 days and 7 days with 5% clove essential oil had added into the tissue conditioner. The samples were 75 mm in length, 10 mm in width, and 3 mm in thickness with 350 mm² sticking part and 400 mm² peeling part. Samples were immersed in artificial saliva with time intervals of 7 hours and distilled water for 17 hours and were incubated at 37⁰ C. Samples were tested using a Universal Testing Machine to determine the maximum load.

The results showed that the lowest value of peel bond strength was found in the treatment group with 7 days immersion (4,92). The two-way ANOVA test showed a significant difference in the peel bond strength value between groups ($p < 0.05$). The post-hoc LSD test showed a significant difference in the peel bond strength mean value between groups ($p < 0.05$). This study concluded that the addition of 5% clove essential oil (*Syzygium aromaticum*) in tissue conditioner can reduce the peel bond strength of acrylic resin plates.

Keywords: *Syzygium aromaticum*, Tissue conditioner, Peel bond strength