

## ABSTRAK

Alfadiandra, Rachel Petrinathea. 2016. **Pengaruh Lama Perendaman Overnight Time Heat Cured Acrylic Resin dalam Infusa Daun Kemangi (*Ocimum basilicum Linn*) 50% terhadap Kekerasan Permukaan**. Skripsi, Program Studi Pendidikan Dokter Gigi Fakultas Kedokteran Universitas Brawijaya. Pembimbing : (1) drg. Wahyu Susilaningtyas, Sp.Pros (2) drg. Fatima, Sp.Pros

*Heat cured acrylic resin* merupakan jenis resin akrilik yang diaktivasi dengan panas dan digunakan sebagai bahan basis gigi tiruan. Penggunaan basis gigi tiruan dengan bahan ini dapat menyebabkan perlekatan *Candida albicans*. Pencegahan perlekatan *Candida albicans* dilakukan dengan perendaman menggunakan pembersih gigi tiruan. Perendaman *overnight time* (6-8 jam) merupakan perendaman yang umum direkomendasikan karena dapat mengurangi aktivitas metabolik *Candida albicans* lebih besar dari 80%. Infusa daun kemangi (*Ocimum basilicum Linn*) 50% dapat digunakan sebagai bahan alternatif pembersih gigi tiruan karena terbukti efektif dapat mengurangi aktivitas dari *Candida albicans*. Perendaman dalam pembersih gigi tiruan dapat mempengaruhi sifat – sifat mekanis yang dimiliki oleh *heat cured acrylic resin*, salah satunya kekerasan permukaan. Penelitian ini bertujuan untuk membuktikan bahwa lama perendaman *overnight time heat cured acrylic resin* dalam infusa daun kemangi (*Ocimum basilicum Linn*) 50% berpengaruh terhadap kekerasan permukaan. Sampel penelitian berupa plat resin akrilik dengan ukuran 65 mm x 10mm x 2,5 mm sejumlah 20 buah. Sampel kemudian dibagi menjadi empat kelompok. Kelompok I berjumlah 5 sampel yang direndam dalam infusa daun kemangi 50% selama 10 hari, kelompok II berjumlah 5 sampel yang direndam dalam infusa daun kemangi 50% selama 20 hari, kelompok III berjumlah 5 yang sampel direndam dalam akuades selama 10 hari, dan kelompok IV berjumlah 5 sampel yang direndam dalam akuades selama 20 hari. Hasil penelitian yang diuji dengan menggunakan *oneway ANOVA* menunjukkan bahwa terdapat perbedaan rata-rata lama perendaman dengan kekerasan permukaan ( $p < 0.05$ ). Hasil uji LSD juga menunjukkan perbedaan yang signifikan antara lama perendaman dengan kekerasan permukaan. Kesimpulan dari penelitian ini adalah lama perendaman *overnight time heat cured acrylic resin* dalam infusa daun kemangi (*Ocimum basilicum Linn*) 50% berpengaruh dalam menurunkan kekerasan permukaan.

Kata kunci : *heat cured acrylic resin*, perendaman *overnight time*, infusa daun kemangi, kekerasan permukaan

## ABSTRACT

Alfandiandra, Rachel Petrinathea. 2016. **The Influence of Heat Cured Acrylic Resin Overnight Time Immersion in 50% Concentrate of Basil Leaves Infusion (*Ocimum basilicum Linn*) toward the Surface Hardness.** Final Assignment, School of Dentistry, Medical Faculty of Brawijaya University. Supervisors : (1) drg. Wahyu Susilaningtyas, Sp.Pros (2) drg. Fatima, Sp.Pros

Heat cured acrylic resin was an acrylic resin that activated using heat and can be used as denture base materials. When using this material for denture base, it can be attached by *Candida albicans*. To avoid the attachment of *Candida albicans*, denture can be immersed using denture cleansers. Overnight time immersion (6-8h) was usually recommended because it can reduce the metabolic activity of *Candida albicans* more than 80%. 50% concentrate of basil leaves infusion (*Ocimum basilicum Linn*) can be used as an alternative denture cleanser because it effectively reduced the activity of *Candida albicans*. The denture cleanser immersion could affected the mechanical characteristic of heat cured acrylic resin, especially the surface hardness. The aim of the study was to prove that the overnight time immersion of heat cured acrylic resin using 50% concentrate of basil leaves infusion (*Ocimum basilicum Linn*) could affected the surface hardness. The sample of this study were 20 of 65 mm x 10 mm x 2,5 mm heat cured acrylic resin plates. Samples were divided into 4 groups. The first group were consisted of 5 samples that immersed in 50% concentrate of basil leaves infusion for 20 days, the second group were consisted of 5 samples that immersed in 50% concentrate basil leaves infusion for 10 days, the third group were consisted of 5 samples that immersed in aquadest for 20 days, and the fourth group were consisted of 5 samples that immersed in aquadest for 10 days. The result that tested using oneway ANOVA showed that there were an average difference of the length of immersion with the surface hardness ( $p < 0.05$ ). LSD test showed that there was a significantly different between the long of immersion with the surface hardness of heat cured acrylic resin. The conclusion of this study was the overnight time immersion of heat cured acrylic resin with 50% concentrate of basil leaves infusion (*Ocimum basilicum Linn*) had an influence to decrease the surface hardness of the resin.

Keywords : heat cured acrylic resin, overnight time immersion, basil leaves infusion, surface hardness