INTISARI

Resin akrilik polimerisasi panas masih dijadikan pilihan sebagai bahan basis gigi tiruan. Gigi tiruan dalam pemakaiannya harus rutin dibersihkan agar terhindar dari akumulasi plak yang dapat menimbulkan *denture stomatitis*. Daun *mint* (*Mentha piperita* L.) mengandung senyawa antibakteri sehingga berpotensi dijadikan alternatif bahan pembersih gigi tiruan. Flavonoid, tanin, dan asam kafeat merupakan senyawa antibakteri golongan fenolik yang mampu memengaruhi kekerasan permukaan resin akrilik. Tujuan dari penelitian ini adalah untuk mengkaji pengaruh perendaman ekstrak daun *mint* (*Mentha piperita* L.) terhadap kekerasan permukaan plat gigi tiruan resin akrilik polimerisasi panas.

Penelitian menggunakan 24 sampel plat resin akrilik polimerisasi panas ukuran 10 mm x 10 mm x 2,5 mm yang dibagi rata ke dalam empat kelompok perendaman: kelompok akuades (kontrol) dan kelompok perlakuan ekstrak daun *mint* 5%, 10%, dan 20%. Sampel direndam selama 6 hari 8 jam dalam inkubator dengan suhu 37°C kemudian diukur kekerasan permukaannya menggunakan *Vickers Hardness Tester*.

Hasil analisis data menggunakan uji ANAVA Satu Jalur dan uji LSD menunjukkan terdapat perbedaan signifikan antara kekerasan permukaan empat kelompok perendaman ($p<0,05$). Kesimpulan penelitian ini adalah perendaman dalam ekstrak daun *mint* (*Mentha piperita* L.) berpengaruh menurunkan kekerasan permukaan plat gigi tiruan resin akrilik polimerisasi panas dan konsentrasi ekstrak daun *mint* 5% menghasilkan penurunan kekerasan permukaan terkecil.

Kata kunci : daun *mint*, *Mentha piperita* L., kekerasan permukaan, resin akrilik polimerisasi panas

ABSTRACT

Heat-cured acrylic resin is still preferred as denture base material. Dentures must be cleaned regularly while being used to avoid plaque accumulation which can lead to denture stomatitis. Mint (*Mentha piperita* L.) leaves contain antibacterial compounds and thus they are potential as an alternative denture cleanser. Flavonoid, tannin, and caffeic acid are antibacterial agents from phenolic group that can affect the surface hardness of acrylic resin. The aim of this study was to determine the effect of immersion in mint (*Mentha piperita* L.) leaves extract towards the surface hardness of heat-cured acrylic resin denture base.

This study was conducted using 24 samples of heat-cured acrylic resin with 10 mm x 10 mm x 2.5 mm in size that were divided into four immersion groups: aquadest (control) group and mint leaves extract treatment group with concentration of 5%, 10%, and 20%. All samples were immersed for 6 days and 8 hours inside an incubator at 37°C and the surface hardness were tested using Vickers Hardness Tester afterwards.

The results of One-Way ANOVA and LSD analysis showed that there was a significant difference between surface hardness numbers of each immersion group ($p<0.05$). The conclusion of this study was immersion in mint (*Mentha piperita* L.) leaves extract had effect to reduce the surface hardness of heat-cured acrylic resin and mint leaves extract with concentration of 5% had the least surface hardness reduction.

Keywords : mint leaves, *Mentha piperita* L., surface hardness, heat-cured acrylic resin