

INTISARI

Pasien mengalami kehilangan gigi perlu menggunakan gigi tiruan untuk mengatasi masalah rongga mulut akibat kehilangan gigi. Resin akrilik merupakan bahan basis gigi tiruan yang memiliki sifat mekanis baik, harganya murah, dan estetik. Gigi tiruan rawan menjadi tempat perlekatan mikroorganisme. Daun *mint* mampu menghambat pertumbuhan bakteri sehingga dapat diformulasikan sebagai zat aktif dalam tablet *effervescent*. Kandungan fenol daun *mint* menyebabkan degradasi ikatan monomer dan menurunkan kekerasan resin akrilik. Penelitian ini bertujuan mengkaji pengaruh tablet *effervescent* daun *mint* sebagai pembersih gigi tiruan terhadap kekerasan basis resin akrilik polimerisasi panas.

Penelitian menggunakan resin akrilik polimerisasi panas (60 x 10 x 3) mm sebanyak 24 sampel yang terbagi dalam empat kelompok perendaman, yaitu larutan akuades, larutan tablet *effervescent* mengandung 1,25% ekstrak daun *mint*, larutan tablet *effervescent* mengandung 2,5% ekstrak daun *mint*, dan larutan tablet *effervescent* alkalin peroksida. Kekerasan diuji menggunakan *Microhardness Vickers* kemudian hasil perhitungan dianalisa menggunakan ANAVA satu jalur.

Hasil penelitian menunjukkan terdapat perbedaan bermakna ($p < 0,05$) pada kekerasan resin akrilik hasil perendaman tablet *effervescent* daun *mint*. Rerata kekerasan resin akrilik polimerisasi panas hasil perendaman akuades sebesar 16,7 VHN, tablet *effervescent* mengandung 1,25% ekstrak daun *mint* sebesar 13,6 VHN, tablet *effervescent* mengandung 2,5% ekstrak daun *mint* sebesar 16,3 VHN, tablet *effervescent* alkalin peroksida sebesar 16,4 VHN. Kesimpulan penelitian ini adalah tablet *effervescent* daun *mint* sebagai pembersih gigi tiruan berpengaruh menurunkan kekerasan basis resin akrilik polimerisasi panas. Perendaman dalam tablet *effervescent* mengandung 2,5% ekstrak daun *mint* menghasilkan penurunan kekerasan paling rendah dan masih dalam rentang standar sehingga tablet *effervescent* mengandung 2,5% ekstrak daun *mint* masih dapat direkomendasikan sebagai pembersih gigi tiruan.

Kata Kunci: tablet *effervescent*, daun *mint*, pembersih gigi tiruan, kekerasan, resin akrilik polimerisasi panas

ABSTRACT

Patients with tooth loss need to use dentures to overcome oral cavity problems due to tooth loss. Acrylic resin is a denture base material that has good mechanical properties, low price, and aesthetics. Dentures are prone to becoming a place for microorganisms to attach. Mint leaves are able to inhibit the growth of bacteria so that they can be formulated as an active substance in effervescent tablets. The phenolic content of mint leaves causes the degradation of monomer bonds and lowers the hardness of acrylic resins. This study aims to examine the effect of mint leaf effervescent tablets as denture cleaners on the hardness of the base of heat cured acrylic resin.

The study used 24 samples of heat cured acrylic resin (60 x 10 x 3) mm which were divided into four immersion groups, aquadest solution, effervescent tablet solution containing 1.25% mint leaf extract, effervescent tablet solution containing 2.5% mint leaf extract, and effervescent tablet alkaline peroxide solution. The hardness was tested using Microhardness Vickers and then the calculation results were analyzed using one-way ANOVA.

The results showed that there was a significant difference ($p < 0.05$) in the hardness of acrylic resin from soaking effervescent tablets of mint leaves. The average hardness of the heat cured acrylic resin from aquadest immersion was 16.7 VHN, effervescent tablets contained 1.25% mint leaf extract of 13.6 VHN, effervescent tablets contained 2.5% mint leaf extract of 16.3 VHN, effervescent tablets of alkaline peroxide were 16.4 VHN. The conclusion of this study is that effervescent tablets of mint leaves as denture cleaners have the effect of reducing the hardness of the base of the heat cured acrylic resin. Soaking in effervescent tablets containing 2.5% mint leaf extract results in the lowest reduction in hardness and is still within the standard range so effervescent tablets containing 2.5% mint leaf extract can still be recommended as a denture cleaner.

Keywords: *effervescent tablets, mint leaves, denture cleanser, hardness, heat cured acrylic resin*