# INTISARI

Resin akrilik polimerisasi panas sering digunakan sebagai bahan basis gigi tiruan lepasan karena estetika, harga terjangkau, dan kemudahan pembuatannya. Ekstrak daun *mint* (*Mentha piperita* L.), yang terbukti memiliki efektivitas antibakteri, berpotensi sebagai *denture cleanser* alami. Senyawa aktif seperti fenol, mentol, dan metil asetat dalam ekstrak daun *mint* dapat mempengaruhi rantai polimer resin sehingga berpotensi mengubah nilai kekasaran permukaan resin akrilik. Penelitian ini bertujuan untuk mengkaji pengaruh perendaman ekstrak daun *mint* 5%, 10%, dan 20% sebagai *denture cleanser* terhadap kekasaran permukaan plat gigi tiruan resin akrilik polimerisasi panas.

Plat resin akrilik polimerisasi panas berukuran 10 mm x 10 mm x 2,5 mm sebanyak 24 buah dibagi ke dalam empat kelompok perendaman yaitu kelompok akuades (kontrol negatif), kelompok perlakuan ekstrak daun *mint* 5%, kelompok perlakuan ekstrak daun *mint* 10%, dan kelompok perlakuan ekstrak daun *mint* 20%. Perendaman dilakukan selama 6 hari 8 jam. Nilai kekasaran permukaan sampel diukur menggunakan profilometer (*Fowler Surfcorder SE 1700*). Data hasil pengukuran dianalisis menggunakan uji *One-Way ANOVA*.

Hasil penelitian menunjukkan terdapat perbedaan nilai kekasaran yang signifikan pada permukaan plat resin akrilik polimerisasi panas setelah perendaman dalam akuades, ekstrak daun *mint* 5%, 10%, dan 20% ($p<0,05$). Kesimpulan dari penelitian ini adalah perendaman dalam ekstrak daun mint 5%, 10%, dan 20% sebagai *denture cleanser* berpengaruh terhadap kekasaran plat gigi tiruan resin akrilik polimerisasi panas. Semakin tinggi konsentrasi ekstrak daun *mint* yang digunakan, semakin besar nilai kekasaran permukaan resin akrilik polimerisasi panas yang dihasilkan.

Kata kunci : resin akrilik polimerisasi panas, ekstrak daun *mint*, kekasaran permukaan

# ABSTRACT

Heat-cured acrylic resin is widely used as a denture base material due to its aesthetic appeal, affordability, and ease of fabrication. Mint leaf extract (*Mentha piperita* L.), recognized for its effective antibacterial properties, shows potential as a natural denture cleanser. Active compounds such as phenol, menthol, and methyl acetate in mint extract can interact with polymer chains in the resin, potentially altering its surface roughness. This study aims to examine the effect of immersion in 5%, 10%, and 20% mint leaf extract as denture cleansers on the surface roughness of heat-cured acrylic resin.

A total of 24 heat-cured acrylic resin plates, each measuring 10 mm × 10 mm × 2.5 mm, were divided into four groups: immersion in aquades (negative control), 5% mint extract, 10% mint extract, and 20% mint extract. The plates were soaked for 6 days and 8 hours. Surface roughness was measured using a profilometer (Fowler Surfcorder SE 1700). The data in this study was analyzed with one-way ANOVA.

The results revealed significant differences in surface roughness values among plates soaked in aquades and those treated with 5%, 10%, and 20% mint leaf extract solutions ($p < 0.05$). Higher concentrations of mint extract corresponded to greater surface roughness values in the heat-cured acrylic resin plates. The conclusion of this study is that immersion in mint leaf extract at 5%, 10%, and 20% influences the surface roughness of heat-cured acrylic resin, higher extract concentrations leading to increased roughness.

Keywords : heat-cured acrylic resin, mint leaf extract, surface roughness