

ABSTRAK

PENGARUH BERBAGAI KONSENTRASI EKSTRAK ETANOL DAUN PEPAYA (*Carica papaya L*) TERHADAP KEKUATAN TRANSVERSAL BASIS GIGI TIRUAN RESIN AKRILIK POLIMERISASI PANAS

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Resin akrilik polimerisasi panas merupakan bahan basis gigi tiruan yang memiliki sifat kuat terhadap tekanan. Kekuatan transversal resin akrilik dibutuhkan untuk menahan daya kunyah yang diterima oleh gigi tiruan. Daun pepaya (*C. papaya L*) merupakan salah satu bahan alternatif pembersih gigi tiruan yang mengandung senyawa antimikroba seperti fenol dapat berpengaruh terhadap kekuatan transversal resin akrilik polimerisasi panas. Tujuan penelitian ini yaitu untuk mengetahui pengaruh berbagai konsentrasi ekstrak daun pepaya terhadap kekuatan transversal basis gigi tiruan resin akrilik polimerisasi panas. Rancangan penelitian ini berupa *post test only group design*. Sebanyak 32 sampel plat resin akrilik dibagi menjadi 4 kelompok, yaitu kelompok perlakuan perendaman dalam ekstrak daun pepaya konsentrasi 5%, 10%, dan 20%, serta kelompok kontrol negatif berupa perendaman aquades. Uji kekuatan transversal dilakukan dengan menggunakan *Universal Testing Machine*. Analisis data pada penelitian ini menggunakan uji *One-Way ANOVA* kemudian dilanjutkan uji *Post-Hoc LSD*. Hasil penelitian menunjukkan terdapat perbedaan nilai rerata kekuatan transversal yang sangat signifikan antar kelompok perlakuan perendaman ekstrak daun pepaya konsentrasi 10% dan 20% dengan kelompok kontrol, sedangkan konsentrasi 5% tidak terdapat perbedaan signifikan dengan kelompok kontrol. Simpulan penelitian ini adalah terdapat pengaruh berbagai konsentrasi ekstrak daun pepaya terhadap kekuatan transversal basis gigi tiruan resin akrilik polimerisasi panas.

Kata Kunci : *Carica papaya L*, kekuatan transversal, resin akrilik

ABSTRACT

EFFECT OF VARIOUS EXTRACT CONCENTRATIONS ETHANOL PAPAYA LEAVES (Carica papaya L) AGAINST TRANSVERSAL STRENGTH OF ACRYLIC RESIN DENTURE BASE HEAT POLYMERIZATION

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Heat-cured acrylic resin is a denture base material that has strong properties against pressure. The transverse strength of acrylic resin is needed to withstand the chewing power received by the denture. Papaya leaf (C. papaya L) is an alternative denture cleaning which contains antimicrobial compounds such as phenol which can affect the polymerization strength of transverse heat-cured acrylic resin. The aim of this study was to determine the effect of various concentrations of papaya leaf extract on the transverse strength of heat-cured acrylic resin. The research design was in the form of a post test only group design. A total of 32 samples of acrylic resin were divided into 4 groups: the immersion treatment group in papaya leaf extract concentrations of 5%, 10% and 20%, and the negative control group in the form of aquades immersion. The transverse strength test was carried out using Universal Testing Machine. Data analysis in this study used One-Way ANOVA and then continued with the LSD Post-Hoc test. The results showed that there was a very significant difference in the mean value of the transverse strength between groups treated with papaya leaf extract concentrations of 10% and 20% with the control group, while at 5% concentration there was no significant difference with the control group. The conclusion of this study is that there is an effect of various concentrations of papaya leaf extract on the strength of the base trasversal denture heat-cured acrylic resin.

Keywords : *Carica papaya L, transverse strength, acrylic resin*