

ABSTRAK

PENGARUH PENAMBAHAN E-GLASS FIBER 1% TERHADAP KEKUATAN IMPAK PADA REPARASI GIGI TIRUAN RESIN AKRILIK POLIMERISASI PANAS

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Resin akrilik merupakan suatu bahan yang sering digunakan dalam bidang kedokteran gigi. Resin akrilik polimerisasi panas digunakan sebagai bahan utama basis gigi tiruan. Bahan ini memiliki kekurangan berupa mudah terjadi fraktur. Hal yang sering dilakukan untuk memperbaiki fraktur basis gigi tiruan dengan melakukan reparasi menggunakan resin akrilik polimerisasi kimia. Reparasi pada basis gigi tiruan memiliki kekurangan, yaitu nilai kekuatan impak menurun sehingga dibutuhkan bahan penguat *E-glass fiber* untuk meningkatkan kekuatan impak setelah reparasi. Tujuan penelitian ini adalah mengetahui pengaruh penambahan *E-glass fiber* 1% terhadap kekuatan impak setelah reparasi gigi tiruan resin akrilik polimerisasi panas. Jenis penelitian ini menggunakan penelitian eksperimental laboratoris dengan rancangan penelitian berupa *post-test only control group design*. Delapan belas sampel terbagi dalam dua kelompok dengan sembilan sampel pada masing-masing kelompok. Kelompok kontrol yaitu kelompok yang dilakukan reparasi tanpa penambahan *E-glass fiber* dan kelompok perlakuan yaitu kelompok yang dilakukan reparasi dengan menambahkan *E-glass fiber* 1%. Data yang diperoleh dilakukan uji statistik *Shapiro-Wilk* dan *levene's test* dengan hasil yang menunjukkan bahwa data sampel terdistribusi secara normal dan homogen. Hasil uji statistik *Independent T-Test* didapatkan nilai $p < 0,05$ dengan interpretasi H_1 diterima dan H_0 ditolak, yaitu terdapat perbedaan yang bermakna antara kelompok kontrol tanpa penambahan *E-glass fiber* 1% dan kelompok perlakuan dengan penambahan *E-glass fiber* 1%. Simpulan dari penelitian ini adalah terdapat pengaruh penambahan *E-glass fiber* 1% terhadap kekuatan impak pada reparasi gigi tiruan resin akrilik polimerisasi panas.

Kata kunci : Kekuatan impak, *E-glass fiber*, resin akrilik polimerisasi panas, resin akrilik polimerisasi kimia

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ABSTRACT

EFFECT OF THE ADDITION OF E-GLASS FIBER 1% ON IMPACT BOND STRENGTH AFTER DENTURE REPARATION OF HEAT CURED RESIN ACRYLIC

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Acrylic resin is a material that is often used in dentistry. Heat cured resin acrylic often used as the material of denture base. This material has a deficiency that easy fractures. It is often done to reparation the base of the denture by self cured resin acrylic. Reparation of dentures has a deficiency that is decreases impact bond strength, therefore a reinforcing material needs to be added, such as E-glass fiber. The purpose of this study was to find the effect of the addition of E-glass fiber 1% in impact bond strength after reparation denture of heat cured resin acrylic. This type of research was a laboratory experimental research with the design of research is post-test only control group design. This research has eighteen samples were divided into two groups with nine samples in each group. The control group was the group that was repaired without the addition of E-glass fiber and treatment group was the group that was repaired by addition E-glass fiber 1%. Data obtained is carried out statistical test Shapiro-Wilk and levene's test with result showed there were data distributed normally and homogeneously. Independent T-test results showed a value of $p < 0,05$ with interpretation of H_1 accepted and H_0 rejected that were significant difference between the control group without the addition of E-glass fiber 1% and the treatment group with addition of E-glass fiber 1%. The conclusion of this study was that there was an effect of addition of E-glass fiber 1% in impact bond strength after reparation denture of heat cured resin acrylic.

Keywords : *Impact bond strength, E-glass fiber, heat cured resin acrylic,
Self cured resin acrylic*

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