

dukungan dan saran terkait penelitian dan mendengar keluh kesah hingga penulis mencapai tahap ini.

12. Teman-teman satu bagian Konservasi yang telah membantu dalam penelitian ini dan selalu dapat diajak dalam bertukar pikiran serta membantu secara moril dalam penelitian ini.

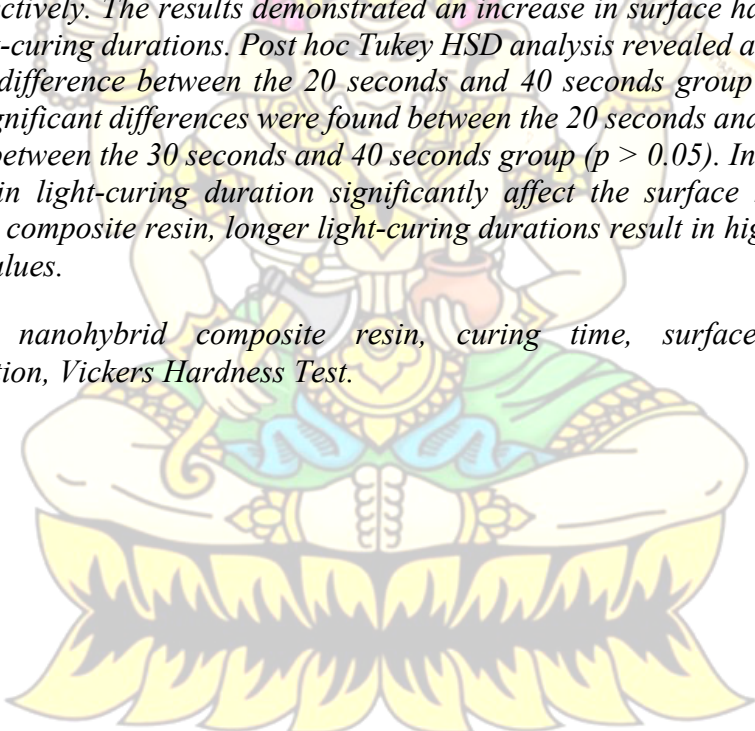
Penulis menyadari bahwa skripsi ini masih memerlukan penyempurnaan, oleh karena itu penulis mengharapkan saran dan kritik yang membangun. Semoga skripsi ini dapat bermanfaat bagi kita semua.



ABSTRACT

The increasing demand for restorative materials with favorable esthetic and mechanical properties has made nanohybrid composite resin a preferred choice. The success of dental restorations is influenced by the quality of polymerization, one of which is determined by the duration of light curing. This study aimed to determine the effect of different light-curing durations on the surface hardness of nanohybrid composite resin. The in vitro experimental laboratory used a post-test only group design, using 27 samples of Filtek Z250, which were divided into three groups based on light-curing duration: 20, 30, and 40 seconds. Surface hardness was measured using a Vickers Hardness Tester. Data analysis showed that the data were normally distributed and had homogeneous variances; therefore, analysis was continued using One-Way ANOVA. The mean surface hardness values for light-curing durations of 20, 30, and 40 seconds were 82.52 VHN, 84.69 VHN, and 92.85 VHN, respectively. The results demonstrated an increase in surface hardness with longer light-curing durations. Post hoc Tukey HSD analysis revealed a statistically significant difference between the 20 seconds and 40 seconds group ($p < 0.05$), while no significant differences were found between the 20 seconds and 30 seconds group nor between the 30 seconds and 40 seconds group ($p > 0.05$). In conclusion, variations in light-curing duration significantly affect the surface hardness of nanohybrid composite resin, longer light-curing durations result in higher surface hardness values.

Keywords: nanohybrid composite resin, curing time, surface hardness, polymerization, Vickers Hardness Test.



UNMAS DENPASAR