

PENGARUH LAMA PENYINARAN PADA UDMA DAN Bis – GMA DALAM RESIN KOMPOSIT PACKABLE TERHADAP MONOMER SISA

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Abstract

Residual monomers are monomer monomers that are not polymerized. These residual monomers can clinically harm oral cavity tissue, for example allergies, even the remaining monomers could be carcinogenic. The more residual monomers remaining due to imperfect polymerization processes, the lower the compressive strength level and causing micro slits resins that are often used in packable composites. in the polymerization process *UDMA* and *Bis-GMA* have the potential to produce residual monomers. This study aims to analyze the residual monomers at 1x20 seconds and 2x20 seconds irradiation the remaining packable composite resin monomers. Methods: 14 samples of packable composite cylindrical with a thickness of 2 mm and a diameter of 5 mm were divided into 2 groups. Group 1 was irradiated 1x20 seconds, group 2 was irradiated 2x20 seconds then the composite was immersed in ethanol solution for 24 hours. Calculate the amount of residual monomers using *HPLC* devices and the results are statistically calculated using Mann-Whitney Test. Results: From the results of all tests it has been concluded that there is no effect of repetition of irradiation on the amount of residual monomers in packable composite resins. However, there are differences in the amount of residual monomers in the material contained in packable composite resins *Bis - GMA* and *UDMA*, ie the remaining monomers at *UDMA* are more than the rest of the monomers in *Bis - GMA*. Conclusion: The amount of residual monomers on *Bis-GMA* is less than the remaining *UDMA* at 1x20 seconds irradiation, the amount of residual monomers in *Bis-GMA* and *UDMA* on 2x20 irradiation has no significant difference compared to 1x20 seconds irradiation.

Keyword : residual monomer, irradiation, packable composite.