

## Pengaruh durasi penyinaran dan pemanasan awal terhadap depth of cure resin komposit bulk-fill = Influence of different exposure time and pre heating on depth of cure of bulk-fill composite

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### Abstrak

Penelitian ini bertujuan untuk mengevaluasi pengaruh durasi penyinaran menggunakan LED dan pemanasan awal menggunakan Micerium ENA Heat terhadap depth of cure resin komposit bulk-fill. Alat dan bahan: Enam puluh spesimen Filtek Bulk-Fill Posterior Restoratives ketebalan 4 mm dan diameter 3 mm; tanpa dan dengan pemanasan awal pada temperatur 39 C dibagi ke dalam 3 kelompok sesuai dengan durasi penyinaran 5 detik, 10 detik, dan 15 detik. Spesimen dipolimerisasi menggunakan LED Curing Unit 3MTM Elipar, 1.200 mW/cm<sup>2</sup> dan diuji kekerasan mikro menggunakan Vickers Microhardness Tester Shimadzu, Japan untuk menghitung nilai depth of cure. Data yang diperoleh dianalisis menggunakan uji statistik Kruskall-Wallis dan Post-Hoc Mann Whitney-U.

Hasil: Adanya perbedaan yang tidak bermakna  $p \geq 0,05$  untuk nilai depth of cure pada keenam kelompok tanpa dan dengan pemanasan awal. Walaupun nilai depth of cure tersebut tidak bermakna namun telah mencapai nilai minimum yaitu  $ge; 80$ . Selain itu terdapat perbedaan yang bermakna  $p$ .

.....Aim Evaluate the influence of different exposure time and pre heating on its depth of cure of bulk fill composite. Methods Sixty cylinder shaped specimens of Filtek Bulk Fill Posterior Restoratives 4 mm of thickness x 3 mm of diameter with and without pre heating at 39 C were divided into 3 subgroups according to exposure times 5, 10, and 15. All specimens were polymerized using LED Curing Unit 3MTM Elipar, 1.200 mW cm<sup>2</sup> and tested using Vickers Microhardness Tester Shimadzu, Japan to determine its microhardness for calculating its depth of cure. Data were statistically analyzed using Kruskall Wallis and Post Hoc Mann Whitney U test.

Results A no significant differences  $p \geq 0,05$  in depth of cure amongst the six groups of non preheated and preheated bulk fill composite. However, all of the groups have reached a minimum value of  $ge 80$  depth of cure. Moreover, there is a significant differences in microhardness in all of the six groups of non preheated and preheated bulk fill composite and between 5 and 15 of exposure times in both groups. Conclusion Exposure times and pre heating at 39 C had an influence on microhardness of bulk fill composite.