

Pengaruh jarak sumber sinar light emitting diode (LED) terhadap kekuatan tarik diametral resin komposit bulk-fill = The effect of light emitting diode (LED) light source distance on diametral tensile strength of bulk-fill composite restorative material

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Abstrak

Tujuan penelitian ini adalah untuk mengetahui pengaruh jarak sumber sinar Light Emitting Diode (LED) terhadap kekuatan tarik diametral resin komposit bulk-fill. Resin komposit bulk-fill Tetric® N-Ceram Bulk-Fill, shade IVA (setara dengan warna VITA A2-A3) dibuat menjadi 30 spesimen berbentuk silinder dengan ukuran tebal 3 mm dan diameter 6 mm. Spesimen dibagi menjadi 3 kelompok variasi jarak penyinaran, yaitu 0 mm, 3 mm dan 5 mm. Penyinaran menggunakan LED Light Curing Unit Bluephase® Style (Ivoclar-Vivadent, Liechtenstein) dengan durasi penyinaran selama 10 detik sesuai instruksi pabrik. Data dianalisis secara statistik menggunakan metode ANOVA satu arah. Hasil analisis tidak menunjukkan perbedaan bermakna ( $p > 0,05$ ) pada semua kelompok. Jarak sumber sinar LED 5 mm tidak memberikan pengaruh yang signifikan terhadap kekuatan tarik diametral resin komposit bulk-fill.

.....This study aimed to evaluate the effect of LED light source distance on diametral tensile strength of bulk-fill composite restorative material. Bulk-fill composite Tetric® N-Ceram Bulk-Fill, shade IVA (equal to VITA shade A2-A3) was formed into 30 cylindrical specimens with 3 mm in thickness and 6 mm in diameter. Specimens were divided into 3 groups with various curing distance: 0 mm, 3 mm and 5 mm. All groups were polymerized by LED Light Curing Unit Bluephase® Style (Ivoclar-Vivadent, Liechtenstein) for 10 seconds based on manufacturer's instruction. Data were statistically analyzed by one-way ANOVA. The result showed insignificant differences in all groups ( $p > 0,05$ ). LED light source distance 5 mm was not significantly affected the diametral tensile strength of bulk-fill composite.