

Surface Gloss Resin Komposit Nanofil dan Bulkfil: Pengaruh Mode Penyinaran = Surface Gloss of Nanofill and Bulk-Fill Composite Resins: Influence of Different Light-Curing Mode

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20515661&lokasi=lokal>

Abstrak

Latar belakang: Mode penyinaran pulsa merupakan alternatif dari mode penyinaran kontinu untuk mempolimerisasi resin komposit. Saat ini resin komposit nanofil dan bulkfil merupakan material restorasi yang memerlukan surface gloss yang baik untuk memenuhi kebutuhan estetik. Surface gloss dapat dipengaruhi oleh penyinaran.

Tujuan: Untuk menganalisa pengaruh penyinaran mode kontinu dan pulsa terhadap surface gloss resin komposit nanofil dan bulkfil segera dan setelah satu hari.

Metode: Spesimen resin komposit nanofil dan bulkfil disinari menggunakan mode kontinu atau pulsa beriradiansi 900 mW/cm² selama 20 detik. Lalu dilakukan pengujian surface gloss segera setelah penyinaran. Kemudian spesimen disimpan selama satu hari dan dilakukan pengujian surface gloss kembali.

Hasil: Surface gloss yang dihasilkan oleh mode penyinaran kontinu dan pulsa tidak bermakna secara statistik ($p > 0,05$). Resin komposit nanofil menghasilkan surface gloss lebih rendah daripada bulkfil, berbeda bermakna ($p = 0,00$). Segera setelah penyinaran menghasilkan surface gloss lebih tinggi daripada setelah satu hari tidak bermakna secara statistik ($p > 0,05$).

Kesimpulan: Pada penelitian ini surface gloss tidak dipengaruhi oleh mode penyinaran kontinu dan pulsa serta perbedaan waktu segera dan setelah satu hari. Namun terdapat pengaruh jenis resin komposit, nanofil menghasilkan surface gloss lebih rendah dari yang dihasilkan bulkfil.

.....Background: Pulse is an alternative of continuous light-curing mode to polymerize composite resin. Currently, nanofill and bulk-fill are restorative materials that require good gloss surface to meet aesthetic needs. Surface gloss can be obtained by irradiation.

Aim: To analyze influence of continuous and pulse light-curing mode on surface gloss of nanofill and bulk-fill immediately after irradiation and after one day.

Method: Nanofill and bulk-fill specimens were irradiated using continuous or pulse light-curing mode with irradiance of 900 mW/cm² for 20 seconds. Then surface gloss test is carried out immediately after irradiation. Then the specimens were water-stored for one day and then tested their surface gloss again.

Result: Surface gloss produced by continuous and pulse light-curing mode were not statistically different ($p > 0,05$). Nanofill produced lower surface gloss than bulk-fill, statistically significant ($p = 0,00$). Immediately after irradiation, resulting surface gloss were higher than after one day, not statistically significant ($p > 0,05$).

Conclusion: In this experiment, surface gloss was not affected by continuous and pulse light-curing mode as well as the time difference immediately and after one day. However, there is an influence on the type of composite resin, where nanofill produced lower surface gloss than bulk-fill.