Pengaruh Sistem Pemolesan Terhadap Surface Gloss Resin Komposit Supra-Nano Universal Flow = Effect Of Polishing Systems on the Surface Gloss of Supra-Nano Universal Flow Resin Composite

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Abstrak

Latar Belakang: Resin komposit merupakan bahan restorasi yang telah dikembangkan komposisinya sehingga memiliki sifat estetika, fisik, dan mekanik yang lebih baik dan diharapkan dapat mengatasi masalah yang disebabkan oleh material restorasi lainnya. Resin komposit PALFIQUE® Universal Flow dari Tokuyama Dental merupakan resin komposit yang telah dikembangkan partikel filler-nya dan diklaim memiliki kemampuan pemolesan yang tinggi serta estetika yang sempurna. Salah satu sifat permukaan restorasi resin komposit, surface gloss, memegang peranan penting terhadap estetika restorasi. Surface gloss dipengaruhi oleh berbagai faktor intrinsik dan ekstrinsik dan diantara faktor ekstrinsik yaitu sistem pemolesan. Tujuan: Menganalisis pengaruh sistem pemolesan terhadap surface gloss resin komposit supra-nano PALFIQUE® Universal Flow tipe Super Low dan Medium. Metode: Empat puluh delapan spesimen resin komposit supranano PALFIQUE® Universal Flow berbentuk silinder berdiameter 6 mm dan tinggi 2 mm dibuat untuk penelitian ini. Spesimen dibagi menjadi 6 kelompok berdasarkan tipe resin komposit (Super Low dan Medium) dan sistem pemolesan (Sof-LexTM Spiral, Sof- LexTM XT Polishing Discs, Tanpa Pemolesan). Penyinaran resin komposit dilakukan dengan light curing unit iradiansi 1050 mW/cm2 selama 12 detik. Setiap spesimen dilakukan pengujian surface gloss dengan glossmeter sebanyak tiga kali. Data dianalisis menggunakan uji statistik One-Way ANOVA dan Independent Sample T-Test. Hasil: Nilai surface gloss semua kelompok berada pada rentang 76–96 GU. Surface gloss tertinggi dimiliki oleh kelompok tanpa pemolesan. Sistem pemolesan Sof-LexTM XT Polishing Discs menghasilkan surface gloss lebih tinggi dibandingkan Sof-LexTM Spiral dengan perbedaan yang signifikan ($p<0,05$). Surface gloss resin komposit tipe Super Low lebih tinggi dibandingkan tipe Medium dengan perbedaan yang signifikan ($p<0,01$). Kesimpulan: Surface gloss turut dipengaruhi oleh tipe resin komposit dan sistem pemolesan.
.....Background: Composite resin is a restorative material with composition that has been developed so that it has better aesthetic, physical, and mechanical properties and is expected to overcome problems caused by other restorative materials. PALFIQUE® Universal Flow composite resin from Tokuyama Dental is a composite resin with developed filler particles and is claimed to have high polishing ability and perfect aesthetics. One of the surface properties of composite resin restorations, surface gloss, plays an important role in the aesthetics of the restoration. Surface gloss is influenced by various intrinsic and extrinsic factors and among the extrinsic factors is the polishing system. Objectives: The aim of this study was to analyze the influence of different polishing systems on surface gloss of Super Low and Medium PALFIQUE® Universal Flow composite resin. Materials and Methods: Forty-eight specimens of PALFIQUE® Universal Flow supra-nano composite resin in cylindrical shape (diameter of 6 mm and height 2 mm) were used in this study. The specimens were divided into six groups by type (Super Low and Medium) and by polishing systems (Sof-LexTM Spiral, Sof-LexTM XT Polishing Discs, mylar strip). Specimens were polymerized with light curing unit for 12 seconds with light irradiance of 1050 mW/cm2. Each specimen was tested for surface gloss with a glossmeter three times. Data then were analyzed with One-Way ANOVA and

Independent Sample T-Test. Results: Surface gloss value of all groups were above the clinically acceptable threshold (76–96 GU). Highest surface gloss value was shown on the mylar strip group. Higher surface gloss values were produced by Sof-LexTM XT Polishing Discs compared to Sof-LexTM Spiral, statistically significant ($p<0,05$). Surface gloss values were significantly higher on type Super Low compared to Medium ($p<0,01$). Conclusion: In this study, surface gloss value was influenced both by the type of composite resin and differences in polishing systems.