Kekerasan permukaan komposit resin nano aktivasi sinar dengan iradiansi berbeda = Hardness of nano resin composite light activated with different irradiance

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Abstrak

Latar Belakang: LCU-LED prototip metode PWM iradiansi 900 dan 1.000 mW/cm2 telah dibuat untuk mengurangi panas akibat polimerisasi dengan waktu penyinaran 10 detik. Tujuan: Menganalisis pengaruh iradiansi terhadap kekerasan permukaan komposit resin nano. Metode: Sampel disinar dengan LCU-LED prototip iradiansi 900 dan 1.000 mW/cm2 serta LCU-LED pembanding iradiansi 900 mW/cm2. Kekerasan permukaan diuji dengan sistem Knoop. Data dianalisis dengan One-way ANOVA dan Post-HocTest. Hasil: Kekerasan permukaan antar kelompok berbeda signifikan kecuali antara penyinaran LCU-LED prototip iradiansi 900 mW/cm2 dan LCU-LED pembanding iradiansi 900 mW/cm2. Kesimpulan: Penyinaran iradiansi 900 mW/cm2 dari LCU-LED prototip dan LCU-LED pembanding menunjukan kekerasan permukaan yang sama.

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Introduction: Prototype LCU-LED using PWM with irradiance 900 and 1,000mW/cm2 has constructed that can reduce temperature for polymerizing in ten seconds. Objectives: To analyze influence of irradiance to the hardness of nano resin composites. Methods: Samples were polymerized using the prototype with irradiance of 900 and 1,000mW/cm2 or the off-the-shelf LCU-LED (900mW/cm2) as comparison. Hardness was measured using Knoop system. Statistical analysis was conducted by One-Way ANOVA and post-hoctest. Results: There’s significant differences among the groups except those between prototype and comparison with irradiance of 900mW/cm2. Conclusions: Hardness from prototype is equal to those from comparison with irradiance of 900mW/cm2