Perubahan Warna Resin Komposit Nanohibrida pada Penggunaan Obat Kumur Chlorhexidine Gluconate 0,2% dan Povidone Iodine 1% = Discoloration of Nanohybrid Composite Resin on the Use of 0.2% Chlorhexidine Gluconate and 1% Povidone Iodine Mouthwash

Fadhilla Puri Oktaviana, author

Abstrak

Latar Belakang: Sebagian besar pasien menginginkan bahan tambal sewarna gigi yang tahan lama dan memiliki stabilitas warna yang tinggi. Penggunaan partikel berukuran nano pada komposit saat ini dapat meningkatkan kualitas pemolesan dan menyebabkan komposit lebih tahan terhadap pewarnaan. Perubahan warna yang terjadi pada resin komposit dapat dipengaruhi oleh komponen kimiawi dalam obat kumur yang digunakan sehari-hari. Obat kumur memang efektif dalam melawan dan mengurangi penyebaran virus, namun beberapa obat kumur mengandung bahan yang dapat mengakibatkan pewarnaan pada restorasi resin komposit. Tujuan: Mendapatkan perbedaan perubahan warna antara resin komposit nanohibrida yang direndam dalam obat kumur chlorhexidine gluconate 0,2% dan povidone iodine 1%. Metode: Spesimen resin komposit nanohibrida berjumlah 32 buah disiapkan dalam mould (6x3 mm). Spesimen dibagi menjadi 2 kelompok (n=16) berdasarkan obat kumur yang digunakan yaitu kelompok A1 (chlorhexidine gluconate 0,2%) dan A2 (povidone iodine 1%). Spesimen direndam aquades dengan suhu 37ºC selama 24 jam, lalu dilakukan pemolesan dengan Sof-Lex Polishing Discs dan uji warna awal menggunakan kolorimeter. Setelah itu, spesimen direndam dalam obat kumur selama 24 jam. Kemudian dilakukan uji warna akhir dan hasil rata-rata nilai perubahan warna dianalisis dengan uji Mann-Whitney. Hasil Penelitian: Terdapat perbedaan bermakna antara rerata nilai perubahan warna resin komposit nanohibrida yang direndam dalam chlorhexidine gluconate 0,2% dan povidone iodine 1% ($p < 0,05$) dengan nilai kelompok povidone iodine 1% (3,35) lebih tinggi dibandingkan dengan kelompok chlorhexidine gluconate 0,2% (0,63). Kesimpulan: Perubahan warna yang terjadi pada resin komposit nanohibrida dengan perendaman povidone iodine 1% lebih tinggi dibandingkan dengan perendaman dengan chlorhexidine gluconate 0,2%.

.....Background: Most patients want a tooth-colored filling material that is durable and has high color stability. The use of nano-sized particles in today’s composites can improve the quality of polishing and make the composites more resistant to discoloration. Discoloration that occur in the composite resins can be affected by chemical components in the mouthwash that used daily. Mouthwashes are effective in against and reducing the spread of viruses, but some mouthwashes contain ingredients that can cause discoloration of composite resin restorations. Objective: Obtaining differences in discoloration between nanohybrid composite resin soaked in 0.2% chlorhexidine gluconate and 1% povidone iodine mouthwash. Methods: Thirty two nanohybrid composite resin specimens were prepared in a mold (6x3 mm). Specimens were divided into two groups (n=16) based on the mouthwash that used, group A1 (0.2% Chlorhexidine gluconate) and A2 (1% Povidone iodine). The specimens were immersed in distilled water at 37ºC for 24 hours, then polished with Sof-Lex Polishing Discs and then the initial color test was performed using a colorimeter. After that, the specimens were soaked in mouthwash for 24 hours. Then the final color test was carried out and the mean values of the color change were analyzed by Mann-Whitney test. Results: There was a significant difference between the average color change value of the nanohybrid composite resin

immersed in 0.2% chlorhexidine gluconate and 1% povidone iodine ($p < 0.05$) with 1% povidone iodine group value (3.35) higher than 0.2% chlorhexidine gluconate (0.63). Conclusion: The color change that occurred in the nanohybrid composite resin with 1% povidone iodine immersion was higher than that with 0.2% chlorhexidine gluconate immersion.