Pengaruh Penggunaan Bleaching Karbamid Peroksida 10% terhadap Kekasaran Permukaan Nanofil dan Bulkfil setelah Paparan Obat Kumur = Effect of 10% Carbamide Peroxide Bleaching on Nanofill and Bulkfill Surface Roughness after Exposure to Mouthwash

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Abstrak

Latar belakang: Penelitian sebelumnya banyak melihat pengaruh paparan obat kumur dan aplikasi bleaching terhadap kekasaran permukaan nanohibrida dan mikrohibrida, sedangkan nanofil dan bulkfil merupakan restorasi estetika. Oleh karena itu, dilakukan pengaruh paparan obat kumur klorheksidin 0,2% dan povidone iodine 1% selama penggunaan 14 hari sesuai aturan pakai lalu dilakukan aplikasi bleaching karbamid peroksida 10% selama 4jam/hari dalam 14 hari. Tujuan: Menganalisa pengaruh aplikasi bleaching karbamid peroksida 10% terhadap kekasaran permukaan resin komposit nanofil dan bulkfil setelah paparan obat kumur klorheksidin 0,2% dan povidone iodine 1%. Metode: Spesimen resin komposit nanofil dan bulkfil (n=24) dibagi ke dalam 4 kelompok, lalu masing-masing resin komposit direndam obat kumur klorheksidin 0,2% (n=6) dan povidone iodine 1% (n=6) selama 14 hari pemakaian dan diaplikasikan bleachingkarbamid peroksida 10% selama 4 jam/hari dalam waktu 14 hari. Pengukuran kekasaran permukaan dilakukan sebelum dan setelah perendaman obat kumur, serta setelah bleaching menggunakan surface roughness tester (Surtronic® S-128).Hasil: Kekasaran permukaan resin komposit nanofil dan bulkfil setelah aplikasi bleaching berbeda bermakna ($p<0,05$), dalam hal ini antara sebelum perendaman dan setelah perendaman obat kumur berbeda bermakna ($p<0,05$), tetapi antara setelah perendaman obat kumur dan setalah aplikasi bleaching tidak berbeda bermakna ($p>0,05$). Kesimpulan: Resin komposit nanofil dan bulkfil mengalami peningkatan kekasaran permukaan setelah terpapar obat kumur klorheksidin 0,2% dan povidone iodine 1% serta setelah aplikasi bleaching karbamid peroksida 10%. Peningkatan kekasaran permukaan nanofil lebih tinggi dari peningkatan kekasaran bulkfil.

.....Background: Previous studies have researched the effect of mouthwash exposure and bleaching application on the surface roughness of nanohybrid and microhybrid, while nanofil and bulkfil are aesthetic restorations. Therefore, the effect of exposure to 0.2% chlorhexidine and 1% povidone iodine mouthwash was carried out for 14 days according to the instructions of use, then 10% carbamide peroxide bleaching was applied for 4 hours/day for 14 days. Objective: To analyze the effect of 10% carbamide peroxide bleaching application on the surface roughness of nanofil and bulkfil composite resins after exposure to 0.2% chlorhexidine and 1% povidone iodine mouthwash. Methods: Nanofill and bulkfill composite resin specimens (n=24) were divided into 4 groups, then each composite resin was immersed in 0.2% chlorhexidine (n=6) and 1% povidone iodine (n=6) mouthwash for 14 days of use and 10% carbamide peroxide bleaching was applied for 4 hours/day for 14 days. Surface roughness measurements were carried out before and after immersion in mouthwash, and after bleaching using a surface roughness tester (Surtronic® S-128) Results: The surface roughness of nanofill and bulkfill composite resins after bleaching application was significantly different ($p<0.05$), in this case between before and after immersion in mouthwash was significantly different ($p<0.05$), but between after immersion in mouthwash and after bleaching application there was no significant difference ($p>0.05$). Conclusion: Nanofil and bulkfil

composite resins have increased surface roughness after exposure to 0.2% chlorhexidine and 1% povidone iodine mouthwash and after application of 10% carbamide peroxide bleaching. The increase in nanofil surface roughness was higher than the increase in bulkfil surface roughness.