

ABSTRAK

PENGARUH JUMLAH HISAPAN ROKOK KRETEK NON FILTER TERHADAP KEKASARAN PERMUKAAN *GLASS IONOMER* *CEMENT KONVENSIONAL*

Muhammad Satriyo Bimantoro

Glass ionomer cement (GIC) konvensional merupakan bahan restorasi gigi yang bersifat antikariogenik dan dapat melepaskan *flouride*. Merokok dapat mempengaruhi sifat fisik GIC. Kekasaran permukaan merupakan salah satu sifat fisik bahan restorasi yang dapat memengaruhi keberhasilan restorasi. Tujuan dari penelitian ini adalah untuk mengetahui kekasaran permukaan GIC setelah paparan asap rokok kretek non filter. Metode penelitian ini dilakukan di laboratorium secara eksperimental dengan desain *pretest - posttest control group design* sejumlah 32 spesimen GIC dibagi menjadi empat kelompok, yaitu kelompok perlakuan diberikan paparan 75, 150, dan 250 hisapan rokok kretek non filter, dan kelompok kontrol diberikan perendaman air liur buatan tanpa paparan asap rokok kretek non filter. Seluruh perlakuan dilakukan selama 21 hari. Kekasaran permukaan diukur dengan alat *surface roughness tester* dan dievaluasi melalui analisis statistik, *One-Way ANOVA* dan *Post-Hoc LSD*. Hasil rerata selisih *pretest - posttest* kelompok I, II, III, dan kontrol sebesar 0,056, 0,094, 0,167, dan 0,008 μm . Hasil tersebut menunjukkan adanya perbedaan kekasaran permukaan GIC yang signifikan ($p < 0,05$), dengan variasi antara semua kelompok. Simpulan semakin banyak hisapan rokok kretek dapat memengaruhi kekasaran permukaan GIC. Peningkatan jumlah hisapan rokok kretek, dapat meningkatkan kekasaran permukaan GIC.

Kata Kunci : *Glass ionomer cement*; Kekasaran permukaan; Asap rokok kretek

ABSTRACT

THE INFLUENCE OF THE NUMBER OF PUFFIES OF NON-FILTER KRETEK CIGARETTES ON THE SURFACE ROUGHNESS OF CONVENTIONAL GLASS IONOMER CEMENT

Muhammad Satriyo Bimantoro

Conventional glass ionomer cement (GIC) is a dental restoration material that is anticariogenic and can release fluoride. Smoking can affect the physical properties of GIC. Surface roughness is one of the physical properties of restoration materials that can influence the success of restoration. The aim of this study was to determine the surface roughness of GIC after exposure to non-filtered kretek cigarette smoke. This research was carried out in an experimental laboratory with a pretest - posttest control group design method using 32 GIC specimens which were divided into four groups, namely the treatment group which was exposed to 75, 150, and 250 puffs of non-filter kretek cigarettes, and the control group given artificial saliva immersion without exposure to non-filtered kretek cigarette smoke. All treatment was conducted for 21 days. Surface roughness was measured with a surface roughness tester and evaluated through statistical analysis, One-Way ANOVA and Post-Hoc LSD. Results show that mean difference between pretest - posttest groups I, II, III, and control was 0.056, 0.094, 0.167, and 0.008 μm . These results showed that there were significant differences in GIC surface roughness ($p < 0.05$), with variations between all groups. Conclusion of this study is that the more kretek cigarettes you smoke can affect the surface roughness of the GIC. Increasing the number of puffs on kretek cigarettes can increase the roughness of the GIC surface.

Keywords : *Glass ionomer cement; Surface roughness; Kretek cigarette puff*