

## INTISARI

Resin komposit *nanofiller* merupakan bahan restorasi memiliki kekuatan dan ketahanan hasil poles sangat baik. Resin komposit bersifat menyerap air, sehingga paparan minuman berkarbonasi terus menerus dikhawatirkan menyebabkan resin komposit mengalami degradasi matriks sehingga mempengaruhi kekasaran resin komposit. Tujuan penelitian ini untuk mengetahui pengaruh lama perendaman minuman berkarbonasi terhadap kekasaran permukaan resin komposit *nanofiller*.

Penelitian true *experimental laboratories* dengan rancangan *post test control group design*. Lempeng resin komposit *nanofiller* 32 buah dengan diameter 9 mm tinggi 2 mm dibagi dua kelompok. Kelompok I direndam aquades, kelompok II dalam minuman berkarbonasi. Perendaman dilakukan selama 1, 4, 8, dan 19 hari. Kekasaran permukaan resin komposit diukur menggunakan *surface roughness tester*.

Hasil uji *repeated anova* penelitian ini didapatkan hasil signifikan dengan nilai *p-value* 0,889 ( $p > 0,05$ ), sedangkan pada kelompok perlakuan diperoleh hasil tidak signifikan dengan nilai 0,000 ( $p < 0,05$ ). Selanjutnya data dilakukan uji *pairwise comparisons LSD* yang diperoleh *p-value*  $< 0,05$  yang berarti terdapat perbedaan rata-rata indeks kekasaran permukaan resin komposit *nanofiller* yang signifikan antara hari pengukuran.

Kesimpulan : Lama waktu perendaman mempengaruhi tingkat kekasaran. Semakin lama waktu perendaman maka tingkat kekasaran semakin tinggi.

**Kata kunci** : Lama Perendaman, Minuman Berkarbonasi, Kekasaran Resin Komposit *Nanofiller*.

## ABSTRACT

*Nanofiller composite resin it has very good strength and durability polishing results. Composite resin absorbs water, so that exposure to carbonated drinks constantly feared could cause degradation on the resin composite so that the matrix can affect the roughness of resin composites. The purpose of this study was to know the effect of immersing time into carbonated beverages to the surface roughness of nanofiller composite resin.*

*A laboratories true experiment research with posttest control group design. Thirty two pieces of nanofiller composite resin plate with a diameter 9 mm and height 2 mm divided into two groups. Group I was immersed in distilled water, group II immersed in carbonated beverages. Immersion was done for 1, 4, 8, and 19 days. Surface roughness of composite resin that were measured using a surface roughness tester.*

*Repeated anova test in this study obtained p-value 0.889 ( $p > 0.05$ ) in control group, whereas in treatment group obtained p-value 0.000 ( $p < 0.05$ ). Next, was conducted pairwise comparisons LSD test on the data, and obtained p-value  $< 0.05$  in all comparison of day measurement that means there was any significant difference in the average of surface roughness index of nanofiller composite resin within the day of measurement.*

*Conclusion: The length of time of immersion affects the level of roughness. That is mean so long the time of immersion it would resulted in increasing of surface roughness.*

**Keywords :** *Immersion Time, Carbonated Drinks, Roughness of Nanofiller composite resins.*