

## ABSTRAK

Nama : Fidelia Serafina Budianto  
Program Studi : Kedokteran Gigi  
Judul : Pengaruh Penggunaan *Composite Sealer* terhadap Perbedaan Kekasaran Permukaan Resin Komposit Nanohybrid dan Nanofil  
Pembimbing : drg. Nadia Hardini, Sp.KG  
                  drg. Gloria Fortuna, Sp.KG

**Tujuan:** Penelitian ini bertujuan untuk mengkaji pengaruh penggunaan *composite sealer* terhadap perbedaan kekasaran permukaan resin komposit nanohybrid dan nanofil setelah perendaman obat kumur beralkohol. **Metode:** Penelitian ini merupakan penelitian eksperimental dengan desain *post-test only with control group design*. Sampel resin komposit nanohybrid dan nanofil dibuat masing-masing sebanyak 14 sampel. Tujuh sampel resin komposit nanohybrid dan nanofil kemudian diaplikasikan *composite sealer*. Sampel kemudian direndam dalam obat kumur beralkohol 26,9% selama 24 jam dengan suhu 37 ° C. Pengukuran kekasaran permukaan dilakukan dengan menggunakan alat *Surface Roughness Tester*. Data dianalisis dengan menggunakan uji *independent t-test*. **Hasil:** Tidak terdapat pengaruh penggunaan *composite sealer* secara signifikan terhadap perbedaan kekasaran permukaan resin komposit nanohybrid dan nanofil setelah perendaman obat kumur beralkohol. **Kesimpulan:** Tidak terdapat pengaruh penggunaan *composite sealer* terhadap perbedaan kekasaran permukaan resin komposit nanohybrid dan nanofil setelah perendaman obat kumur beralkohol.

**Kata kunci:** nanohybrid, nanofil, *composite sealer*, kekasaran permukaan

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Name : Fidelia Serafina Budianto  
Study Program : Dentistry  
Title : The Effect of Composite Sealer Application on the Surface Roughness Differences of Nanohybrid and Nanofilled Composite Resins  
Counsellor : drg. Nadia Hardini, Sp.KG  
drg. Gloria Fortuna, Sp.KG

**Objectives:** This study aimed to evaluate the effect of composite sealer application on the differences in surface roughness of nanohybrid and nanofilled composite resins after immersion in an alcohol-containing mouthwash. **Methods:** An experimental study using a post-test only with control group design was conducted. Fourteen nanohybrid and fourteen nanofilled composite resin samples were prepared. Seven samples from each group received composite sealer application. All samples were then immersed in 26,9% alcohol-containing mouthwash for 24 hours at 37 °C. Surface roughness was measured using a Surface Roughness Tester, and the data were analyzed using an independent t-test. **Results:** Composite sealer application did not produce a significant effect on the differences in surface roughness of nanohybrid and nanofilled composite resins after immersion in the alcohol-containing mouthwash. **Conclusion:** Composite sealer application has no significant effect on the surface roughness differences of nanohybrid and nanofilled composite resins after immersion in alcohol-containing mouthwash.

**Keywords:** nanohybrid, nanofilled, composite sealer, surface roughness