

INTISARI

Perubahan warna pada resin komposit nanohibrid dapat terjadi karena adanya penyerapan zat warna yang berasal dari minuman seperti kopi. Peningkatan suhu dan lama perendaman dapat meningkatkan perubahan warna. Tujuan penelitian ini adalah untuk mengetahui perbedaan perubahan warna resin komposit nanohibrid yang direndam dalam larutan kopi pada suhu 4°C dan 54°C dengan lama perendaman yang berbeda

Subjek penelitian ini adalah 24 resin komposit berbentuk diskus dengan diameter 10 mm dan ketebalan 2 mm. Semua sampel direndam dalam saliva buatan pada suhu 37°C selama 24 jam. Sampel dibagi menjadi 2 kelompok (n=12), kelompok I direndam dalam larutan kopi bersuhu 4°C dan kelompok II direndam dalam suhu 54°C. Tiap kelompok dibagi menjadi 2 sub kelompok (n=6), sub kelompok A direndam selama 2 hari dan sub kelompok B direndam selama 4 hari. perubahan warna awal dan akhir diukur menggunakan *chromameter* setelah perendaman dalam kopi. Analisis data menggunakan *ANOVA* dua jalur dengan signifikansi $\alpha = 0,05$.

Hasil *ANOVA* dua jalur menunjukkan terdapat perbedaan yang signifikan antara perendaman dalam kopi bersuhu 4°C & 54°C dan juga terdapat perbedaan yang signifikan antara perendaman selama 2 hari dan 4 hari ($p < 0,05$). Hasil penelitian menunjukkan bahwa perubahan warna resin komposit nanohibrid yang direndam larutan kopi pada suhu 54°C lebih besar daripada perendaman dalam larutan kopi pada suhu 4°C dan perendaman selama 4 hari menunjukkan perubahan warna yang lebih besar daripada perendaman selama 2 hari.

Kata kunci : perubahan warna, resin komposit nanohibrid, kopi

ABSTRACT

Discoloration of nanohybrid composite resin can occur due to the absorption of staining agent from beverage like coffee. Increased temperature and duration of the immersion may cause in increased discoloration. The aim of this study was to determine the difference of nanohybrid composite resin discoloration which immersed in coffee solution at temperature of 4°C and 54°C with different immersion duration.

This research subjects were 24 nanohybrid composite resin in disc shaped with 10 mm in diameter and 2 mm thick. All samples were immersed in artificial saliva at temperature of 37°C for 24 hours. The samples were divided into two groups (n=12), group I were immersed in coffee solution at temperature of 4°C and group II were immersed at temperature of 54°C. Each group was divided into two subgroups (n=6), subgroup A were immersed for 2 days and subgroup B were immersed for 4 days. Initial and final color measurement were taken using chromameter. Afterward, data were analyzed using Two Way Anova with the significance of $\alpha = 0,05$.

The result of two way ANOVA showed significance difference between immersion in coffee solution at temperature of 4°C & 54°C and also there is significance difference between immersion for 2 days and 4 days ($p < 0,05$). The result of this research showed that discoloration of nanohybrid composite resin which immersed in coffee solution at temperature of 54°C greater than immersion in coffee solution at temperature of 4°C and immersion for 4 days showed greater discoloration than immersion for 2 days.

Keywords : discoloration, nanohybrid composite resin, coffee