Pengaruh Larutan Cokelat Indonesia Terhadap Perubahan Warna Resin Komposit Mikrohibrida Filtek Z250TM = The Influence of Indonesian Chocolate Drink on Color Change of Mycrohybrid Composite Resin Filtek Z250TM

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Abstrak

Tujuan: Untuk mengetahui pengaruh perendaman resin komposit mikrohibrida Filtek Z250™ di dalam larutan cokelat Indonesia asal Aceh, Lampung, Jawa Timur, Bali, Flores, dan Kendari terhadap perubahan warna. Metode dan Material: Digunakan 42 spesimen resin komposit mikrohibrida Filtek Z250TM berdiameter 6 mm dan tebal 2 mm serta minuman cokelat Indonesia asal Aceh, Lampung, Jawa Timur, Bali, Flores, dan Kendari. Spesimen dipolimerisasi menggunakan LED Curing Unit iradiansi 700 mW/cm2 (LED Max Hilux) selama 20 detik kemudian direndam di dalam larutan cokelat selama 7 hari yang diganti setiap harinya. Perubahan warna diukur menggunakan colorimeter NH310 (Shenzhen 3NH) dengan sistem CIE L*a*b kemudian dianalisis menggunakan uji statistik One-Way Anova. pH larutan media perendaman diukur menggunakan pH meter (Thermo Scientific Orion Star A211 Benchtop). Hasil: Terdapat perubahan warna sebelum dan sesudah direndam dalam larutan cokelat yang signifikan ($p<0,05$) pada nilai E*, L*, a* dan b* nya. Larutan cokelat asal Lampung dengan pH yang paling rendah menyebabkan perubahan warna paling besar pada resin komposit Filtek Z250TM sedangkan larutan cokelat Kendari dengan pH yang paling tinggi menyebabkan perubahan warna yang paling kecil. Seluruh spesimen resin komposit Filtek Z250TM berubah menjadi lebih gelap. Kesimpulan: pH larutan coklat Indonesia mempengaruhi besarnya perubahan warna pada resin komposit mikrohibrida Filtek Z250TM.

.....Objective: To analyze the influence of Indonesian (Aceh, Lampung, East Java, Bali, Flores, and Kendari) chocolate drink immersion on color change of microhybrid composite resin. Materials and Method: 42 specimens with 6 mm diameter and 2 mm thick, chocolate drink from Aceh, Lampung, East Java, Bali, Flores, and Kendari were prepared. The specimens were polymerized for 20 seconds using a 700 mW/cm2 irradiance LED curing unit (LED Max Hilux). Specimens were immersed in Indonesia chocolate drink for 7 days and the chocolate were changed everyday. The color changes of specimens were measured using colorimeter NH310 (Shenzhen 3NH) following CIE L*a*b system then being analyzed using statistic One-Way Anova Test. pH solutions was measured by pH meter (Thermo Scientific Orion Star A211 Benchtop). Results: There were significant color change E*, L*, a* and b* ($p<0,05$) before and after immersed in Indonesia chocolate. Lampung chocolate drink which has the lowest pH makes the most significant color changes on Filtek Z250TM, meanwhile Kendari chocolate drink which has the highest pH most likely has no effect on color changes. All composite resin colors are darker after being immersed in all solutions. Conclusions: Color changes on microhybrid composite resin Filtek Z250TM are influenced by pH.