

# 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<sup>TM</sup> 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 Z250<sup>TM</sup> 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/cm<sup>2</sup> (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 Z250<sup>TM</sup> sedangkan larutan cokelat Kendari dengan pH yang paling tinggi menyebabkan perubahan warna yang paling kecil. Seluruh spesimen resin komposit Filtek Z250<sup>TM</sup> berubah menjadi lebih gelap. Kesimpulan: pH larutan coklat Indonesia mempengaruhi besarnya perubahan warna pada resin komposit mikrohibrida Filtek Z250<sup>TM</sup>.

.....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/cm<sup>2</sup> 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 Z250<sup>TM</sup>, 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 Z250<sup>TM</sup> are influenced by pH.