Abstract

Introduction: The growth of direct veneer solutions has to lead to many new inventions in nanocomposite materials, yet, its major problem is discoloration, which cannot be tolerated in veneer restorations. **Purpose**: The aim of this study is to compare the color stability (ΔE) of methacrylate-based nanohybrid material of flowable nanocomposite and prefabricated composite resin veneer (PCRV). **Materials and Methods**: The difference in color stability of the two composites: G aenial Universal Flo (GUF) (GC, Japan) and Componeer (Coltene; Altstätten, Switzerland) were evaluated. Thirty-four samples of both GUF and PCRV were prepared. Specimens were immersed in instant coffee for 24 hours in four weeks, and were measured between each week. Photosynthesis was acive by LED Halogen light (light intensity 1200-2000mw/ cm3) for 40 seconds. Polishing and finishing GUF samples used aluminum oxide discs (Sof-Lex; 3M ESPE). The measument based on the CIE L*a*b* system used a spectrophotometer (CM-5, Konica Minolta, Osaka, Japan). One-way ANOVA analysis, the independent T-test, and the Least Square Differences (LSD) statistical test was conducted. **Results**: According to one-way ANOVA, GUF and Componeer materials have shown a significant difference in color stability. After four weeks, GUF group veneer system revealed a better performance in color stability (ΔE = 5,331 ± 0,707) in comparison to prefabricated veneer groups (ΔE = 16,408 ± 2,183) with p value<0.05. **Conclusion:** GUF has less discoloration correlated to Componeer. Nonetheless, the two materials are clinically unaccepted for direct veneer restoration as the color change is higher than the acceptable standard.

Keywords: Nanohybrid composite, direct veneer restoration, methacrylate-based resin composite, prefabricated resin composite vene