

عنوان مقاله:

Color stability of bulk-fill and nanohybrid composite resins after immersion in various beverages

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خلاصه مقاله:

**Objective:** This study aimed to investigate the effect of various beverages on the color stability of nanohybrid and bulk-fill resin composites. **Methods:** In this experimental study, ۳۶ disk-shaped composite samples (۶ mm diameter, ۴ mm thickness) were prepared from three types of composite resins ( $n=۱۲$ ): a nanohybrid composite (Filtek Z550), a bulk-fill composite (Tetric EvoCeram Bulk Fill) and a flowable bulk-fill composite (Filtek Bulk Fill Flowable). The samples from each composite were then divided into four subgroups based on the applied staining solution ( $n=۳$ ) and immersed for ۱۲۰ hours in either distilled water, chocolate milk, cola, or orange juice. Color measurements were conducted at baseline and after immersion in staining solutions by a VITA Easyshade Compact according to the CIELAB color system. Color changes ( $\Delta E$ ) were analyzed by a two-way ANOVA at the significance level of  $P<۰.۰۵$ . **Results:** All composites exhibited clinically unacceptable color change values ( $\Delta E>۳.۳$ ) after immersion in various beverages. The greatest color changes were usually found in Filtek Bulk Fill Flowable composite. Both bulk fill composites showed significantly greater color changes than the nanohybrid composite after immersion in distilled water and chocolate milk ( $P<۰.۰۵$ ). Tetric EvoCeram Bulk Fill showed significantly different color change values after exposure to various beverages ( $P=۰.۰۲۳$ ). **Conclusions:** Filtek Bulk Fill Flowable exhibited greater discoloration than Filtek Z550 and Tetric EvoCeram bulk-fill composites. Both the composite structure and the type of beverage influence the color stability of composite resins, but the effect of the composite structure is more potent.

کلمات کلیدی:

beverages, Bulk fill, Composite resins, Nanohybrid composite, Tooth color, Tooth discoloration

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