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The effect of sport energy drinks on the color changes and three-dimensional surface topography of different composite resins

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Aim: The aim of this study was to evaluate the 3-dimensional (3D) surface topography and color stability of three different resin composites after immersion in different soft-beverages.

Materials & Methods: Sixty disk-shaped specimens (diameter: 10 mm and thickness: 2 mm) were made from four different resin composites. Each specimen was cured under mylar strips for 20 sec for both top and bottom surfaces. All of the specimens were stored in distilled water for 24h at 37°C. Color measurements of each specimen were performed with Color Eye system. All the measurements were performed at baseline and at 7days, one month, 3 months and 6 months of immersion in the selected sport energy drinks (Code Red, Red-bull and Bison). Control groups were stored in distilled water during the study. Another thirty six disc-shaped specimens with the same dimensions were prepared for surface roughness (Ra) determination using a non-contact 3D-optical-profilometer. Baseline and after immersion in the different sport energy drinks (Code Red, Red-bull and Bison) for 6 months were determined. Surface topography (Ra) and color changes (DE values) of the groups were recorded and statistically analyzed.

Results: The tested sport energy drinks in the present study caused significant increase in color changes at all the time periods for the tested resin composites ($p < 0.05$) except for the Vertis flow which showed almost no significant difference between 1 and 3 months. However, 3D surface topography of resin composites was not influenced by the tested sport energy drinks ($p > 0.05$). There was no significant interaction between the composite and sport drink type on the Ra values of the resin composites ($p > 0.05$).

Conclusions: No correlation was found between color stability and 3D surface topography of the resin composites. Color stability of resin composites may be affected by sport energy drinks.

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Overtreatment in caries management: A literature review perspective and recommendations for clinicians

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Dentistry, like various branches in the healthcare profession, is susceptible to overtreatment; especially in the management of dental caries, due to the adoption of an aggressive restorative approach. This philosophy provides no actual benefits to the patient in terms of arresting the disease process itself, which initially led to the carious lesions. Yet, practitioners, routinely and enthusiastically, continue to initiate restorative treatment procedures without attempting to understand and alter the biologic factors contributing to the caries process. This paper attempts to examine the available scientific literature in this regard, and to make certain recommendations to the clinicians of today based on the available evidence risk status of the patient.

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