

The effect of every day drinks on composite restorations aesthetics: in vitro study

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Abstract:

Aim: The main objectives of this in vitro study is, within its limitations, is to evaluate whether every day drinks affect the aesthetics of the dental composite resin materials.

Method: Thirty microhybrid composite resin (Gradia Direct) discs were made (15 mm in diameter and 2mm thick) and randomly divided into five groups. The groups were immersed in colorants as red wine, coca-cola, filter coffee, aronia tea and distilled water as control group. Spectrophotometer X-RITE RM 200 was used to follow the changes in color with three measurements, first one at the beginning (baseline), second at the middle, third at the end of the research. Each group was immersed in its colorant twice a day for the duration of the study. The received data was analyzed according the CIE L*a*b* color system.

Result: Three out of four colorants have surpassed the clinically acceptable threshold of discoloration which is $\Delta 2.7$. Significant discoloration was observed with the warm drinks compared with the ones used on room temperature. The tea caused most significant discoloration ($\Delta 22.17$) followed by coffee ($\Delta 16.73$) and wine ($\Delta 12.10$). The drink that caused the least discoloration was the coca-cola ($\Delta 1.24$).

Conclusion: The color stability of the composite resin restorations is affected by the everyday drinks that are consumed, from some more than others.

Key words: discoloration; composite resin; spectrophotometer;

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