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Abstract

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The Light Emitting Diodes (LED) technology has been used to photoactivate composite resins and there is a great number of published studies in this area. However, there are no studies regarding resin-modified glass-ionomer cements (RMGIC), which also need photoactivation. Therefore, the aim of this study was to evaluate water sorption of two RMGIC photoactivated with LED and to compare this property to that obtained with a halogen light curing unit. A resin composite was used as control. Five specimens of 15.0 mm in diameter x 1.0 mm in height were prepared for each combination of material (Fuji II LC Improved, Vitremer, and Filtek Z250) and curing unit (Radii and Optilight Plus) and transferred to desiccators until a constant mass was obtained. Then the specimens were immersed into deionized water for 7 days, weighed and reconditioned to a constant mass in desiccators. Water sorption was calculated based on weight and volume of specimens. The data were analyzed by two-way ANOVA and Tukey test ($p < 0.05$). Specimens photocured with LED presented significantly more water sorption than those photocured with halogen light. The RMGIC absorbed statistically significant more water than the resin composite. The type of light curing unit affected water sorption characteristics of the RMGIC.

Keywords : Glass ionomer cements; Water; Light.

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