

**Abstract:**

**Title:** Comparative Evaluation of microleakage of Two types of *Glass* Ionomer cement restorations in C1V cavity on primery teeth: an in vitro study

**Background & objectives:** Glass ionomer cements (GICs) are the most commonly used restorative material in pediatric dentistry. They have numerous advantages. GIC has the ability to adhere chemically to enamel and dentine and fluoride release. In clinical situation microleakage is a major challenge when using glass ionomer cement. Therefore, this study was designed to compare the microleakage of primary- teeth restorations using two types of glass ionomer (Equia Forte, Fuji II LC).

**Methods:** This experimental study was performed on 80 maxillary anterior deciduous teeth. A Class V cavity measuring  $1.5 \times 2 \times 3$  mm was adjusted on the teeth. The specimens were randomly divided into two groups as follows: 1) Fuji II LC, 2) Equia Forte. Teeth were exposed to 500 thermocycles at temperature of  $5^{\circ}\text{C}$  and  $55^{\circ}\text{C}$  with alternate immersion in hot and cold water for 25 second. Samples were immersed in the Fushin solution for 24 hours to test for dye penetration. The samples were sectioned buccolingually through centre of the restorations and degree of microleakage was assessed under stereomicroscope and scored. Statistical evaluations were performed by the Chi-square test.

**Results:** Based on the results of this study Fuji II LC GIC showed the higher microleakage scores than Equia Forte GIC and statistically significant difference were found between the groups. ( $P < 0.05$ ).

**Conclusion:** Equia Forte GIC may be a useful restorative material in primary teeth due to the low microleakage score and the relatively quick placement while treating young children.

**Keywords:** Microleakage, Glass Ionomer, Class V cavity, Primary Teeth