ABSTRACT

THE DIFFERENCE OF RESIDUAL MONOMERS DENTIN BONDING HEMA AND UDMA WITH ACETONE AND ETHANOL SOLVENT AFTER BINDING TO COLLAGEN TYPE I

Background: In large caries and erosions that have involved dentine, we need materials that can attach composite resin to the surface of the tooth. In several studies, researchers found that polymerized monomers will experience volume shrinkage because not all monomers undergo complete polymerization and will become residual monomers that can cause undesirable reactions. **Purpose:** to prove the difference in the amount of residual monomers between HEMA and UDMA based dentin bonding materials with acetone and ethanol solvents after binding to collagen type I. **Method:** There are 4 groups in this study. The first group of HEMA with acetone solvent and collagen. The second group of HEMA with ethanol solvent and collagen. The third group of UDMA with acetone solvent and collagen. The fourth group of UDMA with ethanol solvent and collagen. All groups will be checked by HPLC to see the remaining amount of monomers. **Result:** The average value of residual monomers, group 1: 10,69%, group 2: 13,93%, group 3: 2,89%, group 4: 7,48%. **Conclusion:** HEMA with ethanol solvent has the highest amount of residual monomers and UDMA with acetone solvent has the lowest amount of residual monomers.

Keywords: HEMA, UDMA, acetone, ethanol, residual monomer