

ABSTRACT

Background: Composite is a reliable material in dentistry, because the new adhesive system has better attachment to dentin, its known as bonding material.UDMA is the bonding material that is preferred because it has good biocompatibility and has the inhibitory of transesterification.In the bonding material there is a solvent, usually ethanol and acetone.Ethanol is a protic solvent and aseton is aprotic solvent. Bond strenght between UDMA and dentin collagen had proved by presence of the chemical interaction a solvent which serves to increase the optimal strength between the bonding material and the dental structure**Objective:** To analyze the difference in chemical bond strength between UDMA-based ethanol-based and UDMA acetone-doped resin with dentin collagen.**Methods:** There are 3 groups in this experiment. The first group of UDMA and collagen. The second group of UDMA, collagen, ethanol.The third group of UDMA, collagen, acetone. The three groups were then pelleted and analyzed by FTIR, to calculate the peak value of the carbonyl uptake band from each study group.the decrease of the carbonyl grup absorbance indicates the more chemical bonds formed. Data were analyzed using Annova one way and Tukey HSD test ($p < 0.05$). **Result:**there were significant differences between the three experiment.**Conclusion:** The chemical bond strength of the UDMA acetone bonding material is greater than that of the chemical bonding bonds in ethanol-based UDMA bonding in dentin collagen.

Keywords: dentin collagen , UDMA, acetone, ethanol, FTIR, chemical bond strength