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The Effect of Desensitizing Dentrifrices on Shear Bond Strength of Resin Composite

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Objectives: The aim of this research was to evaluate the effects of desensitizing agents 5% Calcium Sodium Phosphosilicate (Novamin) and 8.0% Arginine Calcium Carbonate on the shear bond strength between the tooth structure and the resin composite. **Materials and Methods**: Seventy premolars were prepared into the specific shape and size, and divided into three groups; Brushed with distilled water, 5% Calcium Sodium Phosphosilicate (Sensodyne® Repair and Protect) and 8.0% Arginine Calcium Carbonate (Colgate Sensitive Pro-relief), espectively. Three specimens in each group were examined under a scanning electron microscope after brushing, etching with 37% phosphoric acid and self-adhesive bonding (Clearfil SE Bond). Thereafter, a self-adhesive bonding and resin composite were applied on the specimen under the manufacturer's instruction. Shear bond strength was investigated with the SHIMADZU EZ-S Universal Testing Machine. One way ANOVA was used to determine the significant differences of shear bond strength among the three groups at *p-value* of 0.05. **Results**: The results revealed that the shear bond strengths are significantly different between brushing with distilled water and 8.0% Arginine Calcium Carbonate ($p < 0.00$) and different between 5.0% Calcium Sodium Phosphosilicate and 8.0% Arginine Calcium Carbonate brushing ($p = 0.008$). **Conclusions**: Brushing with toothpaste containing 8.0% Arginine Calcium Carbonate demonstrated the lowest average shear bond strength which different from the other two groups ($p < 0.05$).

Key words: Desensitizing agent; self-adhesive bonding; shear bond strength