THE EFFECT OF PRIMERS ON THE TENSILE BOND STRENGTH BETWEEN MDX 4-4210 SILICONE AND TWO ACRYLIC RESINS (AUTOPOLYMERIZING AND LIGHT-POLYMERIZING ACRYLIC RESIN)

NATDHANAI CHOTPRASERT

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NATDHANAI CHOTPRASERT 4736081 DTMP/M

M.Sc. (MAXILLOFACIAL PROSTHETICS)

THESIS ADVISORS: M.L.THEERATHAVAJ SRITHAVAJ, M.S., WIDCHAYA KANCHANAVASITA, Ph.D.

ABSTRACT

Primers are used as aids to increase the bond strength between acrylic resins and facial silicone. A Literature review suggests that different kinds of primers, acrylic resins, and facial silicones have different effectiveness in the bond strength. The purpose of this study was to evaluate the tensile bond strength of two acrylic resins (autopolymerizing and light-polymerizing acrylic resins) and MDX4-4210 silicone using five primers and no primer as a control group. The primers used in this study were A-304, A-306, A-330G, Epicon, and Sofreline Tough. One hundred and twenty specimens were divided into twelve groups, ten specimens each, according to the combination of two acrylic resins / MDX4-4210 silicone / five primers and no primer. All specimens were loaded in tension mode in the Universal Testing Machine with a crosshead speed 50 mm/min until the bonding failure occurred.

The results showed a significant difference in the interaction of five primer and two acrylic resins on tensile bond strength to MDX4-4210 silicone ($p<0.001$). The highest bond strength was found with combination light-polymerizing acrylic resin / A306 when bonded with MDX4-4210 silicone. For the autopolymerizing acrylic resin used to bond to MDX4-4210 silicone, the highest tensile bond strength was found in Epicon group, followed by A330G, SOFRELLINER TOUGH, A304, and A306. For the light-polymerizing acrylic resin group, the highest tensile bond strength was found in A306 primer, followed by A304, A330G, Epicon, and SOFRELINER TOUGH.

KEY WORDS: TENSILE BOND STRENGTHS, PRIMER, FACIAL SILCONE, ACRYLIC RESIN

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