THE EFFECT OF DENTURE ADHESIVE ON THE TRANSVERSE STRENGTH OF THE HEAT-CURED ACRYLIC PLATES

ABSTRACT

Background: Denture adhesive is usually used by denture users to enhance retention, stability, and the maximum denture function. Denture adhesive works along with the increasing of salivary viscosity through the formation of peripheral sealing located between the surface of the denture base and the oral mucosa. Composition of antimicrobial agent in denture adhesive is propyl hydroxybenzoate, known to be able to damage the surface of the denture base so that it can change the value of the transverse strength of the denture base.

Objective: To determine the effect of denture adhesive on the transverse strength of the heat-cured acrylic plates immersed in aquades for 4 days, 12 days, and 19 days.

Method: The samples are heat-cured acrylic plates (65x10x2.5mm) that were divided into six groups, each group consists of 7 samples. The control samples were immersed in aquades for 4 days, 12 days, and 19 days. The treatment samples were added with denture adhesive then immersed in aquades for 4 days, 12 days, and 19 days. After the immersion, samples were measured their transverse strength using autograph merk Shimadzu AG-10 TE made in Japan. Data were statistically analyzed using Independent T Test and One Way Anova Test.

Results: There was significant difference between the transverse strength of the heat-cured acrylic plates given with denture adhesive then immersed in aquades for 19 days and that given with denture adhesive then immersed in aquades for 4 days and 12 days.

Conclusion: The addition of denture adhesive on heat-cured acrylic plate group immersed in aquades for 19 days can increase the transverse strength of heat-cured acrylic plates.

Keywords: denture adhesive, transverse strength, heat-cured acrylic resin