PERBANDINGAN KEKUATAN PERLEKATAN GESER RESIN KOMPOSIT *INDIRECT* DENGAN *DIRECT* SECARA MEKANIK DAN KIMIAWI PADA GIGI TIRUAN TETAP
(Penelitian Laboratorium)

THE COMPARISON OF SHEAR BOND STRENGTH OF INDIRECT WITH DIRECT TECHNIQUE COMPOSITE RESIN MECHANICALLY AND CHEMICALLY ON FIXED BRIDGES
(Research Laboratory)

ABSTRACT

Background: *To repair indirect composite resin tooth restoration using direct composite resin needs bond strength. Adhesion of indirect composite resin to direct composite resin can be obtained mechanically and chemically. Mechanically attachment was obtained of Acid etching with phosphate acid 37 % and roughening the composite resin surface by means of grinding use a diamond bur with lowspeed. Whereas the use of silane coupling agent cause to chemically attachment of indirect composite resin to direct composite resin.*

Purpose: *The purpose of this laboratory research is to study the shear strength of direct composite resin on indirect composite resin surface by acid etching with phosphate acid 37 % and roughening use a diamond bur with lowspeed.*

Material and Method: *Twenty composite resin disks with 4 mm of diameter and 5 mm of thicks were divided into 2 groups. Each group consisted of ten samples. Group A was etched with phosphate acid 37 %, group B was roughed use a diamond bur with lowspeed. The direct composite resin was attached to each group of specimens and bonding agent contains a silane applied indirect composite resin surface and then light polimerized for 40 seconds. The specimens were stored in 37° C of aquades for 24 hours before determination of shear bond strength.*

Result: *The average shear bond strength in group A is 61,11 Mpa, whereas that group B is 54,81 Mpa.*

Conclusion: *The shear bond strength of indirect composite resin to direct composite resin surface that was etched with phosphate acid 37 % is higher than was roughed use a diamond bur with lowspeed.*

Keywords: *fixed bridge, indirect and direct composite, shear bond strength, phosphate acid 37%, silane, diamond bur*