

## CHAPTER VI

### CONCLUSIONS

Null hypothesis has been rejected regarding Optibond FL and Clearfil S<sup>3</sup> Bond, but accepted for Clearfil SE Bond. Within the limit of the present study, there was no difference in the sealing ability of Clearfil SE Bond when used according to manufacturer's instruction compared to modified protocol using selective enamel acid etching. Adding a preceding etching step is slightly beneficial for enamel. In contrast to Clearfil S<sup>3</sup> Bond, the sealing ability of modified protocol was found to be statistically better than manufacturer's protocol. Double etching of enamel using phosphoric acid and Optibond primer did not affect bonding effectiveness of Optibond FL group, however, double etching in dentin reduced dentin bonding quality.

Within the limitations of this study, it was concluded that bonding effectiveness of mild self-etching adhesive, Clearfil SE Bond, may not improve when using modified application protocol by selective enamel acid etching using 37% phosphoric acid. Further investigation to improve bonding effectiveness of Clearfil SE Bond should be performed, such as conditioning of enamel with phosphoric acid and conditioning dentin only with self-etching primer, then coat all over the cavity with hydrophobic bonding agent. For Clearfil S<sup>3</sup> Bond, investigation using application of multiple coats of adhesive or application of hydrophobic resin over polymerized self-etching adhesive and may provide valuable information on clinical application of mild self-etching adhesives. In addition, the method of air drying in order to completely remove the solvent should be of interest.