PERBEDAAN EFEK *SELF-ETCH* DAN *PHOSPHORIC ACID* 37% TERHADAP PERMUKAAN ENAMEL

(Penelitian Eksperimental Laboratorium)

THE DIFFRENCE BETWEEN SELF-ETCH AND PHOSPHORIC ACID 37% EFFECT ON ENAMEL SURFACE

(Laboratorium Experimental Research)

ABSTRACT

Background:*Acid etching techniques on enamel has been widely accepted in tooth treatment including in orthodontic bracket bonding system, however, there are disadvantages of using etching is the demineralization of enamel. Nowadays dentist used self-etch to reduce sensitivity after debonding bracket.* ***Purpose:*** *to investigate the effect of self-etch and phosphoric acid 37% on enamel microhardness.* ***Methods:*** *thirty five non carious human premolars were extrated & stored in aquades to maintain moisture, the buccal surface were ground wet with carbide paper to create flat surface, the sample are divided into 5 groups, group I for control, group II were treated with phosphoric acid 37% for 15s, group III were treated with phosphoric acid for 30s, group IV were treated with G-bond self-etch for 10s and group V were treated with G-bond self-etch for 30s. After the treated, the hardness of enamel surface were evaluated with Shimadzu Micro Hardness Tester.****Results:*** *Mann Whitney and Kruskal Wallis statistic analysis showed that there is significant diffrencies between each group (p<0,05).****Conclusions:*** *Acid etching using phosphoric acid 37% made an enamel softer than using self-etch, it is because phosphoric acid dissolving calcium from hidroxyapatite and changed the morfology of enamel. Hardness values are depend on ratio of calcium that released from enamel during the washing process and chemical structure from enamel.*

Keywords : enamel surface, dental acid etching, microhardness