

Efektifitas Chlorhexidine gluconate 2 %, Sodium hypochlorite 2.5 %, dan Chlorhexidine chloride Terhadap Hambatan Aktifitas Enzim Glucosyltransferase *Lactobacillus acidophilus*

(Effectivity of 2% Chlorhexidine Gluconate, 2.5% Sodium hypochlorite and Chlorhexidine chloride Against Barriers *Glucosyltransferase* Enzyme Activity of *Lactobacillus acidophilus*)

ABSTRACT

Background: *Lactobacillus acidophilus* produced extracellular enzymes that can improve the attachment to the dentin surface who known as enzyme *glucosyltransferase* (GTF). This enzym hydrolyze sucrose into glucose and fructose as the initial biofilm formation plays a role in the process of recolonisation. The solution of 2% chlorhexidine gluconate, 2.5% sodium hypochlorite (NaOCl) and chlorhexidine chloride is believed to inhibit the enzyme *glucosyltransferase* activity of the *Lactobacillus acidophilus*. **Objective:** To determine the effectiveness of the solution of 2% chlorhexidine gluconate, 2.5% sodium hypochlorite and chlorhexidine chloride against *glucosyltransferase* (GTF) *Lactobacillus acidophilus*. **Materials and Methods:** This study used the enzyme *glucosyltransferase* (GTF) from the supernatant of *Lactobacillus achidophilus* bacteria are divided into each of 6 different tubes to the observed activity in the formulation of chlorhexidine gluconate concentration of 2%, 2.5% NaOCl and chlorhexidine chloride. The entire sample was tested using High Performance Liquid Chromatography (HPLC) to view the activity of the enzyme *glucosyltransferase* (GTF) in all study groups. Statistical test using one-way ANOVA and LSD ($p < 0.005$). **Results:** chlorhexidine chloride to the enzyme activity of *glucosyltransferase* (GTF) *Lactobacillus acidophilus* showed a significant difference ($p < 0.05$) compared to 2% chlorhexidine gluconate and 2.5% NaOCl **Conclusions:** The ability of chlorhexidine chloride to inhibit the enzyme activity of *glucosyltransferase* (GTF) *Lactobacillus acidophilus* better than the 2.5% sodium hypochlorite and 2% chlorhexidine gluconate.

Keyword: *Lactobacillus acidophilus*, *glucosyltransferase*, *chlorhexidine gluconate*, *NaOCl*, *chlorhexidine chloride*