PERBEDAAN POTENSI OBAT KUMUR YANG MENGANDUNG IPMP, STABILIZED CHLORINE DIOXIDE DAN KLORHEKSIDIN GLUKONAT TERHADAP EPS BIOFILM STREPTOCOCCUS MUTANS

(COMPARATIVE STUDY OF MOUTHWASHES WHICH CONTAINED IPMP, STABILIZED CHLORINE DIOXIDE AND CHLORHEXIDINE GLUCONATE IN EPS STREPTOCOCCUS MUTANS BIOFILM)

ABSTRACT

Background. *Streptococcus mutans is the main bacteria to form biofilm associated with dental caries lession. S. Mutans utilizes dietary carbs to rapidly sinthesize exopolysaccharides (EPS) using glucosyltransferase and fructosyltransferase. EPS influences in dental caries lession by (1) provide nutrient to facilitate bacterial metabolism; (2) provide binding site; (3) as a protective barier; (4) increace acid retention time. This experiment dealt with 3 different active ingredient of mouthwashes (IPMP, Stabilized Chlorine Dioxide and Chlorhexidine Gluconate).* ***Purpose.*** *The purpose of this study was to assesed differences potential of 3 active ingredient of mouthwashes to EPS S.mutans biofilm and to determined which ingredient are most effective in reducing EPS.* ***Method.*** *This study was designed as an experimental laboratory study with post test only control group design using EPS biofilm of Streptococcus mutans. The EPS was fluorecently labeled using alexa fluor 647 dextran conjugate stain and analyze using Confocal Laser Scanning Microscopy (Olympus Type Fluoview FV1000) and Fluoview ver 1.7a Images Analysis Software.* ***Result.*** *A significant difference related to S. Mutans EPS using 3 active ingredient of mouthwashes; IPMP showed statistically sifgnificant ($p<0.005$) compared with other group.* ***Conclusion.*** *There is a difference potential of IPMP, satabilized chlorine dioxide and chlorhexidine gluconate related to EPS of Streptococcus mutans biofilm; IPMP has the most potential in reduicng EPS of Streptococcus mutans biofilm compared to other group (stabilized chlorine dioxide and chlorhexidine gluconate).*

Key words *: Streptococcus mutans, mouthwashes, EPS*