

KONSENTRASI EFEKTIF DAYA ANTIBIOFILM KITOSAN CANGKANG UDANG TERHADAP *STREPTOCOCCUS VIRIDANS*

(THE EFFECTIVE CONCENTRATION OF ANTIBIOFILMS CAPACITY
FROM SHRIMP SHELLS CHITOSAN TOWARDS *STREPTOCOCCUS
VIRIDANS*)

ABSTRACT

Background. Periapical tooth infection is one of infection problems which often happens such as abscess periapical which is caused by bacteria. The bacteria which can form biofilms is named *streptococcus viridans*. It is more resistant than an antibacterial agent. Chitosan made of shrimp shells is used as a natural antibiofilms agent for *streptococcus viridans*. **Purpose.** To determine the effective concentration of antibiofilms capacity from shrimp shells chitosan towards *streptococcus viridans*. **Method.** The research method used in this research is laboratory experimental research. The research design is post-test only control design. *Streptococcus viridans* is given vortex until it becomes homogeneous with standard turbidity McFarland of 0.5, consequently, it is planted inside a microtiter plate using TSB Glu for 5x24 hours. At last, *Streptococcus viridans* is colored using crystal violet and the picture of biofilms is observed using inverted microscope. Chitosan liquid diluted through various concentration 0.195%, 0.39%, 0.78%, 1.56%, 3.125%, 6.25%, 12.5%, 25%, 50%, and 100% are going to be added to the microtiter plate and being incubated for 24 hours. The interpretation of the result on the longitude of the wave through optical density is 570nm. **Result.** There is a significant difference between the concentration of 100%, 50%, 25%, 12.5%, 6.25%, 3.125%, 1.56%, 0.78%, and 0.39% and the control group. Chitosan's effective concentration in resisting the biofilms is 50%. The result is determined by statistical analysis. **Conclusion.** The effective concentration to resist the formation of *Streptococcus viridans* biofilms using shrimp shells chitosan is 50%.

Keywords: *Streptococcus viridans*, antibiofilms, shrimp shells chitosan