

# EFFECT OF CHLORHEXIDINE AND SODIUM HYPOCHLORITE ON *STAPHYLOCOCCUS AUREUS* BIOFILM

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**B**iofilm is a matrix in which a microorganism encased in it and tolerates environmental stresses. It helps the organism to resist the antibiotics and disinfectants, chronic biofilm associated infection lead to significant increase in morbidity and mortality, especially patient with indwelling medical devices. The objectives of this research was to analyze the effectiveness of chlorhexidine, sodium hypochlorite and antimicrobial activity of methicillin and vancomycin against biofilm of isolated strains of *Staphylococcus aureus* isolated from different clinical samples. The results revealed that most biofilm strains were sensitive to vancomycin, some strains were sensitive some were moderate resist and some were resist to methicillin. In comparing different concentrations (0.3%, 0.2%, 0.15% and 0.075%) of chlorhexidine among time interval (1 min, 3 min and 5 min) concentrations showed significant decrease in biofilm formation in association with time; P value (0.001, 0.001, 0.000 and 0.000 respectively). Different concentrations (5%, 4%, 2.5% and 1.25%) of sodium hypochlorite also tested through the same time intervals; concentrations showed significant decrease in biofilm in association with time; P value (0.000, 0.000, 0.000 and 0.000 respectively).

**Conclusions & Significance:** *Staphylococcus aureus* were sensitive, moderately resistant and could resist to both vancomycin and methicillin; both chlorhexidine and sodium hypochlorite reduces biofilm formation in according to concentration and time of contact. Chlorhexidine and sodium hypochlorite are recommended to use as disinfectant and antibiofilm for longer time and with higher concentrations

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