

TITLE: DETECTION OF BIOFILME PRODUCTION AND SUSCEPTIBILITY TO ANTIMICROBIALS IN *Staphylococcus aureus* ISOLATED FROM ELDERLY IN REST

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ABSTRACT:

According to the World Health Organization (WHO) there has been a gradual increase in life expectancy worldwide, transforming the elderly population in about a fifth of the total population, due to this fact the concern with the health of that portion is increasing. The number of infections in the elderly is large and one of the prevalent agents in these cases is *Staphylococcus aureus*, which causes various human infections from simple folliculitis to bacteremia, it can be present in the nasal mucosa, throat, intestine and skin of part of the healthy population, leading to difficult-to-treat infections when they become pathogenic to the host. *S. aureus* has several factors related to its pathogenicity, among them the production of a structure called a biofilm that prevents phagocytosis. In addition, they have a high resistance profile, including resistance to methicillin (MRSA), which has been a concern world. Taking into account that the elderly population generally has a more debilitated health due to factors such as periods of hospitalization, use of medications and catheters, among other factors, the present study aimed at the detection of *S. aureus* biofilm producers as well as resistance to antimicrobials. A total of 33 samples were collected from the nasal cavity of the elderly hospitalized in a nursing home in the city of Presidente Prudente, of which 30.3% were positive for *S. aureus*, 80% of which had biofilm formation capacity with the phenotypic characterization test using Congo Red and subsequent confirmation in borosilicate tubes. In addition one of the samples presented resistance to methylcycline characterizing MRSA. Therefore it is important that this part of the population has a visibility and precautionary measures and prophylaxis to avoid that during a surgical procedure or some type of infection these *S. aureus* do not become pathogenic and also to avoid the contamination of third parties.

Keywords: *Staphylococcus aureus*, elderly, MRSA, antimicrobials, biofilm