

**TITLE:** PRODUCTION OF BIOFILM AND ANTIMICROBIAL RESISTANCE OF *Staphylococcus epidermidis* ISOLATED FROM THE ELDERLY

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**ABSTRACT:**

*Staphylococcus epidermidis* is the species most associated with bacteremias, mainly affecting patients with low immunity, such as the elderly. The main virulence factor of *S. epidermidis* is the biofilm, which allows adhesion and confers protection against the host immune system and antimicrobial action. In addition, this microorganism is resistant to several classes of antimicrobials, which may make it difficult to treat infections. Thus, this study identified *S. epidermidis* of the nasal cavities of residents of a nursing home and verified biofilm production and antimicrobial susceptibility. Bacterial samples were collected from the nasal cavities of 34 patients over 65 years of age, using a sterile swab. *S. epidermidis* was identified through Gram staining, catalase and coagulase tests and biochemical tests. The production verification was carried out in Congo Red Agar and by the Adhesion Method in Borosilicate Tubes. Antimicrobial susceptibility was achieved by the disc-diffusion method with antibiotics: oxacillin, cefoxitin, linezolid, erythromycin, levofloxacin, clindamycin and vancomycin. Forty - one bacterial samples were isolated, 24.4% of which were *S. epidermidis*. The biofilm was detected in 90% of *S. epidermidis* by the red agar of Congo and 70% by the adhesion method in borosilicate tubes. The disc-diffusion technique detected the resistance of 30% of *S. epidermidis* to oxacillin, 20% to cefoxitin, 10% to linezolid, 60% to erythromycin, 30% to levofloxacin, 20% to clindamycin, and resistance to Vancomycin. The data show the high capacity of biofilm formation by isolates of *S. epidermidis* that colonize the elderly of a nursing home, and the resistance of these bacteria to different classes of antimicrobials, emphasizing the importance of these bacteria in possible infections that can affect individuals with age and who are susceptible to medical procedures often.

**Keywords:** *S. epidermidis*; biofilm; resistance.