TITLE: INVESTIGATION OF MRSA IN STUDENTS OF THE COURSE OF BIOMEDICINE AND NURSING

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ABSTRACT:

Staphylococcus aureus infections account about 38% of cases of nosocomial infection. *Staphylococcus* species may account for up to 78% of health-care-related infections caused by Gram-positive bacteria. This microorganism is notable for its high capacity for dissemination, besides to be an agent of great concern in the therapeutic approach due to the rapid emergence of resistance, especially to methicillin, considered a predominant problem in the hospital environment since 1980. Patients, staff and the environment are potential reservoirs of the micro-organism. In undergraduate health sciences, there is a risk to exposure to occupational hazards with a varying rate of colonization by resistant strains during the supervised internship. The objective of this study was to identify the prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) colonization among students of the biomedicine and nursing course at supervised internship in the city of Fortaleza, Ceará. The samples were collected from both nasal vestibules using a swab in circular movements in the 10 nursing students and 9 biomedicine students. After collection, the samples were transported in a box, at room temperature with a maximum time of 15 minutes, to the laboratory of microbiology for culturette plated in blood agar and incubation at 35ºC/24 hours. The identification of *S. aureus* was based on the hemolysis pattern, morphotinorial features by the Gram method and biochemical tests such as catalase and coagulase. For investigation of methicillin resistance we used the Kirby-Bauer method with cefoxitin disks (30 mg) according to Clinical and Laboratory Standars Institute (CLSI). The agar plates were incubated at 35°C/24hs, and zone diameters were measured and interpreted. Quality control was performed with strains of MRSA and MSSA previously identified in phenotypic and genotypic tests. Of the evaluated students, 26.1% were colonized by species of *Staphylococcus*, of these 40% were colonized by *S. aureus* and 60% by staphylococcus coagulase negative (CNS). Among those colonized, with S. aureus or SCN, 100% harbored strains sensitive to methicillin. In this study, unlike other studies, no strains of MRSA were detected, probably by the sample size, but also can be due to good practices realized during the stage. In this way, we stimulate the nasal screening of students from the health area, both for those who exercise asitencial activity and for the laboratory, whose carrier status enhances the dissemination of the pathogen and presents an increased risk for nosocomial infections.

Keywords: MRSA, Biomedicine student, Nursing student

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