

Nasal carriage of *Staphylococcus aureus* among nursing students during curricular internship

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Staphylococcus aureus is considered one of the most frequently isolated bacteria in the community and in the hospital environment and is associated with several infections. Colonization by methicillin resistant *S. aureus* (MRSA) is considered a risk factor in the infection caused by this strain, since transporting the bacteria increases the risk of infection as well as the symptoms. MRSA bacteria are typically transmitted through contact through the skin, which suggests that public spaces, such as schools or hospitals, present significant risks of transmission (Macal et al., 2014; Uhlemann et al., 2011).

Due to the increasing incidence of MRSA infections from the community, it is expected to find a higher level of nasal colonization by these bacteria in community, which can result in a significant impact on health. Identifying patterns of colonization in the community may contribute to the development of new strategies in the control of infections.

The aim of this study is to evaluate the prevalence of nasal colonization by *S. aureus* and MRSA in nursing students and the influence of their path.

Students from the 1st, 2nd, 3rd and 4th year were involved in the study (1st year students were used as negative control and 2nd, 3rd and 4th year student samples were collected before and after their clinical rotations). Ninety samples were cultured in a biplate chromogenic medium (Mukovnikova, Yusuf, Cossey, Schuermans, & Saegeman, 2014; Wassenberg et al., 2010), to identify methicillin sensitive *S. aureus* (MSSA) and MRSA strains. It was possible to isolate sixty-eight MSSA and thirty MRSA samples. MRSA results were confirmed by PCR (Koukos et al., 2014).

The current study identified 64% of the total subjects colonized by MSSA as well as 29,2% of total studied population tested positive for MRSA. Of the MSSA colonized students, 27,1%, 16,7%, 27,1% and 29,2% were distributed accordingly by the 1st, 2nd, 3rd and 4th years. In the case of the MRSA colonization the pattern was distributed by 9,1%, 36,4%, 59,1% and 27,3%.

The nasal carriage of methicillin sensitive *S. aureus* among the nurse students, seems to be stable throughout the curricular year. On the other hand, the colonization of methicillin resistant *S. aureus* seems to increase as the students move to the years of contact with clinical practices. Nursing students should be educated on the risks involved in carrying *S. aureus* and the relevance of the different strains in the health of patients at their care. Safety precautions while handling patients associated with knowledge regarding the microorganisms involved, should be a major point in University curricula of Nursing students.

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