Abstract

Objective: To establish the prevalence and identify the level of resistance to methicillin, vancomycin and alternative antibiotics in Staphylococcus aureus isolates from medical students in clinical training. Materials and methods: A cross-sectional observational design with non-random sampling was used in medical students during clinical training in a tertiary healthcare facility. Samples were taken from nasal and hands swabs and cultured on blood agar. For beta-hemolytic gram-positive cocci, catalase and coagulase tests were performed and then cultured on mannitol salt agar. Susceptibility to cefoxitin, oxacillin, linezolid, clindamycin and trimethoprim sulfamethoxazole was assessed by using the Kirby-Bauer technique, and for vancomycin, an E- test was performed (Biomerieux®). Results: 72 strains of S. aureus were isolated from 82 medical students. 72.2 % were identified as methicillin- sensitive (MSSA) and 27.8 % as methicillin-resistant (MRSA). Four MRSA strains (20 %) showed vancomycin intermediate (VISA 4-8 g/mL) profile, 65 % of MRSA isolates was resistant to clindamycin, 40 % to linezolid and 45 % to trimethoprim sulfamethoxazole. Conclusions: MSSA, MRSA and VISA strains are present in nostrils and hands of our medical students, with MRSA showing high resistance levels to clindamycin, TMP-SMX and linezolid, and MSSA levels up to 45 %. These findings reiterate the need to accomplish good hands hygiene in order to minimize the spread of S. aureus in community and healthcare facilities.

Keywords

Staphylococcus aureus, MRSA, Microbial drug resistance.