



ESCAIDE

ABSTRACT BOOK



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021.2 Spread of methicillin-resistant *Staphylococcus aureus* (MRSA) through portable medical devices: lessons to be learned from Portugal

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Background

Currently, Portugal faces one of the highest levels of *Staphylococcus aureus* resistance in Europe, leading to burdensome outcomes for public health. A substantial contamination rate of portable medical devices used by nurses was identified in a large tertiary hospital. We described the extent of contamination and investigate risk factors for colonization.

Methods

Descriptive-correlational and cross-sectional study. Target population corresponds to all nurses who provide direct patient care in the referred setting. Medical devices were swabbed and cultured in Mannitol salt agar (MSA). For the isolates obtained the latex agglutination test was performed to investigate *S. aureus*. Additional information regarding medical devices management was collected by individual questionnaire. Data were analyzed with IBM SPSS 20.

Results

Between April and June 2017, 100 portable medical devices from 50 nurses in medical wards were tested. The most representative devices were tourniquets (68%), adhesive rolls (56%), scissors (26%) and thermometers (20%). Colonies of *Staphylococcus coagulase positive* (32%) and negative (27%) were identified, ranging from 1.0×10^1 CFU/mL to above 1.5×10^3 CFU/mL. The highest CFU/mL values were observed in reusable tourniquets and thermometers. Overall, and regarding *Staphylococcus* isolates, 66.6% were MRSA. Data retrieved from questionnaires evidences lack of device cleaning (32.7%), lack of staff training (42%), unfamiliarity with guidelines (82%), lend of medical devices to other health professionals (92%) and reuse of these devices between patients (100%).

Conclusion

Underlying lack of training, access to specific institutional guidelines and inefficient management of these devices, including lack of cleaning/disinfection, reuse between procedures/patients and sharing them with other professionals were associated with MRSA. Prospectively develop pathways for medical device management, ensure staff training and potentiate the use of single-use medical devices are recommended to prevent/control future outbreaks.

Keywords: Methicillin-Resistant *Staphylococcus aureus*, hospital, medical devices

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