Staphylococcus aureus colonization in Qazvin university hospitals healthcare workers

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Received: 27 Aug 2017; Accepted: 13 Jan 2018

Abstract

Background: Staphylococcus aureus (SA) colonization of hospital personnel is a source of hospital acquired infections.

Objective: The aim of this study was to determine the prevalence of nasal carriage rate of SA and methicillin resistant Staphylococcus aureus (MRSA) among Health Care Workers (HCWs) at Qazvin university hospitals.

Methods: A cross sectional study was conducted among 396 employees of five teaching hospitals from October 2016 to April 2017. After obtaining informed consent and completion of the questionnaire, a sample was taken from the anterior nasal cavity for microbiology. The isolation of SA and their antimicrobial sensitivity were carried out by standard bacteriological procedures (disk diffusion and E-Test method). MRSA were confirmed by cefoxitin disk diffusion test. Chi square and independent t test were used to analyze the collected data.

Findings: From the 198 HCWs, 32 people (16.1%) carried SA that the most carriers were workers of intensive care units (20.3%). 3% of all HCWs were identified as MRSA carriers. Colonization with SA is significantly lower among nursing and higher education. All SA isolates were sensitive to vancomycin and rifampin.

Conclusion: The rate of nasal SA (especially MRSA) carriage among HCWs of Qazvin university hospitals is low. Also, staff teaching appears to be a promising approach for reducing nasal carrier. Rifampin and mupirocin, for eradication of Staphylococcus colonization in health workers (even MRSA) are acceptable.

Keywords: Methicillin resistant staphylococcus aureus, Healthcare workers, Nasal carriage, Antimicrobial sensitivity