

Antibiotic Resistance of *Staphylococcus aureus* Strains Isolated From Nasal of Carriage Persons in Shiraz Hospitals

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Background & Objectives: *Staphylococcus aureus* is one of the most common causes of nosocomial infections. In many cases the bacterium is transmitted to patients via nasal carrier healthcare providers or hospital environment. Colonized healthcare providers are generally asymptomatic, but create a potential reservoir of infection for susceptible patients. The aim of this study was determination of antibiotic susceptibility to *S. aureus* isolated from personals of Shiraz hospitals.

Methods: In this cross-sectional study nasal swabs were collected from 566 personals in Shiraz Hospitals (Chamran, Zeynabiye, MRI and Shahid Faghihi) in different wards, and examined for detection of staphylococci strains. After identification of *Staphylococcus aureus* by biochemical and microbiological tests, antibiotic resistance pattern of isolates were determined by disk diffusion Methods according to CLSI recommendations. Minimum inhibitory concentration (MIC) values for vancomycin and ticoplanin were assayed by E-test methods (Liofilechem, Italy).

Results: In this investigation, 90 persons of staff (16%) were carrier *Staphylococcus aureus* in the nose. In that, 72% of them were health care workers and 28% of service personals. Antibiotic sensitivity in carriers was estimated as follows: vancomycin (97%), teicoplanin (97%), linezolid (97%), Quinupristin-Dalfopristin (97%), ciprofloxacin (95%), rifampin (93%), clindamycin (87%), methicillin (87%), erythromycin (81%), tetracycline (16%), amoxicillin (15%), penicillin (13%), ampicillin (8%). From 12 MRSA strains, 2 strains (2%) were resistance to vancomycin (MIC \geq 16 μ g/ml) and teicoplanin (MIC \geq 32 μ g/ml).

Conclusion: As 16% of personals in this study were carriers of *Staphylococcus aureus* and these isolates were resistant to most common antibiotics and these personals are in close contact with patients, we recommend that they should be examined for antibiotic resistant and treated periodically.

Keywords: *Staphylococcus aureus*; Carriage; Hospital Personal; Antibiotic Resistance