# Carriage of antibiotic resistant isolates of S. aureus as a putative health care problem in six ICUs of Tehran, Iran.

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**Abstract:** Background and objectives: Nosocomial infections occur worldwide. Screening of infection sources in ICU is of major concerns which need doing surveillance studies. Staphylococcus aureus is an important pathogen commonly implicated in nosocomial infections. The occurrence of worldwide methicillin resistant S. aureus (MRSA) is increasing worldwide. Investigation of the frequency and resistance profile of S. aureus isolates from six ICU staffs was aimed at this study.

Material and methods: 954 nasal and hands swab samples were collected from six ICUs in Tehran. Culture on selective media and biochemical identification tests were done according to standard methods. The antibiotic susceptibility testing was done by disk diffusion method according to the standard criteria for CLSI.

Results: Among 954 hand and nasal samples from 272 staffs, 58 (18.06%) S. aureus bacteria were collected. The highest resistance rate were belonged to oxacillin (56.94%) and tetracycline (45.86%) in compare to sulfamethoxazole-trimethoprim (4.09%) and vancomycin (9.69%). Sixteen (35.55%) isolates were sensitive to all antibiotics and five (11.1%) isolates were resistant to all antibiotics, except for vancomycin and SXT.

Conclusion: Results from this study showed a higher resistance rate to oxacillin in compare to other antibiotics. So this study again confirmed that the MRSA is increasing worldwide. The relative congruency in resistance patterns among the isolates from each hospital proposed these strains as resident bacteria therein. Comparison of these results with resistance patterns among the clinical isolates will help us to detect any possible role of these carriers in increase of resistant untreatable S. aureus bacteria in ICUs of Tehran.

**Staphylococcus aureus,** MRSA, Nosocomial Infection.

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