Prevalence of Methicillin-Resistant Staphylococcus Aureus and Antibiotic Resistance Patterns of the Isolates from the Nose of Training Soldiers in Kerman

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Background & Objectives: The increases in the prevalence of Methicillin-resistant *Staphylococcus aureus* (MRSA) from outside healthcare settings are recently reported. Community acquired MRSA outbreaks have been reported in a variety of populations, which had not possess the risk factors associated with MRSA infection, such as previously hospitalization. Aim of this study was to determine the outbreak of community-acquired MRSA and antibiotic resistance of the isolates from nose of military training soldiers in Kerman city.

Methods: Nasal samples were collected from 567 training soldiers. *S. aureus* was identified using standard Methods. MRSA phenotype was determined using oxacillin and cefoxitin disc. The MRSA was genetically confirmed by detection of mecA gene in the isolates by PCR Methods. Antibiotic susceptibility of the isolates to six antibacterial agents was detected by standard agar dilution Methods. S. aureus ATCC25923 and ATCC 33591 were used as qualitycontrol strains.

Results: Totally 226 isolates (39.8%) were identified as S.aureus, from which 43 isolates (7.6%) were MRSA. All of the MRSA strains harbored mecA gene, and were susceptible to vancomycin. Highest resistance was detected against erythromycin (23.3%). Resistance to, clindamycin, gentamicin, trimethoprime sulfamethoxazole and ciprofloxacin were14%, 16.3%, 14% and 9.3% respectively.

Conclusion: Due to the high priority of research works on community acquired MRSA around the world detection of MRSA in the military personnel in this study is important. This population can serve as the source of MRSA for community. Therefore continuous monitoring and strategy to prevent the spread of MRSA in these and similar communities is recommended.

Keywords: Methicillin-Resistant *Staphylococcus aureus;* Antibiotic Resistance; Training Soldiers; Kerman