

Prevalence of Nasal MRSA Carriage among Senior High School Students (diploma) in Yazd

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Background & Objectives: Staphylococcus species are one of the most well-known human pathogens, and a group of people carry them in their nose. Since methicillin-resistant strains of *Staphylococcus aureus* (MRSA) threaten human health, particularly in hospitals, therefore it seems necessary to find out the rate of prevalence among students.

Methods: A total 380 students (160 male, 220 female) enrolled into this study. Cotton swab samples were taken from nose of them, followed by inoculation onto appropriate media including mannitol salt agar and blood agar. Following 24 hours of incubation, positive cultures were further tested for coagulase to gain the final results. Suspensions of *S. aureus* colonies were prepared comparable to a 0.5 Mac Farland standard tube, and were cultured on Muller Hinton agar, and discs of oxacillin, vancomycin, ciprofloxacin, rifampin and gentamycin were placed on them and incubated at 35°C. After 24 hours, the growth inhibition zone diameter was measured to determine resistance and sensitivity to antibiotics.

Results: From 380 patients, 64 cases (16.8%) were carriers of *S. aureus* (8.2% of males and 8.7% of females, $p = 0.261$). Carrier rate for MRSA was 8.2% (31 cases) of them 3.9% were male and 4.2% were females ($p = 0.531$). MRSA susceptibility to ciprofloxacin and rifampin was 100 percent, as compared to 87% for vancomycin, and 94% for gentamycin.

Conclusion: The results indicate the considerable MRSA nasal carrier rate among those students, with understandable importance of disease prevention strategies and control programs in schools.

Keywords: *Staphylococcus aureus*; MRSA; Students; Yazd; Carrier