

Screening of Methicillin and Vancomycin resistant *Staphylococcus aureus* in the nasal of hospital personnel of Khorram Abad ,Iran

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Abstract

Background and Objectives: Increased drug resistance, and its associated infections has been gained attention by most researchers. We designed this cross-sectional study to evaluate MRSA and VRSA frequency in the Shohadai Ashayer hospital of Khorram Abad, Iran.

Material and Methods: Samples were obtained by sterile swab moistened with normal saline from interior nares of 300 personnel and immediately cultured on a Mannitol Salt Agar. Suspected colonies were confirmed by biochemical methods. Methicillin and Vancomycin resistance of isolated strains was carried out by agar dilution according to recommendations of National Clinical Laboratory Institute.

Results: Sixty-four (21.33%) of 300 studied personnel were nasal carriers of *S.aureus*. 16 (5.33%) and 4 (1.33%) of the carriers were Methicillin resistant *S.aureus* (MRSA) and Vancomycin resistant *S.aureus* (VRSA), respectively. One (0.33%) of the personnel was concurrently the carrier of both MRSA and VRSA. No correlation was found between carriage and factors such as sex, age, ward of hospital and length of occupation, and predisposing diseases. Kind of occupation and level of education were significantly related with carrier state. ($P < 0.05$)

Conclusion: Percentage of *S.aureus* carriers in hospital personnel was consistent with other published reliable documents. Isolation of four VISA and one VRSA strains from studied personnel was the interesting findings of this study. Because of carrying of such resistant strains in hospital personnel and risks of transmission to patients, it needs further attention of health officials.

Keywords: *Staphylococcus aureus*, Methicillin resistant *S.aureus* (MRSA), Vancomycin resistant *S.aureus* (VRSA), Vancomycin intermediate *S.aureus* (VISA), Carrier, Khorram Abad, IRAN