

## Letter to Editor

### Nasal carriage of methicillin-resistant staphylococcus aureus among ICU personnel working at Zahedan University, southeastern Iran

Sir

Methicillin resistant acquired *S. aureus* (MRSA) infection is an important infection in the hospitals worldwide. Nasal colonization with *S. aureus* especially among healthcare personnel plays as a significant role in the increasing prevalence of resistant community acquired *S. aureus* infections (1, 2). Colonized patients and also health personnel are the important sources of *S. aureus* and MRSA in hospitals (2, 3). Methicillin-resistant staphylococcus aureus nasal carriage is a recognized risk factor for subsequent endogenous infections as well as of human to human transmission. On the other hand, the elimination of nasal carriage has been reported to cause reduction in the incidence of *S. aureus* infections (3, 4). The number of infections due to MRSA is high and remain a major risk to patients, especially when they are hospitalized (1-3).

This underlines the need for routine surveillance of MRSA nasal carriage among healthcare personnel especially in ICU in order to prevent severe infections in high risk group of patients (4, 5). In this way, testing for nasal colonization with clinical related bacteria is an uncomplicated approach for estimating the scope of bacterial resistance-pattern in hospital settings not only for monitoring circulating pathogenic bacteria and their transmission routes, but may also allow estimation of the conformance of infection control precautions among healthcare professionals (5).

There are many reports about nasal carriage of MRSA and its prevalence is different according to hospital, non-hospital subjects, population that is on antibiotics, and characteristics of the population under study (2-7). Other factors that can cause variations may be sampling and culture techniques. Studies by Shekholeslami et al. in Rafsanjan, and Nikbakht et al. on the staff of Valiasr hospital in Meshginshahr showed a nasal colonization in Hospital staff of 20% and 45%, respectively (7, 8). The prevalence rate of MRSA in Rafsanjan and Meshginshahr's study was 97% and 16%, respectively. A study from Hamedan by Hashemi et al. reported that 25.2% of 258 students were positive for nasal

carriage of *S. aureus* (9) 47.7% were methicillin-resistant. Most methicillin-resistant strains were isolated from clinical students (87%), and most vancomycin-resistant isolates were found in residents (30.8%). The findings from other researchers gave high multi-drug resistant *S. aureus* in hospital and community associated infections (3-7). We studied a total of 70 personnel working in 3 hospital ICUs affiliated with Zahedan University (southeastern Iran), who had a history of work more than two weeks in these settings, with no antibiotic during last week, no immunosuppressive factors or pregnancy. Our study showed a prevalence of 10% of *S. aureus* in the nostrils of the staff with a low multi-drug resistant *S. aureus* (4.3%) which was lower than the previous findings in this area (10).

The sensitivity pattern of isolated *S. aureus* showing resistance to oxacillin was low (2.8%) and resistance to vancomycin was not noted. Although, we found a relatively low rate of nasal carriage of MRSA in ICU staff, but it is known that methicillin-resistant staphylococcus aureus nasal carriage is a recognized risk factor for subsequent endogenous infections. Therefore, this underlines the need for routine surveillance of MRSA nasal carriage among healthcare personnel especially in ICU staff in order to prevent severe infections in high risk group of patients.

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