

### **Nasal carriage of Methicillin-resistant *Staphylococcus aureus* (MRSA) among healthcare workers at selected units of Teaching Hospital Jaffna**

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**Introduction and objective:** Approximately 30% of humans act as asymptomatic nasal carriers of *Staphylococcus aureus*. Healthcare workers may carry MRSA between the hospital setup and patients. This study aimed to determine the prevalence of nasal carriage of MRSA among healthcare workers at selected units of Teaching Hospital Jaffna.

**Methods:** Nasal swabs were obtained during a one-month period from healthcare workers from the neonatal, obstetric, medical, surgical, and accident/trauma intensive care units, Coronary Care Unit, Dialysis Unit, and operation theatres. Swabs were inoculated onto 7.5% NaCl nutrient broth, and, after overnight incubation, sub-cultured on to Blood Agar and Mac Conkey Agar. Catalase and coagulase (slide and tube coagulase) tests were carried out. Antibiotic disks gentamicin (10µg), clindamycin (2µg), ciprofloxacin (5µg), and erythromycin (15µg) were tested for sensitivity.

**Results:** Of 269 healthcare workers, 97 participated (response rate 36%). The sample consisted of doctors (13.4%), nursing officers (55.7%), health assistants (29.7%), and physiotherapists (1%). Among them, 70 (72.2%) showed culture growth. Within this group, 10 (14.3%) were nasal carriers of *Staphylococcus aureus*. Among them, 2 (20%) participants were carriers of MRSA, both nursing officers, one from the Neonatal Intensive Care Unit, and the other from the Coronary Care Unit. The overall MRSA nasal carriage rate was 2.8%. Nursing officers demonstrated the highest carriage rates (*Staphylococcus aureus* 18.5%, MRSA 3.7%). Both MRSA and Methicillin-sensitive *Staphylococcus aureus* (MSSA) isolates showed a high degree of resistance to erythromycin (60%). All MRSA and MSSA strains were sensitive to ciprofloxacin (100%); most were sensitive to gentamicin (90%) and clindamycin (70%).

**Conclusion:** Two nasal swabs obtained from nursing officers were positive for MRSA. The high non-response rate may have influenced the results.

**Keywords:** MRSA, Healthcare Workers, Nasal Swabs