

Prevalence of Methicillin-Resistant *Staphylococcus aureus* among Healthcare Workers in Yogyakarta Hospitals

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ABSTRACT

The present study was conducted to determine MRSA prevalence among HCWs in RSUD and Dr. Sardjito hospitals and to assess the sensitivity profile of *S. aureus* and MRSA to some antibacterial agents. From April 2014 to February 2015, 510 nasal swab samples (190 and 320 swabs from those hospitals respectively) were collected from HCWs by pre- moistened swabs. HCWs were including (doctors, nurses, midwives and another four different HCWs) in 12 wards / departments. Collected swabs were sent to Lab of Faculty of Medicine, UGM and were identified *S. aureus* and MRSA (Cefoxitin 30 µg) by using standard methods of culturing, staining, biochemical and serological testing. Antimicrobial susceptibility testing were done on all isolates by Muller-Hinton agar using disc diffusion method of Kirby-Bauer and interpreted according to CLSI guidelines. The findings were statistically analyzed by *Chi-Square test*. 139 (27.25%) out of 510 HCWs were nasal carriage of *S. aureus* and among them 2 (1.44%) isolates were MRSA. Prevalence rates of *S. aureus* were among male 49(35.25%) and female 90(64.75%). *S. aureus* rate was high 17(34%) among trainee students followed by midwives and nutrition providers (33.33%) for each, pharmacists (28.57%), nursing staff (28.17%), doctors (22.58%), and Lab workers (8.7%). The highest rate of *S. aureus* carriers by ward was 10(37.04%) in emergency followed by 32(34.78%) in internal medicine and 9(34.62%) delivery. All isolates of *S. aureus* were susceptible to ciprofloxacin, cefuroxim, cefoxitin, amoxicillin+clavulanate acid, meropenem, and gentamicin with arte of 100% and (91.24%) and (75.91%) to chloramphenicol and tetracycline respectively. MRSA isolates was resistant to penicillin G, chloramphenicol, cefoxitin, cefixime, amoxicillin+clavulanate acid, ampicillin with rate of 100% and to tetracycline and erythromycin with rate of 50%. In conclusion, the rate of MRSA among HCWs in both hospitals was low 1.44%. This underscores the fact of creating awareness among midwives and nursing staff by educating them, to eradicate MRSA carriage. In order to vouch this finding, more studies are needed, including healthcare professionals with varying degrees of exposure to MRSA.

Key words: Methicillin-resistant *Staphylococcus aureus*(MRSA), Health Care Workers (HCWs), Cefoxitin 30 µg, Dr. Sardjito Hospital, and Umum Daerah Sleman Hospital