

Nasal Carriage of Staphylococcus aureus and its antibiotic susceptibility pattern among Medical and Nursing Students

Abstract

Nasal carriage of Staphylococcus aureus (S.aureus) especially methicillin-resistant S. aureus (MRSA) among health care personnel poses a risk to the patient. Objectives: To determine the prevalence of nasal colonization of S. aureus and its antibiotic susceptibility pattern among pre-clinical and clinical medical and nursing students attending Faculty of Medicine and Health Sciences at the Universiti Malaysia Sabah. Materials and Methods: Between April and November 2013, nasal swabs were collected from anterior nares of 449 students and inoculated on Mannitol salt agar and Tryptone soya broth. Staphylase coagulase test kit and tube coagulase test were done for identification. Antibiotic susceptibility test was done on seven antibiotics by Kirby–Bauer method. S. aureus isolates which showed zone diameter of 22 mm to cefoxitin discs were further tested with Slidex® MRSA detection kit to detect penicillin-binding protein product of MRSA. Results: The prevalence of nasal colonization of S. aureus was 31.0% and all were methicillin susceptible S. aureus (MSSA). Antibiotic susceptibility testing revealed all 139 S. aureus isolates were sensitive to oxacillin, trimethoprim/sulfamethoxazole and cefoxitin, whereas 116 (83.5%), 1 (0.7%), 3 (2.2%) and 24 (17.3%) were resistant to penicillin, erythromycin, clindamycin and tetracycline, respectively. Conclusions: There was no MRSA among S. aureus isolated in this study. S. aureus isolates were highly resistance to penicillin, however, no resistant to oxacillin, co-trimoxazole, and cefoxitin