Staphylococcus aureus carriage in selected kindergartens in Klang Valley

ABSTRACT

Introduction: Nasal colonisation of S. aureus in healthy children was 18% to 30%. One to three percent of them were colonised by Methicillin-resistant Staphylococcus aureus (MRSA). Although MRSA infection has become increasingly reported, population-based S. aureus and MRSA colonisation estimates are lacking. The main objective of this study was to determine the prevalence of S. aureus carriage among children.

Methods: Nasal samples for S. aureus culture were obtained from 250 children from three kindergartens in the Klang Valley, after consent was obtained from the children and their parents. Swabs were transported in Stuart medium, and inoculated on mannitol-salt agar within four hours of collection. Identification and disk diffusion test were done according to guidelines. Polymerase chain reaction was done on MRSA isolates for the presence of mecA and lukS/FPV genes.

Results: Overall prevalence of S. aureus and MRSA carriage were 19.2% (48/250) and 1.6% (4/250) respectively. mecA gene was present in all isolates, 50% isolates carried Panton-Valentine leucocidin (PVL) gene. Scmc mec type I was found in 2 isolates and the remaining isolates has Scmc mec type V.

Conclusion: The prevalence of S. aureus and MRSA carriage were similar to other studies. However, risk of contracting severe infection might be higher due to presence of PVL gene in half of the MRSA isolates.

Keyword: Children; Nasal colonisation; Staphylococcus aureus