

## Nasal Colonization of *Staphylococcus aureus* and *Streptococcus pneumoniae* in Preschool Children Attending Selected Immunization Clinics, Kandy, Sri Lanka

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*Staphylococcus aureus* colonization is frequent among Sri Lankan children. Pneumococcal carriage is a prerequisite for pneumococcal disease. This study investigated the prevalence and associated factors of *S. aureus* and *Streptococcus pneumoniae* nasal carriage in preschool children in, Sri Lanka. Both nasal swabs (NS) and nasopharyngeal swabs (NPS) were collected from 375 children aged 2-5 years, attending immunization clinics at Teaching Hospital Peradeniya and Yatinuwara MOH area. *S. aureus* from NS and *S. pneumoniae* from NPS were isolated using conventional microbiological testing. Among 375, 101 (26.9%) were colonized with *S. aureus*, 73 (19.5%) with *S. pneumoniae* and 21 (5.6%) with both. Among the study group, 52 (13.9%) carried only *S. pneumoniae* and 80 (21.3%) carried only *S. aureus*. Kindergarten attendance (OR=1.92, 95% CI=1.13-3.27), smokers at home (OR=1.85, 95% CI=1.04-3.30), having recent upper respiratory tract infections – (URTI) (OR=16.39, 95% CI=2.23-120.47) and, family members with URTI (OR=1.83, 95% CI=1.09-3.08) were significantly associated with pneumococcal colonization. None of the factors tested were related to *S. aureus* colonization. The median age was significantly different between co-colonized (60 months, IQR: 52.5-60) and non-co-colonized children (48 months, IQR: 36-60) (p=0.017). The median weight differed significantly between co-colonized (15.000kg, IQR: 12.450-16.475) and non-co-colonized children (13.200kg, IQR: 11.690-15.100) (p=0.021). Kindergarten attendance (OR=4.016, 95% CI=1.33-12.18) was significantly associated with co-colonization. No significant association was found between *S. aureus* and pneumococcal colonization (p=0.694). *S. aureus* and *S. pneumoniae* colonization rates were considerably higher among children aged between 2 to 5 years in Kandy, Sri Lanka. Kindergarten attendance was a significantly associated factor for the co-colonization of *S. aureus* and *S. pneumoniae*.

**Keywords:** *S. aureus*, *S. pneumoniae*, colonization, co-colonization, kindergarten aged children