

Nasal Colonization of *Staphylococcus aureus* among Preclinical Medical Students: Implications as Future Sources of Infection in Hospitals

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ABSTRACT

Staphylococcus aureus, a prominent human pathogen causing a range of infections, often asymptotically colonizes various anatomical sites, posing heightened risks to immunocompromised individuals. This study aimed to determine the prevalence of asymptomatic nasal carriage of *S. aureus* among pre-clinical medical students at Universitas Ciputra. Fifty-seven fifth-semester medical students participated voluntarily, providing informed consent. Nasal swabs were collected twice, ten months apart, and *S. aureus* was identified using standard culture methods. Descriptive statistics were used to analyze carriage prevalence and patterns. Results indicated that 17% of participants carried *S. aureus* in their nasal passages. Almost all participants (98%) exhibited mixed bacterial flora on nasal swabs, with only 2% showing *S. aureus* as the sole organism. Methicillin-resistant *S. aureus* (MRSA) was detected in 10% of *S. aureus* isolates. Among those sampled twice, 49% tested positive for *S. aureus* at least once, with 35% classified as intermittent carriers and 14% as persistent carriers. This study underscores a notable prevalence of asymptomatic *S. aureus* nasal carriage among pre-clinical medical students, highlighting their potential role as reservoirs for bacterial transmission in healthcare settings.

Keywords: *Staphylococcus aureus*, nasal carrier, medical students, transmission, healthcare.