



Prevalence and Factors Associated with Methicillin-Resistant Staphylococcus Nasal Carriage Among People Living with HIV at Kiruddu National Referral Hospital, Kampala, Uganda

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Methicillin-resistant Staphylococcus (MRS) infections are a major public health concern, with the anterior nares serving as an important reservoir for transmission. People living with HIV (PLWHIV) are at increased risk of MRS colonization due to frequent healthcare exposure. This study assessed the prevalence of nasal carriage of MRS and associated factors among PLWHIV attending Kiruddu National Referral Hospital between May and July 2024. Nasal swabs were collected from 256 participants and processed at MBN Clinical Laboratories using standard microbiological methods. Prevalence was determined as proportions, while logistic regression was used to identify associated clinical and sociodemographic factors ($p < 0.05$). Among the participants, 163/256 (63.7%) carried Staphylococcus species, and 82/256 (32.0%) carried MRS. Of the MRS isolates, 23 (8.9%) were methicillin-resistant Staphylococcus aureus (MRSA) and 59 (23.0%) were methicillin-resistant coagulase-negative staphylococci (MRCoNS). Frequent hospital visits (≥ 3) (adjusted incidence risk ratio [A-IRR] = 1.18×10^7 , $p < 0.001$), use of second-line antiretroviral therapy (ART) (A-IRR = 3.82, $p = 0.041$), and unsuppressed viral load (>1000 copies/mL) (adjusted odds ratio [AOR] = 11.3, 95% CI: 2.11–60.58, $p = 0.005$) were significantly associated with MRS carriage. Mask-wearing was protective against MRCoNS carriage (A-IRR = 1.66, 95% CI: 1.06–2.58, $p = 0.026$). MRS isolates showed high resistance to erythromycin (81.7%) and trimethoprim-sulfamethoxazole (79.3%) but remained largely susceptible to linezolid (93.9%). Antimicrobial Resistance (AMR) surveillance within HIV programs, enhanced infection control, ART adherence, and targeted screening for high-risk groups are critical to mitigate colonization.

