

P2101 MRSA cross transmission between hospitalized children and their guardians in Angola and São Tomé and Príncipe

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Background: The nosocomial prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) was previously estimated as 82.4% in a pediatric hospital (HPDB) in Luanda, Angola and 25.5% in a general hospital (HAM) in São Tomé and Príncipe (STP). In these countries, hospitalized children and guardians usually share the same bed. The aim of the present study was to evaluate MRSA nasal carriage in hospitalized pediatric patients and their guardians.

Materials/methods: In 2017, a total of 116 hospitalized children (79 at HPDB and 37 at HAM) and their respective guardians were nasally swabbed for MRSA carriage. All isolates were tested for the presence of the *mecA* and Panton Valentine leukocidine (PVL) genes, and characterized by pulsed-field gel electrophoresis (PFGE) and SCC*mec* typing. Selected isolates were analyzed by *spa* typing and multilocus sequence typing (MLST).

Results: A total of 20 children (17.2%) and 13 guardians (11.2%) were MRSA nasal carriers. Three lineages comprised 90% of the MRSA isolates from children and guardians: (i) PFGE A-ST5-SCC*mec* IVa (45%) associated to *spa* types t105/t11657/t14047, recovered in Angola only; (ii) PFGE N-ST8-IV/V (24%), associated to *spa* types t008/1476, and the major clone in STP; and (iii) PFGE B-ST88-IVa (21%), associated to *spa* types t186/t325/t786, present in both hospitals. The remaining three MRSA isolates belonged to sporadic clones: PFGE D-t3092-ST72-V (n=1), PFGE E-t148-ST72-V (n=1), and PFGE X-t6278-ST30-V (n=1). Eight pairs guardian/children were colonized with identical MRSA strains. PVL was detected in two isolates (ST30-V and ST8-IVa).

Conclusions: Hospitalized children and their guardians represent MRSA reservoirs and represent likely transmission routes in the hospital setting. Infection control measures should focus on guardians to avoid the spread of MRSA to the community.