

Title: IDENTIFICATION OF METHICILLIN-RESISTANT *Staphylococcus aureus* (MRSA) AND VANCOMYCIN-RESISTANT *Enterococcus* (VRE) ON SURFACES OF CLINICAL HOSPITALS OF PERNAMBUCO

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Abstract:

Healthcare associated infections (HCAI), nosocomial infection or hospital infection, is an infection occurring in a patient during the process of care in a hospital. Once microorganisms with resistance profile were already isolated in hospital environments, the early identification of these microorganisms is crucial to alert health professionals in relation to possible sources of contamination in hospital. Thus, the aim of this study was identify methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant *Enterococcus* (VRE) on inanimate surfaces of Hospital das Clínicas de Pernambuco. Initially, samples were collected from the surfaces in April 2015. For the identification of Gram positive bacteria, samples were plated on blood agar and incubated for 24h at 35 °C. After incubation, the colonies were submitted to Gram stain and catalase, coagulase, mannitol medium, bile esculin medium and 6.5 % NaCl to confirm the presence of *Staphylococcus aureus* and *Enterococcus* spp. After this identification, MRSA and VRE were identified according to the *Clinical and Laboratory Standards Institute*. Among the 26 samples analyzed, nine samples showed *Staphylococcus aureus* or *Enterococcus* spp. and one sample showed these two microorganisms simultaneously (monitors of Intensive Care Unit - ICU). Taking into account the resistance profile, the surface of sink for hand washing of the Hemodialysis Centre presented VRE and electrocardiogram machine of ICU had MRSA. Thus, the present study demonstrated that inanimate surfaces of hospital can be contaminated by resistant microorganisms, especially MRSA and VRE. These results are in agreement with those of literature and emphasize the importance of hand washing as well as carrying out cleaning and disinfection protocols for hospital environments, aiming the reduction of hospital infections.

Keywords: Methicillin-resistant *Staphylococcus aureus* (MRSA), Vancomycin-resistant *Enterococcus* (VRE), Hospital surfaces, Hospital infection.