Title: *Staphylococcus spp.:* **survival to desiccation, in water and resistance of biofilms to action of disinfectants**

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Introduction: *Staphylococcus* are one of the major causing agents of nosocomial infections in the world. Many factors of virulence as well as antimicrobial resistance and ability to survive in inhospitable environments has increased the spread of these microorganisms in hospitals. **Objectives:** It was analyzed about 21 strains as to their capacity to survive in environments free of water, in distilled water and germicidal activity of disinfectants on preformed bacterial biofilms. **Methodology:** The strains were collected from patients admitted in 3 public hospitals of Maceió. The isolates were identified by conventional biochemical methods. To verify the survival in a dry environment and distilled water, the standard inoculum 10E5 to 10E7 UFCmL-1 was inserted into dry eppendorf tubes (for the test of desiccation) or distilled water (for the test of viability in water) and in times of 0h (control), 24h, 48h, 72h, 1 week and 2 weeks, the surviving cells were recovered from the tubes and plated on the BHA. To analyze the efficiency of disinfectants on pre-formed biofilms, 18 strains were selected, great forming biofilm, which were inoculated on to BHI sucrose 0,5% in microtiter plates U bottom for 48h, in quadruplicate; all planktonic culture was removed after this period and the remaining biofilm was submitted to disinfectants antimicrobial action adding 150 μL of 1% hypochlorite, 2% glutaraldehyde or 2% peracetic acid. The surviving cells were recovered from the tubes and plated on the BHA. **Results:** The isolates did not survive for a up to 24 hours in dry condition. In distilled water, 81% (17/21) of the strains remained viable for up two weeks, containing about 10E3 viable cells mL^{-1}. Among the strains capable of surviving in water lacking nutrients, 70% showed profile MRS or MRSA, 58% were VISA and 41% were resistant to methicillin and vancomycin. Disinfectants presented excellent biocide action, eliminating more than 10E10 viable cells mL^{-1}. Only one of the strains in lifestyle biofilm had circumstantial resistance to the action of peracetic acid. **Conclusion:** *Staphylococcus* was shown to be able to survive in inhospitable environmental conditions, mainly in water which can favor the environmental and hospital contamination. Some strains can have circumstantial resistance to desinfectants in lifestyle biofilm, although the disinfectants were effective in controlling *Staphylococci´s biofilm,* contributing to the antimicrobial and cross-infection controls.

Keywords: environmental contamination, desiccation resistance, water, antimicrobial control, disinfectants

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