

## **Biofilm production by *Candida* species isolated from the hands of health professionals from a Neonatal Intensive Care Unit**

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*Candida* spp. may be present in the skin microbiota of healthy individuals. However, there is an increase in the occurrence of invasive candidiasis in immunocompromised patients, and in this case, the hands are important carriers of the microorganisms. The expression of some virulence factors by *Candida* spp., such as biofilm formation, is crucial in the development of infections and it is associated with high levels of resistance to antimicrobial agents. The objective of this study was to evaluate the capacity of biofilm production by *Candida* spp. isolated from the hands of the health professionals of the Neonatal Intensive Care Unit of the Clinical Hospital of the Federal University of Uberlândia (NICU – HC/UFU). We studied 43 *Candida* spp. isolates from the hands of professionals from the NICU of HC-UFU: 18 isolates of *C. parapsilosis*, 6 of *C. albicans*, 4 of *C. lusitaniae*, 3 of *C. famata*, 3 of *C. metapsilosis*, 3 of *C. krusei*, 2 of *C. kefyr*, 2 of *C. tropicalis*, 1 of *C. glabrata*, 1 of *C. guilliermondii* 1 of *C. orthopsilosis*. The tests were done on 96-well microtiter plates and incubated at 37°C. The evaluation of the metabolic activity of the biofilm was made through the metabolism of the sodium salt XTT by the yeasts, measured in a spectrophotometer with a wavelength of 490 nm. The results were classified according to the absorbance in: non-biofilm producers (OD <0.10), weak producers (0.11 <OD <0.40), moderate producers (0.41 <OD <0.74) and high biofilm producers (DO ≥0.75). The Study was approved by the Ethics Committee in Research with Human Beings of the Federal University of Uberlândia (989.139/2015). Four isolates did not form biofilm: *C. albicans*, *C. parapsilosis*, *C. metapsilosis*, *C. lusitaniae*. Most of the samples were classified as poor biofilm producers (19), of which 7 were *C. parapsilosis*, 3 *C. albicans*, 3 *C. lusitaniae*, 2 *C. famata*, 1 *C. metapsilosis*, 1 *C. glabrata* and 1 *C. guilliermondii*. Twelve isolates presented moderate biofilm production: 6 *C. parapsilosis*, 2 *C. albicans*, 2 *C. tropicalis*, 1 *C. famata* and 1 *C. kefyr*. Nine samples were high in biofilm production: 4 *C. parapsilosis*, 2 *C. krusei*, 1 *C. kefyr*, 1 *C. metapsilosis*, and 1 *C. orthopsilosis*. Most of the isolates were biofilm producers, revealing the possible virulence potential of the isolates studied.

**Key words:** biofilm, *Candida* spp., Neonatal ICU.

**Support:** FAPEMIG