

TITLE: FORMATION OF BIOFILMS IN *Candida* spp. ISOLATED FROM PATIENTS SERVED IN AN AMBULATORY OF A PARTICULAR UNIVERSITY (SÃO LUÍS-MA)

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ABSTRACT

Yeasts of the genus *Candida* are constituents present in the microbiota of the skin and mucosa of man from birth. The relationship of yeast coexistence with the host occurs through out life, however any changes in the homeostasis of the human organism, favor the infectious manifestation of this yeast fungus. An infection considered opportunistic, becoming pathogenic if changes occur in host defense mechanisms, among the factors may be the formation of biofilm, a mechanism of virulence for the development of infection. Thus, the study aims to analyze the formation of biofilms in *Candida* spp. isolated from patients attended at a private clinic in São Luís-MA. The biofilm formation will be evaluated in 96-well microplates using the methodology where 4 isolates were used. The isolates were diluted in saline according to the turbidity of the 0.5 Mc Farland scale tube which corresponds to 1 to 5 x 10⁶ cells per ml. The wells were filled sequentially in triplicates. In the negative control, only 200 µL of the medium and in the rest of the wells, 180 µL of medium plus 20 mL of the fungal suspension in saline were used. Plates were incubated at 37 °C for 48 hours in an oven. Subsequently, they were washed twice with sterile saline and 200 µl of methanol was added to each well for fifteen minutes for fixation. The plates were washed with saline twice and then 200 µl of violet crystal were added for staining, and then 250 µl of ethanol was added to wash the wells, then subjected to spectrophotometry with a 550 nm filter to measure the respective absorbance for each well. Four isolates of *Candida* with different species, *C. albicans*, *C. glabrata*, *C. orthopsilosis* and *C. parapsilosis* were used in the study. Based on the optical density of the isolates (D.O.I), and based on the negative control (D.O.C), the isolates were classified in the following categories: Non-Producer; weak producer; moderate producer and strong producer. Therefore the biofilm is considered a strong virulence factor of *Candida* spp., And in the four isolates studied there was formation of the biofilm by the classification considered a weak producer. So the study corroborates with the literature showing that *Candida* spp., is a great producer of biofilm, becoming together with other factors one of the main causes of the infection and together increasing its epidemiology.

Keywords: Biofilm, Virulence, *Candida* spp.

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