TITLE: *CANDIDA* SPP ISOLATED FROM THE VAGINAL MICROBIOTA EXHIBITS DIFFERENCES IN BIOFILM FORMATION.

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ABSTRACT:

Candida species are the most common fungi isolated from nosocomial bloodstream infection, and biofilms formed by these fungal organisms are associated with drastically enhanced resistance against most antimicrobial agents, leading to fungal persistence despite antifungal therapy. The aim of this study was to verify if there was difference between intensity of 24-hour and 48-hour *Candida* biofilm, isolated from vaginal microbiota. Therefore, 16 strains were cultivated in YNB medium added with 100 mM glucose in 96-wells microplate and incubated for 90 minutes for adhesion phase. After this the wells were washed to remove non-adhered cells, filled with new medium and incubated for 24h and 48h. Biofilm were quantified using crystal violet assay and classified as weak, moderate and strong biofilm according to OD values. Among the 16 strains, 8 were *Candida albicans*, 1 *Candida Krusei*, 6 *Candida glabrata* and 1 *Candida parapsilosis*. The results have shown that all strains formed weak biofilm in 24h. On the other hand, all *C. albicans* increased biofilm production when reached 48h of incubation, being classified as strong or moderate biofilm, while all others species remained with weak biofilm. As we can see with the results, there is a difference between 24h and 48h *C. albicans* biofilm, indicating that this species have a mature biofilm after 48h incubation. This biofilm classified as strong could interfere in antifungals therapy efficacy. Concerning to the other species, in this case, there was no difference between 24h and 48h biofilm, which could indicate that strains were not able to form extensive biofilms. Another researches have shown that *C. albicans* biofilm formation have three distinct developmental phases: early (≈0 to 11 h), intermediate (≈12 to 30 h), and maturation (≈38 to 72 h) phases, in agreement with what had been seen in this work. Also, *Candida* biofilm formation has been shown to be strain and specie-dependent.

Keywords: *Candida* spp, virulence, biofilm, vaginal microbiota

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