TITLE: Haemolysin and Phospholipase production in *Candida parapsilosis* isolated from the health professionals's hands

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Infections by *Candida parapsilosis* are becoming increasingly frequent, putting at risk the health and development of critical neonates due to their greater susceptibility. Pathogenic fungi possess and express genes that encode virulence factors that contribute to the increase of their capacity to cause infection, influencing its development, resistance and exoenzymes production. Therefore, the aim of this study was to evaluate the activity of phospholipase and haemolysin enzymes of *Candida parapsilosis*, isolated from hands of professional health of a Neonatal Intensive Care Unit. Isolates of Candida parapsilosis were obtained from the hands of the health professionals, in March to August of 2018. The tests were performed from 24 hour cultures of the isolates on Agar Sabouraud Dextrose. A suspension was made of each isolate in saline solution (0.9%) with a turbidity equivalent to the McFarland tube 2 scale $(1 \times 10^8 \text{ to } 5 \times 10^8 \text{ CFU/mL})$. Aliquots of 5 mL of each suspension were placed at equidistant points on petri dishes (90x15 mm) containing the respective culture media: agar phospholipase and agar haemolysin. The plates were incubated at 30°C for 48 hour in haemolysin and four days for phospholipase. The results for the Phospholipase activity were evidenced by the formation of an opaque halo around the yeast colony (precipitation of calcium complexes) and was given by the ratio between the diameter of the colony and the sum between the diameter of the colony and the precipitation area. Hemolytic activity was evidenced by the translucent halo with defined borders around colonies, and expressed by an index hemolytic calculated by dividing the colony diameter by the diameter of colony plus the hemolysis zone. Of 64 samples of Candida parapsilosis, 5 (7.81%) were positive for haemolysin and 1 (1.56%) for phospholipase. Among the haemolysin positive samples, 5 (7.81%) were moderate. For phospholipase positive samples, 1 (1.56%) showed modarate formation. In the present study, Candida parapsilosis isolates from hands had a low frequency of expression of the two virulence factors studied (phospholipase and haemolysin). The enzymatic activity was given by the ratio between the diameter of the colony and the sum between the diameter of the colony and the precipitation area. His low virulence may be due to the fact that the isolates came from immunocompetent professionals, unlike the results found in isolated from immunocompromised carried out in other studies.

Keywords: Candida parapsilosis, Hands, Haemolysin, Phospholipase.