TITLE: EVALUATION OF THE ANTIFUNGAL ACTIVITY OF EXTRACTS OF *EUPHORBIA TIRUCALLI* L. OBTAINED BY DIFFERENT EXTRACTION METHODS

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ABSTRACT

The search for natural molecules with action against potentially harmful organisms, such as pathogenic microorganisms or vectors carrying these pathogens, is increasingly increasing. In this context, the objective of the present study was to evaluate the antifungal action against *Candida* spp. and *Cryptococcus neoformans* from fresh and dried extracts of *Euphorbia tirucalli* L. extracted with different solvents. The area of *Euphorbia tirucalli* L. was collected in the city of Parnaíba-PI. Initially the sample was washed, shredded and one part was left in an oven at 30ºC for 48 hours (dry sample) and another one used *in natura* (fresh sample). From each of the groups, 20g was weighed and diluted in 200 ml of different solvents (Ethanol, Methanol/water, Acetone) and left in the ultrasonic bath for 1 hour. After that time, the samples were filtered and stored under refrigeration until the time of the test. The antifungal activity of the extracts was evaluated by the methodology of the minimum inhibitory concentration in the concentrations of 2 to 0.015 mg / mL against fungi *Candida* spp. and *C. neoformans* in RPMI+MOPS medium incubated in 96-well plates for 24 hours at 37°C. Amphotericin B was used as a control. The results show that dry extracts were more efficient than fresh ones, whereas those extracted with acetone and methanol/water were the most efficient inhibiting the growth of *Candida glabrata* at a concentration of 0.06 mg/mL. The ethanolic extracts also had action in this species. Both dry and fresh extracts had an inhibitory action against *Candida albicans* ATCC 90028 and *Candida parapsilosis*. Only *Candida tropicalis* and *Candida albicans* SC 5314 were resistant with values not determined by the study range for all extracts. These results were also observed against *C. neoformans*. The data show that *Euphorbia tirucalli* L. has an antifungal action when submitted to different extraction methods. This fact shows the importance of the search for molecules with biological activities and these are considered promising for the development of new antifungal agents.

Keywords*: Euphorbia tirucalli*; *Candida* spp; *Cryptococcus neoformans*

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