

**Title: CHALCONES WITH POTENTIAL FUNGISTATIC AND FUNGICIDAL ACTIVITY AGAINST SAMPLES OF *Candida* sp.**

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**Summary:**

Vulvovaginal candidiasis (VVC) is a disease caused by yeasts of the *Candida* genus, which affects 75% of all women. The treatment of VVC with the usual antifungal has been reported as inefficient because of the reduction of *Candida* species sensitivity. Thus, the study of new compounds with antifungal activity is really important. The chalcones are intermediates for the biosynthesis of flavonoids and isoflavonoids and their backbones have been associated with pharmacologic activities as antitumoral, antiviral, anti-inflammatory and antimicrobial. Therefore, this research aims to evaluate the antifungal potential of sixteen Chalcones against four samples of *Candida* sp. (*C. albicans* ATCC 10231, *C. glabrata* ATCC 2001 *C. krusei* ATCC 34135 and *C. tropicalis* ATCC 28707). The concentrations ranging from 1000µg/ml to 3.9µg/ml were tested by broth microdilution method to determine the Minimum Inhibitory Concentration (MIC) and the evaluation of the Minimum Fungicidal Concentration (MFC) by agar microdilution. The antifungal ketoconazole and dimethylsulfoxide (diluent of compounds) were included in the assays as positive and negative controls, respectively. Results showed that the compounds LZ46 and MCF4 were the most active against *Candida* strains. The compound LZ46 presented promising results with MIC values equal to 15.6µg/mL for the four strains and MFC values ranging from 15.62µg/mL to 125µg/mL. This compound has shown great potential as antifungal agent with fungistatic and fungicidal activity against all tested microorganisms. The compound MCF4 presented fungistatic activity and MIC values ranging from 31.25µg/mL to 250µg/mL against the four tested strains. Furthermore, MCF4 also presented fungicidal activity, with MFC equal to 500µg/mL against *C. glabrata* and *C. tropicalis*. The *Candidas* were sensitive to two Chalcones (LZ46 and MCF4), which showed fungistatic activity at low concentrations, indicating the possibility of their use for the pharmacological treatment of fungal infections.

**Keywords:** *Candida*, fungistatic and fungicidal activities, chalcones.

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