TITLE: CHEMICAL-BIOLOGICAL PROSPECTION OF DERIVATIVES FROM *Syngonanthus nitens* (Bong.) Ruhland AGAINST *Candida albicans* FLUCONAZOLE-RESISTANT

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ABSTRACT:

The increase of multidrug-resistant strains of *C. albicans* to available therapy in clinical practice is directly associated with cases of systemic infections, especially in the nosocomial environment. In this sense, the research of new antibiotics such as the use of secondary metabolites from herbal medicines can be an interesting alternative to promote the control and treatment of acute and chronic fungal diseases caused by this fungal specie. According to this affirmations, this work aimed to obtain fractions from *S. nitens* methanolic extract and investigate the chemical composition and select the most active fraction with antifungal activity against *C. albicans* strains (standard and clinical strains). To obtain different vegetal derivatives the technique of solid phase extraction –SPE (C18-reversed phase silica gel) with different polarity of the solvents (MeOH+H2O) was employed to obtain fractions from lyophilized from crude extract. The chemical composition of all fractions was evaluated by Thin Layer Chromatography (TLC) and High Performance Liquid Chromatography (HPLC) and the microdilution technique (vegetal solutions from 1000 µg/mL to 7.8 µg/mL) was employed to determine the Minimal Inhibitory Concentration (MIC) on fluconazole resistant strains. The results obtained from TLC and HPLC showed that from SPE were obtained 12 fractions with different chemical and antifungal profiles. The MIC values of all fractions were different (ranging from >1000 µg/mL to 62.5ug/mL), however, the Fr3 showed the best antifungal behavior (MIC values ranging from 125 µg/mL to 62.5 µg/mL). The chemical evaluation of Fr3 showed that the luteolin (flavonoid) is the majoritarian compound in their composition, in this sense, the determination of MIC values of the pure luteolin (99.9%) was performed in the same conditions and a promising inhibitory profile was observed against all strains. These results show the potentiality of fractions obtained from the methanolic extract of *S. nitens* in inhibiting fluconazole resistant strains, especially the luteolin-rich Fr3, which can be the basis for future investigations of this plant product as a new antibiotic in infections caused by *C. albicans*.

Keywords: antifungal activity; *Syngonanthus nitens*; *Candida albicans;* multidrug-resistance; chemical composition

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