TITLE: Antifungal activity of *Salvia officinalis* against Candida ssp.

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ABSTRACT:

With the increase of resistant strains to known antimicrobials, and the fact that many of them have harmful side effects, there has been a growing need for the discovery of new substances that are effective in the treatment of infections and biofilm formation, with emphasis on natural products with antimicrobial activity such as essential oils and plant extracts due to their easy acceptability, availability and low cost. The aim of this study was to determine antifungal activity of *Salvia officinalis* lyophilized plant extract against 13 *Candida* ssp. strains through the determination of Minimum Inhibitory Concentration (MIC). The assays were done in triplicate system and according to the Clinical & Laboratory Standards Institute protocol. The plant extract was obtained commercially and tested against the reference strains: *C. albicans* ATCC® 10231, *C. albicans* ATCC® 2876, *C. albicans* ATCC® 90028, *C. albicans* CBS 562, *C. glabrata* ATCC® 5207, *C. glabrata* IZ07, *C. guilliermondii* CBS 566, *C. krusei* CBS 573, *C. lusitaniae* IZ 06, *C. lusitaniae* IZ 12, *C. rugosa* ATCC® 10571, *C. tropicalis* ATCC® 750 and *C. tropicalis* CBS 94 at serial concentrations between 0,39063 mg/mL and 200 mg/mL using 96-well cell culture microplates with 100 μL/well of RPMI-1640. Tests were performed with amphotericin B and nystatin as control drugs. After the incubation period (35°C, 48 hours), 70 μL of triphenyltetrazolium was added to the wells as this solution is indicated for detecting microbial growth. *S. officinalis* plant extract showed fungistatic effect on all strains with MIC values varying between 0,09766 mg/mL and 25 mg/mL. The best results were obtained against *C. glabrata* ATCC® 5207 and *C. glabrata* IZ07 with the lowest MIC value of 0,09766 mg/mL, followed by *C. krusei* CBS 573 with MIC value of 0,39063 mg/mL. On the other hand, *C. albicans* ATCC® 2876, *C. albicans* ATCC® 90028 and *C. lusitaniae* IZ 06 had the highest MIC value of 25 mg/mL. These results indicate the possibility of using *Salvia officinalis* plant extract as alternative treatment against *Candida* ssp..

Key-words: plant extract, antifungal activity, *Candida* ssp., *Salvia officinalis*

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