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QUORUM SENSING SYSTEM IN CANDIDA PARAPSILOSIS AGAINST TRICHOPHYTON RUBRUM AND TRICHOPHYTON MENTAGROPHYTES

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Onychomycoses are nail infections predominantly caused by dermatophytes and yeasts, resulting in significant physical and psychological morbidity of the host. Failures in treatment can cause irreversible damage to the nail plate or can lead to the resistant microorganisms. The *in vitro* screening of new molecules with antifungal potential is essential for new therapeutic approaches. The present study aimed to evaluate the *in vitro* antifungal potential of the pure culture extract of *C. parapsilosis on T. rubrum* and *T. mentagrophytes* strains. Strains of *C. parapsilosis, T. rubrum* and *T. mentagrophytes* were obtained from the collection of the Microbiology Laboratory of the School of Medicine of Sao Jose do Rio Preto, Sao Paulo, Brazil. Yeast was cultured in Sabouraud Dextrose Agar (DIFCO®) and incubated at 35°C for 24 hours. After this period, the inoculum was prepared in 500 mL of Sabouraud Broth, incubated at 35°C for 48 hours and filtered through a millipore membrane (0.2 µm). The nonpolar compounds were separated in a mixture of the filtered inoculum (100 mL) with ethyl acetate (100 mL) as a counter phase. The minimal inhibitory concentration (MIC) were carried out with strains of *T. rubrum* and *T. mentagrophytes* following (CLSI – Clinical and Laboratory Standards Institute) M38-A2 of 2008. The formula was applied to calculate the percentage inhibition: I = 1 - (AbsT - AbsCT/AbsCC) × 100 where: I = percentage inhibition; AbsT=absorbance of the inoculum extract; AbsE = absorbance of sterility control; AbsCC = absorbance of growth control. The inhibition was 100%. The MIC of the extract of *C. parapsilosis* against *T. rubrum* was 62.5 µg/mL, whereas for T. mentagrophytes, 1000 µg/mL. Metabolites released by *C. parapsilosis* present antifungal activity against *T. rubrum and T. mentagrophytes* and may compose a therapeutic strategy in the control of onychomycosis.

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