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Folk medicinal plant extracts as a source of biomolecules with antifungal properties against *Candida* species

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Increasing rates of opportunistic fungal infections and microorganisms with drug-resistance have been observed. *Candida* species are the most common pathogens, considered the fourth leading cause of hematogenous infections. Thus, it is crucial to discover alternatives to the current antifungal agents. Healing properties of medicinal plants are widely recognized, but some properties and the related mechanisms of action remain unknown. Therefore, the anti-*Candida* potential of hydromethanolic extracts obtained from ten folk medicinal plants (*Echinacea purpurea* L.; *Eucalyptus globulus* Labill.; *Foeniculum vulgare* Mill.; *Juglans regia* L.; *Matricaria recutita* L.; *Melissa officinalis* L.; *Pterospartum tridentatum* L.; *Rosa canina* L.; *Rubus ulmifolius* L. and *Tabebuia impetiginosa* L.) was evaluated, by using Disc Diffusion Assay and determination of minimal inhibitory concentrations by microdilution method. *J. regia* was the most effective, inhibiting the growth of the tested nineteen *Candida* strains (halo diameter varying between 9-14 mm) and causing a growth reduction of 3-5 Log (CFUs) for *Candida parapsilosis* and *C. tropicalis*, and 0.5-2.5 for *C. albicans* and *C. glabrata*. *E. globulus* also exhibit a significant potential, being effective against seventeen *Candida* strains (halo diameter ranging between 9-21 mm) and causing a growth reduction of 2-5 Log (CFUs). *P. tridentatum* and *R. ulmifolius* showed similar antifungal effects, being effective against six *Candida* strains (halo diameter ranging between 9-19 mm). So, as main conclusions, hydromethanolic extracts of *E. globulus* and *J. regia* could constitute promissory alternatives to the current antifungal agents, but more detailed studies are needed in order to identify the bioactive compounds and related mechanism of action.

Biography

Natalia Martins is a PhD student from University of Minho since March 2013. She graduated in Dietetics and Nutrition from Polytechnic Institute of Braganca (including a period of extra-curricular training in Brazil), in Natural Medicine from School of Alternative and Complementary Medicines of Oporto, and also attended other short courses in Traditional Medicine. She has published 6 articles in ISI and Scopus indexed journals, and presented 12 abstracts in national and international conferences/congresses.

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