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In vitro study of the antifungal potential of *Glycyrrhiza glabra* L. against *Candida* species

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- [Congress Abstract](#)

In the last two decades, an increasing incidence of opportunistic fungal infections has been observed, not only at hospital level but also in the community. *Candida albicans* was identified as the main responsible agent for those infections, but other non-*Candida albicans* *Candida* (NCAC) species have also been associated with this complicated medical condition [1]. Furthermore, higher rates of fungal resistance to the current drugs have been observed and are still growing, making the discovery of new active antifungal substances very urgent. Medicinal plants can be explored for that purpose. *Glycyrrhiza glabra* L. is commonly used in folk medicine due to its antimicrobial and antiviral activities, as well as for a wide variety of dermal affections [2]. Some reports have described the antimicrobial potential of licorice (*G. glabra* roots), namely aqueous extracts [e.g., 3]. Herein, the antifungal potential of the hydroalcoholic extract prepared from rhizomes and roots of *G. glabra*, was evaluated against 19 *Candida* strains, using the disc diffusion halo assay. The licorice extract was effective against all the tested *C. albicans*, *C. glabrata*, *C. parapsilosis* and *C. tropicalis* strains. It is very interesting to highlight the broad spectrum of activity of this extract, for which were observed similar results into different strains of the same species and even between different species. The results for the inhibitory zones, at the tested concentration (50 mg/mL), after 24h, were 1.0 – 1.2 cm for *C. albicans* and *C. parapsilosis*, 1.0 – 1.3 cm for *C. tropicalis* and 1.2 cm for *C. glabrata*, maintaining the potential at 48h and even at 72h. This study demonstrates that *G. glabra* hydroalcoholic extract probably exerts mainly fungicidal and not so much fungistatic effects, and it could find applications in antifungal therapy. Nevertheless, further studies will be performed in order to characterize the extract, namely on phenolic composition, and to elucidate its mechanism of action.

Keywords: Antifungal activity; *Candida* species; Medicinal plants; *Glycyrrhiza glabra* L.;

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