

Title: Screening of Antifungal activity of six native Ecuadorian medicinal plants against *Candida* strains.

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Abstract

Ecuador is one of the most biodiverse countries in the world, different species of plants grow along the four climate regions and the indigenous groups used these plants as traditional medicine to treat various diseases such as infections caused by pathogenic agents like *Candida spp.* that is now the fourth most common organism recovered from blood cultures in hospitalized patients. Historically, *Candida glabrata* has been considered a nonpathogenic saprophyte of the normal flora of healthy individuals, rarely causing serious infection in humans. However, following the widespread and increased use of immunosuppressive therapy together with broad-spectrum antimycotic therapy, the frequency of mucosal and systemic infections caused by *C. glabrata* has increased significantly. *C. glabrata* is often the second or third most common cause of candidiasis after *C. albicans*. Consequently, the aim of the present study was to determine antimycotic activity of native plants with properties against pathogenic strains of *Candida*: *C. albicans*, *C. glabrata* and *C. tropicalis*. For the ethanolic plant extract, fresh leaves or fruit of each plant were used. Firstly 2gr of each plant were weighted and crushed, to be homogenized along with 4mL of ethanol. Then the mixture was filtered on 30mL syringes to obtain the supernatant. The ethanolic extracts of the six native Ecuadorian plants, *Ambrosia arborescens* (Marco), *Witheringia solanacea* (Hierba mora), *Capsicum pubescens* (Aji), *Nicotiana tabacum* (Tabaco), *Chenopodium ambrosioides* (Paico), *Piper aduncum* (Matico), were tested using the agar disk diffusion method. *Candida* strains were cultured in Potato Dextrose Agar (PDA) and incubated with the disks with the extracts for 24h.

W. solanacea presents a considerable antifungal activity against *C. glabrata*. *Witheringia solanacea* L'Hér. is a small shrub native from Ecuador that belongs to the Solanaceae family and it is used by various ethnic communities as traditional medicine. *W. solanacea* owns a large list of properties which include treatments for inflammation, fungus, infections, hypertension, skin conditions, snake bites, stomachaches, respiratory disorders, Diabetes mellitus, allergies, and more. However, the antifungal activity has not been scientifically proven yet, so this preliminary result allow us to continue with further qualitative studies of the anti-*Candida* properties.

Key words: Native Plants, Anti-*Candida* activity, Agar disk diffusion test.