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TITLE

ANTIFUNGAL ACTIVITIES OF THE ESSENTIAL OILS FROM IRANIAN AROMATIC PLANTS AGAINST COMMON CAUSES OF VAGINAL CANDIDIASIS

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ABSTRACT

Context: Vaginal candidiasis is one of the most prevalent fungal infections and 70-75% of healthy, grown-up women get infected by this disease at least once during their reproductive age. Over the past two decades, emergence of resistance to routine antifungal drugs in particular azoles has been accelerated dramatically. To overcome resistance, there is a great tendency in using herbal products originating from natural resources such as essential oils (EOs). Seven aromatic plants used in this study are among popular traditional Iranian medicinal plants with potential application in modern medicine as anti-oral infectious diseases.

Objectives: This study was conducted to determine the chemical composition and antimicrobial activities of essential oils from seven medicinal plants against *Candida* spp.

Methods: The chemical compositions of EOs distilled from seven plants were analyzed by gas chromatography/mass spectrometry (GC/MS). These plants included *Satureja khuzestanica*, *Satureja bachtiarica*, *Ocimum sanctum*, *Artemisia sieberi*, *Zataria multiflora*, *Carum copticum* and *Oliveria decumbens*. The antimicrobial activities of the essential oils were evaluated by broth micro-dilution in 96 well plates as recommended by the Clinical and Laboratory Standards Institute methods.

Results: The tested EOs inhibited the growth of the examined *Candida* at concentrations of 0.015-2 μ L/mL. All the *Candida* spp. were killed by the EOs at about the same or twice the concentration of their corresponding MICs. Of the examined EOs, *Satureja khuzestanica*, and *Zataria multiflora* respectively showed the highest antifungal activities, while *Artemisia sieberi* exhibited the lowest antimicrobial properties.

Conclusion: Based on these results, the EOs of the above mentioned plants might be used as an antifungal agent in treatment and control of the vaginal candidiasis.

INSTITUTE

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