Antifungal activity of the ethanol extract of thyme (*Thymus vulgaris*) and almond tree (*Terminalia catappa*) against ATCC strains of *Candida albicans*

Brandon Gómez-Noriega ¹, *Roxana Reyes-Ríos¹, Giovani Martínez-Hernández¹, Aldo Franscesco Serrano-Villalobos ¹, Dolores Vargas-Alvaréz², Antonio Juan Cortez-Guzman.²

- ¹ Faculty of Natural Sciences, UAGro
- ² Faculty Biological Chemical Sciences, UAGro;
- * Correspondence: rreyes@uagro.mx

Abstract

Introduction. Opportunistic fungal diseases have shown a significant increase worldwide in recent years (Galvis *et al.*, 2020). Among the main causative agents of invasive mycoses is the *Candida* genus, with Candida *albicans* being the most commonly reported species in clinical cases of immunocompromised patients (Méndez *et al.*, 2016). Herbal medicine has been used since prehistoric times to treat various illnesses, relying on the presence of chemical compounds with pharmacological actions in plant species. **Objective**: In the present research, the antifungal activity of *Thymus vulgaris* and *Terminalia catappa* was evaluated against ATCC 14043 and ATCC 24433 strains of Candida *albicans*. **Methodology:**

The plant material of Thymus vulgaris was collected from the market located in the city of Chilpancingo, Guerrero, while the samples of *Terminalia catappa* were collected in the port of Acapulco, Guerrero. The aerial parts of both plants were selected under optimal conditions, using both fresh and dried material. For *T. vulgaris*, the material was dried for 7 days using a botanical press, and for *Terminalia catappa*, it was dried for 14 days before subsequent maceration. The preparation of the extracts followed the methodology proposed by Nieto in 2018 and Ruiz in 2013. The results were analyzed for 8 treatments at different concentrations. Treatment N3 of *Terminalia catappa* showed the highest inhibition with 83% against the ATCC 24433 strain and 81% against the ATCC 14053 strain. **Conclusion:** The dried and fresh ethanol extracts of *Terminalia catappa* showed antifungal activity against ATCC strains of *Candida albicans*, which may represent an alternative for this type of infection.

Key words: Antifungal activity; *Thymus vulgaris; Terminalia catappa; Candida albicans*