

AN UPDATE ON ANTIFUNGAL ACTIVITY OF ESSENTIAL OILS AGAINST *MALASSEZIA PACHYDERMATIS*

Carla PAVLOV-ENESCU¹, Andra-Cristina BOSTĂNARU¹, Mihai MAREȘ¹,

pavlov.carla@gmail.com

Abstract

In recent years, the lipophilic yeast *Malassezia pachydermatis* is considered to be the most significant opportunistic pathogen associated with dermatitis and otitis externa in veterinary medicine. At the same time, various findings have shown the capacity of clinical isolates to acquire azole-resistance, therefore the development of new alternative treatment strategies are highly demanded. In the last decade, plant-based antimicrobials have known a resurrection, and special attention was given to essential oils (EOs). EOs are complex mixtures of small lipophilic molecules, of which one up to three compounds constitute the main phytochemical markers. EOs arose as candidates for the alternative treatment of *Malassezia*-related diseases. This review highlights the antifungal potential of EOs and their bioactive compounds against *M. pachydermatis* based on literature reports (*in vitro* and *in vivo* retrospective studies). A search was conducted using three databases (PubMed, Web of Science, Google Scholar), and all relevant articles from the period 2015-2021 were extracted. The findings showed most of EOs had significant *antifungal activity* against *M. pachydermatis*, especially through bioactive compounds such as monoterpenes and sesquiterpenes, on their own or by synergism with conventional antifungal drugs or other compounds, such as fluconazole and Tween 80. EOs with promising antifungal activity against *M. pachydermatis* include winter savory, lemongrass, oregano, cinnamon and oregano. The review emphasizes the importance of EOs as novel antifungal agents. EOs could be considered as an alternative to conventional antifungals, as they act concurrently towards different fungal targets due to their multicomponent nature.

Key words: antifungal, essential oils, *Malassezia pachydermatis*.
