

**TITLE:** STUDY OF THE ANTIMICROBIAL ACTION OF TEA TREE OIL - A SCIENTOMETRIC ANALYSIS

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**ABSTRACT:**

*Melaleuca alternifolia* is a plant originally from Australia, widely used for its medicinal properties, being created, therefore, the essential oil of melaleuca or "Tea Tree oil (TTO)". This oil has been widely studied, mainly due to its antimicrobial effects. Thus, this study aimed to develop a worldwide overview of publications on the antimicrobial effects of TTO through a scientometric review. The documents used for the analysis were collected from Clarivate Analytics' database – Web of Science, using the terms: ("Tea tree" OR "*melaleuca alternifolia*" AND "antimicrobial" OR "antibacterial" OR "antifungal" OR "microbial control"), searching in all years covered by the database and in all languages. The search resulted in 1067 documents, and, after a manual filtering, 526 references were removed, aiming to decrease the number of repeated studies or that did not meet the inclusion criteria, thus, in total, 541 documents were selected and extracted to be analyzed using Microsoft Excel and CiteSpace Software. The number of publications has been increasing since the 2000s, with the culmination of documents published in 2018 (45) and 2020 (55). Australia was the country with the highest number of publications (16.6%), since it is the country of origin of melaleuca oil, however, Italy had the highest centrality, that is, the largest number of research connections between countries. The focus of the research was in the clinical area, highlighted by the main categories where the documents were allocated: Pharmacology & Pharmacy (111 documents), as well as the presence of microorganisms of clinical interest, such as "*Staphylococcus aureus*", "*Escherichia coli*" and "*Candida albican*" in most published studies. However, areas such as "Food Science & Technology" (83 publications), and Biotechnology & Applied Microbiology (65 publications) were also present. In general, this study may show that, however much the TTO has been much studied, new applications have emerged and interest in this compound has remained increasing, marked by the apex of publications in 2020 and new applications, not only in the clinical area. In this sense, this analysis can serve as a guide for future studies evaluating the antimicrobial potential of TTO.

**Keywords:** *Melaleuca alternifolia*, Citespace, microbial control.

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