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Commentary

Essential Oils: Usage, Safety, and Efficacy during Pregnancy

Viviane Lúcia Barão Paixão [1, *]

[1] Centro Universitário de Tecnologia de Curitiba – UNIFATEC, Curitiba, Paraná, Brazil.

* Correspondence: aromaterapiasegura@gmail.com.

Abstract: Essential oils, while beneficial for various purposes, may pose risks to pregnant women and their fetuses, including hormonal imbalance, toxicity, and teratogenicity. Therefore, consultation with healthcare professionals is crucial before using these oils during pregnancy. Research is needed to determine which oils should be avoided and the safest methods of application. A systematic review and meta-analysis protocol published in 2022 aims to examine the effectiveness of aromatherapy, including essential oils, in preventing and treating various conditions. This study could provide valuable insights into the safe use of essential oils during pregnancy. Additionally, understanding the regulatory landscape and recognizing quality certifications is crucial for consumers to make informed decisions. The European Federation of Essential Oils (EFEO) and the International Fragrance Association (IFRA) have published guidance for characterizing essential oils. Despite the insights offered by clinical studies and professionals, there remains a gap in comprehensive research, particularly regarding specific oils and their effects on pregnancy-related conditions. This highlights the need for more rigorous scientific exploration.

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Dear Editor,

Essential oils are widely used for various purposes, such as aromatherapy, relaxation, pain relief, and skin care. However, not all essential oils are safe or beneficial for pregnant women and their fetuses. Some essential oils may have adverse effects on the maternal reproductive system, such as causing abortion, hormonal imbalance, toxicity, teratogenicity, or embryo-fetotoxicity. Therefore, it is important to consult with a health care professional before using any essential oils during pregnancy, especially during the first trimester, when the fetal development is most vulnerable. Moreover, some essential oils may interact with medications or supplements, or cause allergic reactions or sensitization in pregnant women. Thus, proper dilution, dosage, and application methods are essential to ensure the safety and efficacy of essential oils during pregnancy [1, 2].

A critical aspect of this discussion centers around the safety and efficacy of essential oils for pregnant women. While they offer benefits like stress relief and alleviation of pregnancy-related symptoms such as nausea and insomnia, the potential risks to both mother and fetus cannot be overlooked. Certain oils may stimulate contractions or have other adverse effects. Therefore, it is imperative that healthcare professionals are consulted prior to their use. The impact on fetal development remains a significant concern. Research in this area is essential to guide safe practices, helping to determine which oils should be avoided and the safest methods of application [3, 4].

A systematic review and meta-analysis protocol published in 2022 aims to examine the effectiveness of aromatherapy, which includes the therapeutic use of essential oils, in preventing and/or treating injury, disease, medical conditions, or preclinical conditions. This comprehensive study could provide valuable insights into the safe use of essential oils during pregnancy [3]. Additionally, a commentary critically examines the modern

paradigm of natural volatiles in 'medical aromatherapy', addressing chemophenetic challenges to authenticity or reproducibility, and elaborating on pharmacokinetic and pharmacodynamic processes in food, therapy, and disease prophylaxis. This research could help understand the potential risks and benefits of essential oils for pregnant women [4].

Providing detailed guidelines for use, including dilution rates and methods of application, is crucial. Moreover, the importance of quality and purity in essential oils, especially for pregnant women, cannot be overstated. Understanding the regulatory landscape and recognizing quality certifications can help consumers make informed decisions. A recent study used Fourier-transform infrared spectroscopy (ATR-FTIR) combined with chemometric techniques to verify essential oils' taxonomy and purity [5]. Another study discussed the use of micro-titre plate broth-dilution assays of whole essential oils to derive minimum inhibition concentration (MIC) values against pathogenic or model bacteria [3].

Understanding the regulatory landscape and recognizing quality certifications is crucial for consumers to make informed decisions. The European Federation of Essential Oils (EFEO) and the International Fragrance Association (IFRA) have published guidance for characterizing essential oils. In the European Union (EU), product categories operate under specific regulations to enhance product quality and maintain market homogeneity and consumer protection [6].

Clinical studies have offered insights, yet there remains a gap in comprehensive research, particularly regarding specific oils and their effects on pregnancy-related conditions. The insights from professionals such as aromatherapists and midwives, combined with traditional practices across cultures, enrich our understanding but also highlight the need for more rigorous scientific exploration. One area of research has highlighted the concerns regarding the use of certain essential oils during pregnancy. For example, studies have discussed the potential risks of essential oils causing abortion, reproductive hormone modulation, maternal toxicity, teratogenicity, and embryo-fetotoxicity. These concerns emphasize the need for caution and further research into the safety profiles of specific essential oils during pregnancy [2].

In conclusion, while essential oils present a natural avenue for managing various pregnancy-related challenges, their use must be judicious, well-informed, and ideally, supervised by healthcare professionals. Future research directions should aim at filling the current knowledge gaps, paving the way for safer and more effective use of essential oils during this critical phase of life.

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References

1. Bertone AC, Dekker RL. Aromatherapy in Obstetrics: A Critical Review of the Literature. Clin Obstet Gynecol. 2021 Sep;64(3):572-588.
2. Dosoky NS, Setzer WN. Maternal Reproductive Toxicity of Some Essential Oils and Their Constituents. Int J Mol Sci. 2021 Feb 27;22(5):2380. doi: 10.3390/ijms22052380. PMID: 33673548; PMCID: PMC7956842.
3. Sadgrove NJ, Padilla-González GF, Leuner O, Melnikovova I, Fernandez-Cusimamani E. Pharmacology of Natural Volatiles and Essential Oils in Food, Therapy, and Disease Prophylaxis. Front Pharmacol. 2021 Oct 21;12:740302. doi: 10.3389/fphar.2021.740302. PMID: 34744723; PMCID: PMC8566702.
4. Brennan SE, McDonald S, Murano M, McKenzie JE. Effectiveness of aromatherapy for prevention or treatment of disease, medical or preclinical conditions, and injury: protocol for a systematic review and meta-analysis. Syst Rev. 2022 Jul 26;11(1):148. doi: 10.1186/s13643-022-02015-1. PMID: 35883155; PMCID: PMC9317467.

5. Agatonovic-Kustrin S, Ristivojevic P, Gegechkori V, Litvinova TM, Morton DW. Essential Oil Quality and Purity Evaluation via FT-IR Spectroscopy and Pattern Recognition Techniques. Appl Sci. 2020;10(20):7294. https://doi.org/10.3390/app10207294
6. Barbieri C, Borsotto P. Essential Oils: Market and Legislation. In: El-Shemy HA, editor. Potential of Essential Oils. IntechOpen; 2018 Sep 26. DOI: 10.5772/intechopen.77725.