

Question submitted to RapidInfo4U

Essential oils have been used for decades for the treatment of minor ailments. Each particular essential oil has their specific properties from antiviral, antimicrobial, anti-fungicide, antibacterial and so on. Is there any evidence that essential oils ease respiratory symptoms or respiratory distress for patients with COVID -19 if used alongside or in conjunction with medical treatment?

Answer

A number of reviews have been conducted to examine the potential effects of essential oils on viral respiratory infections which are referenced below. A review in March 2020 found that almost no studies were available on the effect of essential oils on respiratory tract infections of viral origin [1]. Only one study examined the effect of essential oils on coronavirus in vitro (outside the living organism or person). No studies were identified that were conducted on humans with coronavirus. This review also emphasised that toxicity studies of essential oils were inadequate, mainly focusing on oral toxicity and the use of essential oils on their own rather than in combination. The authors stated that the products could not be recommended for human use without determining the safety profile.

A review in August 2020 on the antiviral properties of essential oils stated that 'existing information about these essential oils is very preliminary' [2]. Data was primarily generated from computer aided-docking and preliminary in vitro studies. The authors state that further well-designed in vitro and in vivo studies are needed to assess clinical efficacy and safe dosage [2]. A paper in November 2020 [3] identified potential mechanisms through which essential oils and their constituents may assist with COVID-19 symptoms. However, the authors also highlighted that research on the antiviral properties of essential oils are at the early stages.

A review of the effect of essential oils on respiratory infections in humans was published in December 2020, focusing on respiratory infections 'most likely' of viral origin [4]. The review

included 7 trials, six of which were on oral doses of essential oil combinations. This review did not find studies on the effect of inhaled essential oils for viral respiratory tract infection. The review found some evidence that some oral capsules may provide mild to moderate symptom relief for respiratory infections but none of these studies targeted respiratory infections caused by coronaviruses. Mild to moderate side effects were also noted.

Conclusion

Research on the antiviral properties of essential oils are at the early stages. Recent reviews have found no trials that evaluated the clinical efficacy of essential oils on respiratory symptoms caused by coronavirus in humans. Additionally, current studies fail to provide adequate information on the toxicity of essential oils and safe dose information.

Disclaimer

This document has not been peer-reviewed; it should not replace individual clinical judgement. The views expressed in this document are not a substitute for professional medical advice. The content of this document is correct as of 28/01/21.

Rapid Evidence Search & Summary (RESS)

Our team of multidisciplinary researchers and clinicians in conjunction with the University of Limerick Library and Information Services have developed a detailed protocol for conducting a Rapid Evidence Search & Summary (RESS) to answer questions submitted to RapidInfo4U. Our RESS protocol uses PICO or PEO methods to refine your question and follows a detailed search procedure capturing guidance documents from governments, institutions and professional bodies; searching clinical and COVID specific repositories; and identifying the most recent reviews and RCTs in the scientific literature using established databases.

References

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2. Asif M, Saleem M, Saadullah M, Yaseen, HS, & Al Zarzour R. (2020). COVID-19 and therapy with essential oils having antiviral, anti-inflammatory, and immunomodulatory properties. *Inflammopharmacology*, 28(5), p. 1153–1161.
3. Wani AR, Yadav K, Khursheed A, Rather MA. (2020). An updated and comprehensive review of the antiviral potential of essential oils and their chemical constituents with special focus on their mechanism of action against various influenza and coronaviruses. *Microbial Pathogenesis*, 104620.
4. Prall S, Bowles EJ, Bennett K, Cooke CG, Agnew T, Steel A, & Hausser T. (2020). Effects of essential oils on symptoms and course (duration and severity) of viral respiratory infections in humans: A rapid review. *Advances in integrative medicine*, 7(4), p. 218–221.