

# Essential oils can be beneficial for your health and mood, study finds

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New research from Monash University scientists has uncovered why certain essential oils can benefit mood.

The findings are published today in the journal *Neurochemistry International*.

Essential oils (EOs) are mixtures of volatile compounds extracted from plants. They are used in aromatherapy because they can be released into the air and inhaled at room temperature. Inhaled EOs are readily taken up into the [brain](#), which is distinct from bioactives in plant foods that are eaten.

However, despite the strong potential benefits for [human health](#) and especially for brain health, EO usage is not really optimized for type, or dose. This means that EOs are used in aromatherapy, without a good understanding of which ones are best for particular benefits. Until now, it wasn't clear which types or what dose would produce the optimal benefit.

"Aromatherapy under particular conditions is

reported to consistently enhance emotional health, including lowering anxiety and depression," said Professor Louise Bennett, the study's lead author from the Monash University School of Chemistry.

"However, achieving benefits requires understanding which types are best and what dose is required," she said.

"We believe the interaction of [essential oils](#) with the naturally high levels of ascorbate (e.g. Vitamin C) in the brain can produce either anti-oxidant or pro-oxidant effects. It is the anti-oxidant, but not the pro-oxidant effects, that lead to the mood benefit," said Professor Bennett.

For example, lavender EO has been consistently shown to produce a mood-improving effect, which researchers now believe is related to its strong anti-oxidant effect in the brain.

"For the first time, this work paves the way to select and classify EOs according to their mechanistic properties and to potentially develop inexpensive but effective therapies for the brain," Professor Bennett said.

The study by Professor Bennett and Ph.D. candidate Minoli Aponso has been able to identify which EOs will benefit mood improvement and alternately, which ones will produce anti-infective properties.

"We are working towards developing EOs for a range of applications including: treating depression and anxiety, infection, inflammation and potentially even cancer," Professor Bennett said.

The researchers are also working on understanding the dose required for beneficial effects.

"We can predict the volatile and potentially inhalable 'dose' of any EO and at any temperature, including climatic extremes," said Minoli.

"This research represents a significant breakthrough as it characterizes the effects of EOs in the brain so as to optimize their therapeutic potential."

**More information:** Minoli Aponso et al, Anxiolytic effects of essential oils may involve anti-oxidant regulation of the pro-oxidant effects of ascorbic acid in the brain, *Neurochemistry International* (2021).

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