

Can Cinnamon Oil Inhibit Candida?

What This Study Found

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Why this topic matters:

Infections caused by *Candida* species continue to be a concern in clinical settings, particularly when they enter the bloodstream. These types of infections can be difficult to manage and, in some cases, may not respond as expected to standard anti-fungal drugs and treatments.

Because of this, researchers have explored whether natural active constituents and substances might show anti-fungal and antimicrobial activity. Plant-derived oils, including cinnamon oil, have been of particular interest due to their known antimicrobial properties.

A study conducted by Neelam Goel, H. Rohilla, G. Singh, and P. Punia of the Department of Microbiology at Pt. B.D. Sharma University of Health Sciences, Rohtak, India, focused on evaluating whether cinnamon oil and olive oil could inhibit *Candida* species isolated from bloodstream infections.

What the study aimed to find out:

The researchers set out to determine whether either cinnamon oil or olive oil could reduce or stop the growth of *Candida* under controlled laboratory conditions.

This question is straightforward but important. Identifying substances that can inhibit fungal growth at the laboratory level is often an early step in understanding whether they may be worth studying further.

How the study was carried out:

The researchers worked with *Candida* isolates obtained from bloodstream infections. These samples reflect real clinical cases rather than theoretical models.

In total, blood samples from 1,376 patients suspected of septicemia were analyzed during the study period. From these samples, *Candida* species were isolated from confirmed cases of bloodstream infection and identified using standard microbiological procedures.

The study was conducted *in vitro*, meaning the testing took place in a laboratory environment in test tubes or petri dishes, rather than on a human subject.

To evaluate antifungal activity, the researchers used an agar disc diffusion method. Sterile filter paper discs were impregnated separately with cinnamon oil and olive oil and then placed onto culture media inoculated with the isolated *Candida* species. After incubation, the plates were examined for zones of inhibition, which indicate suppression of fungal growth. The size of these zones was measured to assess antifungal effectiveness.

The isolates were exposed to:

Cinnamon oil Olive oil

The researchers then observed how each oil affected fungal growth. The focus was on whether growth was inhibited, reduced, or unaffected.

What the researchers found:

The findings showed a clear difference between the two substances.

Cinnamon oil demonstrated antifungal activity against the *Candida* isolates. It was able to inhibit fungal growth under the conditions tested, as reflected by measurable zones of inhibition around the discs.

Olive oil, on the other hand, did not show significant antifungal effects.

This contrast is one of the most important outcomes of the study. It highlights that not all natural oils produce the same biological response when tested against fungal organisms.

Understanding the results:

While the study does not go into detailed chemical explanations, cinnamon oil is known to contain compounds such as cinnamaldehyde, eugenol, and cinnamic acid, which are associated with antimicrobial and anti-fungal activity.

These types of compounds can interfere with microorganisms under certain conditions. In this study, that effect was observed in how *Candida* responded to cinnamon oil exposure.

Important limitations to consider:

It is important to interpret these findings within the scope of the study.

The research was conducted entirely in a laboratory setting. No human subjects were involved. The study did not examine treatment methods, dosages, or safety in clinical use.

Because of this, the results show that cinnamon oil can inhibit fungal growth in vitro, but they do not establish how it would perform in real-world or clinical situations and topical dermal absorption.

Why this kind of research is still valuable:

Even with its limitations, this study provides useful early-stage insight.

Laboratory research like this helps identify which substances show measurable biological activity. These findings can then guide future research, including more advanced studies that explore safety, effectiveness, and potential application benefits.

In this case, cinnamon oil demonstrated enough antifungal activity to warrant further investigation.

What remains to be explored?

The study opens the door to additional questions, including:

How cinnamon oil compares to existing antifungal treatments
What concentrations are most effective
How it behaves in living systems
Safety recommendation dilution rate used for dermal absorption for skin topical treatment application
Whether it can be used safely in practical applications

These questions fall outside the scope of the study but represent important next steps.

Final thoughts:

The study by Goel and colleagues shows that cinnamon oil has antifungal activity against *Candida* species in a controlled laboratory setting, while olive oil does not demonstrate the same effect.

Although these findings are limited to in vitro conditions, they contribute to ongoing research into natural active constituents and substances with antimicrobial and anti-fungal properties.

From a broader perspective, studies like this help identify potential areas for further exploration, even if they do not provide immediate clinical answers.

References:

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