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Cinnamon oil can help fight superbugs, says a study

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cinnamon-oil-can-help-fight-superbugs-says-a-study

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A researcher at an Australian university has found that cinnamaldehyde, a component of cinnamon essential oil, can help fight superbugs by inhibiting the development of even those bacteria that resist the most potent antibiotics.

With most viral infections becoming resistant Sanjida Halim Topa, a doctor at Swinburne University of Technology found that cinnamaldehyde which is responsible for cinnamon’s unique taste, can be used to develop alternatives to antibiotics, to treat chronic biofilm-mediated superbugs.

"Though many previous studies have reported antimicrobial activity of cinnamon essential oil, it is not widely used in the pharmaceutical industry," Topa said.

"We aimed to search for the molecular activity of this oil, focusing on its major component, cinnamaldehyde. This is the compound that gives cinnamon its flavour."

There is an urgent need to develop alternatives to antibiotics to treat chronic biofilm-mediated infections, such as may occur with urinary catheters and artificial joints.

Rather than killing the bacteria, Topa looked to modify the behaviour of bacteria by disrupting bacterial communication to prevent biofilm formation.

"We hypothesised that using natural antimicrobials, such as essential oils, might interfere in biofilm formation. Thus, we focused on the impact of different concentrations of cinnamaldehyde in different biofilm development stages," she noted.

In the study, published in the journal Microbiology, Topa tested the effect of different concentrations of cinnamaldehyde on biofilms formed from the pathogenic Pseudomonas aeruginosa strain of bacteria.

The results showed a sub-lethal concentration of cinnamaldehyde controlled the dispersion of Pseudomonas aeruginosa and the development of biofilm.

"Humans have a long history of using natural products to treat infections, and there is a renewed focus on such antimicrobial compounds. Natural products may offer a promising solution to this problem," Topa said.

She is now investigating embedding cinnamaldehyde in nanofibres in wound dressings.

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