

Old antibiotic could form new depression treatment

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An antibiotic used mostly to treat acne has been found to improve the quality of life for people with major depression, in a world-first clinical trial conducted at Deakin University.

The trial added a daily dose of [minocycline](#) – a [broad-spectrum antibiotic](#) that has been prescribed since 1971 – to the usual treatment of 71 [people](#) experiencing [major depression](#).

The research team, led by Deakin's Centre for Innovation in Mental and Physical Health and Clinical Treatment (IMPACT), then compared the effects to a control group taking a placebo.

The results – recently published in the *Australian and New Zealand Journal of Psychiatry* – showed that those taking minocycline reported improved functioning and quality of life.

Lead researcher Dr Olivia Dean said the research took a unique "biological" approach to treating [depressive symptoms](#), which could inform future therapies.

"There is evidence to suggest that people with [major depressive disorder](#) have increased levels of inflammation in their body," Dr Dean said.

"We believe that minocycline is targeting more recently understood biological factors, including inflammation. Specifically, minocycline reduces brain inflammation in cell models, and thus we wanted to see if it was useful for people."

Dr Dean said there was a huge need for improved treatment options for people with major depression.

"We've found that using old medications for new purposes is very useful," she said. "Existing medications have known safety profiles and are readily accessible so they can be prescribed immediately."

In Australia, up to one in six people will have experienced depression over the past 12 months.

"Current antidepressants are useful, but many people find a gap between their experience before becoming unwell and their recovery following treatment," Dr Dean said. "It's clear that this shortfall in recovery is probably linked to a gap in biological targets by these conventional medications."

"We aim to fill this gap by providing new, biologically-based, treatments for depression."

Dr Dean has also been leading a clinical trial using the rind of the tropical fruit mangosteen for treatment of depressive symptoms.

She said the minocycline trial was small, but did have some significant results.

"We found that those on minocycline reported significant improvements in functioning, quality of life, global impression of their illness, and there was also a trend towards improvements in anxiety symptoms."

Dr Dean and her team are now in the process of applying for funding to expand the trial to a larger group.

"This was a preliminary trial and more research is needed to determine the optimal time minocycline should be taken for. It should be noted that the trial was conducted in addition to participants' usual [treatment](#) for depression. We're also considering a study of minocycline for people with anxiety disorders, given what we have found in this study," she said.

More information: Olivia M Dean et al. Adjunctive minocycline treatment for major depressive disorder: A proof of concept trial, *Australian & New Zealand Journal of Psychiatry* (2017). [DOI: 10.1177/0004867417709357](https://doi.org/10.1177/0004867417709357)

Provided by Deakin University

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