

Impact of meth use depends on your genes

December 19 2019



Crystal methamphetamine. Credit: public domain

New research led by La Trobe University has uncovered genetic clues

which could explain why some people have more severe side effects from long-term methamphetamine use than others.

The research, published in *Molecular Psychiatry* found that variations in the gene known as BDNF strongly determine the effects of methamphetamine in the brain. This could potentially explain why some users develop methamphetamine-induced psychosis, which is similar to schizophrenia.

La Trobe neuroscientist Professor Maarten van den Buuse said the research, conducted using animal models, may lead to ways of identifying individuals at particular risk of developing psychosis and could mean a [fundamental change](#) in the way the effects of drug-induced psychosis on the brain are treated.

"Drug-induced psychosis is generally treated with anti-psychotic medications, but these are not generally effective and are often associated with side effects," Professor van den Buuse said.

"If further research is able to provide more details on the role genetics plays in the effects of long-term methamphetamine use, we could begin looking at therapies that would make a real difference for people affected by it."

The research looked specifically into the impact of methamphetamine use in adolescence and [early adulthood](#), which is often when long-term users begin taking the drug, Professor van den Buuse said.

More information: David W. Greening et al. Chronic methamphetamine interacts with BDNF Val66Met to remodel psychosis pathways in the mesocorticolimbic proteome, *Molecular Psychiatry* (2019). [DOI: 10.1038/s41380-019-0617-8](https://doi.org/10.1038/s41380-019-0617-8)

Provided by La Trobe University

Citation: Impact of meth use depends on your genes (2019, December 19) retrieved 8 May 2024 from <https://medicalxpress.com/news/2019-12-impact-meth-genes.html>

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