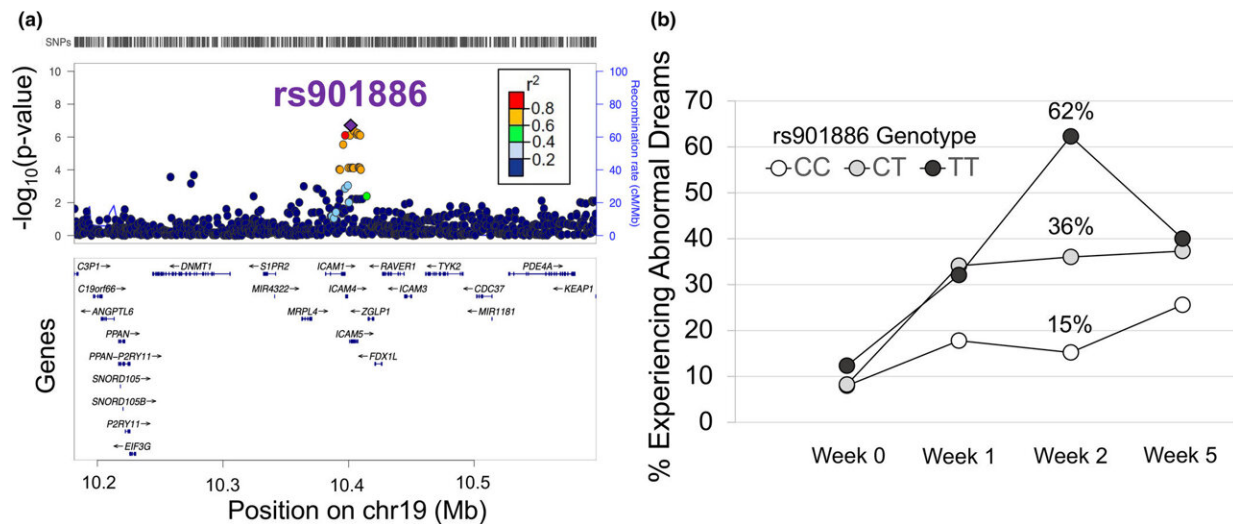


# Using genetics to help smokers quit: Study investigates abnormal dreams on varenicline

August 6 2024



The top variant in the GWAS of abnormal dreams in varenicline-treated cigarette smokers of European ancestry was rs90186, found in intron 2 of ICAM5. Credit: *Clinical Pharmacology & Therapeutics* (2024). DOI: 10.1002/cpt.3210

Researchers have identified variants in a gene that influences the likelihood of smokers developing abnormal dreams while taking a medication to help them quit.

The study is [published](#) in the journal *Clinical Pharmacology & Therapeutics*.

Varenicline is a medication that is frequently used to help people who are attempting to quit smoking. While [varenicline](#) is one of the most effective medications for this purpose, at least 10% of users experience abnormal dreams. These can be vivid and even violent in nature, disrupting sleep, adding to the stress of quitting, and making success less likely.

The research is by an international team led by Dr. Meghan Chenoweth from the University of Toronto and including Jo Knight who is Professor of Applied Data Science at Lancaster Medical School.

Professor Knight said, "Giving up smoking isn't easy. Genetics play a role in many parts of the pathway of addiction from smoking initiation to response to treatments. Understanding the influences of each step is an important part of making it easier for people to quit."

It is estimated that more than eight million people die prematurely from tobacco use each year. While just over half of adult smokers attempt to quit each year, only eight percent successfully stop smoking for six months or more.

Even with varenicline, the most effective smoking cessation aid, long-term quit rates are only about 25%.

The team scanned the entire genomes, or genetic make-up, of people receiving varenicline treatment to find [genes](#) associated with abnormal dreams. They identified a specific variant in a gene called ICAM5 that was associated with a higher risk of experiencing abnormal dreams when taking varenicline.

Not only was this variant associated with abnormal dreams, but it was also associated with a higher likelihood of quitting smoking. The ICAM5 gene makes a protein that helps [nerve cells](#), also known as neurons,

communicate with each other.

Dr. Chenoweth said, "If our findings are replicated by additional studies, we might be able to pre-emptively examine the genetics of people who are trying to quit [smoking](#) and use this information to select the treatment that will give them the best chance of success.

"For people with the variant in the ICAM5 gene, we could tell them that although they are more likely to experience abnormal dreams if they take varenicline, they may have a higher chance of quitting on this [treatment](#) compared to people without this [variant](#)."

**More information:** Meghan J. Chenoweth et al, Genetic Prediction of Smoking Cessation Medication Side Effects: A Genome-Wide Investigation of Abnormal Dreams on Varenicline, *Clinical Pharmacology & Therapeutics* (2024). [DOI: 10.1002/cpt.3210](https://doi.org/10.1002/cpt.3210)

Provided by Lancaster University

Citation: Using genetics to help smokers quit: Study investigates abnormal dreams on varenicline (2024, August 6) retrieved 7 August 2024 from <https://medicalxpress.com/news/2024-08-genetics-smokers-abnormal-varenicline.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--