

Pregnant women might not be receiving nicotine replacement therapy long enough to quit smoking

July 1 2024



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Maternal use of quit smoking medicine aligns with current clinical advice, but low completion rates of nicotine replacement therapy (NRT)

may mean that pregnant women need more support to successfully quit smoking, a review of prescription medicine data has revealed.

The UNSW-led population-wide study—[published](#) in *JAMA Network Open* June 28—aimed to find out how many [pregnant women](#) were using quit [smoking](#) medicines. Researchers looked at data for everyone giving birth over a five-year period in four countries: 1.7 million pregnancies in Australia (NSW only), New Zealand, Norway and Sweden.

"Smoking during pregnancy is one of the main causes of adverse pregnancy outcomes," says Dr. Annelies Robijn, study lead author and pharmacoepidemiologist at UNSW Sydney's National Drug and Alcohol Research Center (NDARC).

"Quitting smoking during pregnancy can reduce the risk of negative outcomes. Up-to-date data about how many women are using medicines to assist them to quit smoking is necessary to understand where we can make improvements.

"While there is some data on smoking cessation pharmacotherapy use during pregnancy, it's outdated. Our goal with this study was provide evidence of what's happening currently in practice and compare this to the clinical guidelines."

Medicines are the most effective way to quit smoking in general population

Quit smoking medicines like varenicline, NRT and [bupropion](#) are considered the most effective smoking cessation strategy in the general population. However, whether they are effective and safe for use in pregnancy is not well studied.

"While the clinical guidelines suggest counseling as the first approach for quitting smoking during pregnancy, evidence for psychosocial interventions like counseling to help quit smoking is not very encouraging," says Dr. Robijn.

"Pharmacotherapies or medicines, specifically NRT, are the second line of treatment for pregnancy, and we know that medicines are the most effective strategy available to help people who are not pregnant quit smoking."

Varenicline is a tablet designed specifically for smoking cessation, while bupropion is a type of antidepressant that can also be used for smoking cessation. NRT, on the other hand, involves patches, lozenges and gums.

"Patches, lozenges and gums are preferable to varenicline and bupropion as there are fewer concerns about the safety of NRT in pregnancy."

Uptake of nicotine replacement therapy during pregnancy low or incomplete

Prescription NRT was used by less than 2% of women in New Zealand. More specifically, among women who smoked during pregnancy, one in 10 used prescription NRT.

There was minimal use of prescription NRT in the other countries, where NRT is potentially more often purchased without a prescription.

Among the women who did use prescription NRT, the majority did not take NRT long enough for a successful quit attempt.

"The research findings highlight the need for robust information about safety and effectiveness regarding the use of NRT during pregnancy,"

says Dr. Robijn.

"Armed with better knowledge, pregnant women and clinicians can make informed choices around quitting smoking during pregnancy. Our team at NDARC is continuing to work with our collaborators in New Zealand, Norway and Sweden to providing this much-needed evidence."

Safety of varenicline and bupropion needs further evaluation

The study provides reassurance regarding the use of varenicline and bupropion.

"Due to limited evidence of their safety, varenicline and bupropion are not recommended for use during pregnancy," says Dr. Robijn.

"Our analysis found a reassuringly low number of women—less than a quarter of a percent—used varenicline or bupropion during pregnancy."

The low use of varenicline and bupropion aligns with current clinical guidelines and recommendations.

"Further research is urgently needed on the safety of [varenicline](#) and bupropion during [pregnancy](#), as they may present a useful alternative for pregnant women wanting to quit smoking."

More information: Annelies L. Robijn et al, Smoking Cessation Pharmacotherapy Use in Pregnancy, *JAMA Network Open* (2024). [DOI: 10.1001/jamanetworkopen.2024.19245](https://doi.org/10.1001/jamanetworkopen.2024.19245)

Provided by National Drug and Alcohol Research Centre (NDARC)

Citation: Pregnant women might not be receiving nicotine replacement therapy long enough to quit smoking (2024, July 1) retrieved 20 July 2024 from

<https://medicalxpress.com/news/2024-07-pregnant-women-nicotine-therapy.html>

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