

Natural quit smoking remedy more effective than nicotine replacement

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Credit: Vera Kratochvil/public domain

New Zealand researchers have found that a low cost, plant-based product marketed for smoking cessation in parts of Europe for the last 40 years, is better than nicotine replacement therapy at helping smokers quit.

Trial results show that the compound cytisine is more effective than [nicotine replacement therapy](#) (NRT) at helping smokers quit.

The trial is the first of its kind in the world and was carried out by the National Institute for Health Innovation at the University of Auckland. The study results were published recently in the top-rated international medical journal, the New England Medical Journal.

Cytisine is a natural, plant-based compound that has been used in smoking cessation for more than 40 years in Eastern Europe and is commercially produced in Bulgaria and Poland. The trial followed 1310 adult daily smokers who called the national Quitline in New Zealand.

Smokers were randomly assigned to receive either cytisine for 25 days or eight weeks of NRT. Participants in both groups also received telephone-based Quitline behavioural support.

Results indicated that after using cytisine for 25 days, a smoker was more likely to have quit smoking at six months, compared to using NRT. Compared to NRT, cytisine users experienced a slight increase in side effects; the most common of which were nausea, vomiting and sleep disturbances.

"Placebo-controlled trials showed that cytisine almost doubles the chances of still being smoke-free at six months," says study senior author, Dr Natalie Walker, who is the Heart Foundation Douglas Senior Research Fellow (Prevention) at the University of Auckland's National Institute for Health Innovation. "We wanted to see how effective cytisine was compared to NRT at helping smokers quit."

In New Zealand and many other Western countries NRT is the most common medication used to support people to quit smoking.

Cytisine is an alkaloid which naturally occurs in the Golden Rain (Laburnum anagyroides) and other members of the Fabaceae plant family.

"To the brain cytisine looks a little like nicotine and so it works to alleviate any urges to smoke and reduces the severity of nicotine withdrawal symptoms. Plus, if you do smoke whilst using cytisine it will be less satisfying - making quitting easier", says Dr Walker.

Cytisine is a similar type of drug to varenicline (the most effective smoking cessation treatment available, marketed by Pfizer), but is substantially cheaper (cytisine: US\$20-\$30 for 25-days, NRT: US\$112-\$685 for 8-10 weeks, varenicline: US\$474-501 for 12 weeks).

"There is a big opportunity for low and middle income countries to access a low priced quit remedy," says Dr Walker. "It's great for countries that cannot afford more expensive smoking cessation medicines."

Cytisine is licensed for use as an 'over the counter' medication, on prescription or via the internet in a number of Central and Eastern European countries, but it is not yet available in New Zealand.

"Internationally, very few researchers are undertaking research on the use of cytisine for [smoking cessation](#)," says Associate Professor Chris Bullen, Director of the National Institute for Health Innovation.

"Researchers at the University of Auckland are leading the way. For example, other researchers in the Department of Pharmacology and at the School of Pharmacy are looking at how cytisine is absorbed and metabolised by the body," he says.

Provided by University of Auckland

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