

Combination of varenicline and nicotine lozenges found to increase smoking abstinence

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Smokers seeking to conquer their addiction may have a new treatment option following the results from a clinical trial led by Monash

University, which found a combination of varenicline and nicotine lozenges significantly improved smoking abstinence when compared with varenicline alone. The work is [published](#) in the journal *JAMA Network Open*.

Both [varenicline](#) and nicotine lozenges (a form of [nicotine replacement therapy](#)) are medications commonly used for smoking cessation. Varenicline is the most effective single therapy currently available for smoking cessation.

The trial, titled "VANISH" (Varenicline And Nicotine replacement therapy for Smokers admitted to Hospitals), included 320 adult daily [smokers](#) across five Australian [public hospitals](#). It found that participants treated with both varenicline and nicotine lozenges had 84% greater odds (chance) to abstain from smoking when self-reporting their progress at a 12-month follow up, compared with those taking varenicline alone.

The multi-institutional study was led by Monash's Center for Medicine Use and Safety (CMUS) within the Monash Institute of Pharmaceutical Sciences in collaboration with other leading research institutes, including Monash University's School of Public Health and Preventive Medicine, Flinders University and five major Australian tertiary care public hospitals, coordinated by Barwon Health.

As far as the authors are aware, this is the first reported placebo-controlled, randomized clinical trial comparing the efficacy and safety of varenicline alone with the combination of varenicline and nicotine lozenges in hospitalized heavy smokers.

Associate Professor Johnson George, lead author of the study and smoking cessation expert from CMUS, said the fact that participants self-reported smoking abstinence at both the six and 12 months trial follow-ups, combined with the validated safety of the combination treatment,

means smokers wishing to quit now have an additional pharmacological treatment option in the form of varenicline and nicotine lozenges.

"The COVID-19 pandemic limited our ability to measure biochemically validated abstinence; however, based on self-reported abstinence, the [combination therapy](#) was clearly the more effective option when compared with varenicline alone, with no compromise on safety," said Associate Professor George.

"As such, in the context of heavy smokers who continue to experience withdrawal symptoms when taking varenicline alone, based on our findings it is certainly worth considering introducing nicotine lozenges to their treatment regimen."

Smoking is the leading cause of preventable disease and death in Australia. While the number of people smoking tobacco cigarettes has dramatically dropped over recent decades, concurrently a new generation of nicotine addiction has escalated due to the introduction of e-cigarettes and vaping.

"Vaping is highly addictive and has become extremely prevalent, particularly among teenagers. However, no matter how old you are there is no place for vaping as an evidence-based smoking cessation strategy in the management of nicotine dependence," said Associate Professor George.

"Taking this into account, the more alternative options we can provide smokers that do not involve vaping, the better."

The researchers targeted hospitalized [heavy smokers](#) due to how much they would benefit greatly from smoking cessation, also leading to greater benefits to the community and health care systems.

"Ideally the next step would be to conduct large clinical trials to measure biochemically validated abstinence of the combination therapy, including in people with vaping addiction, and also to look at a wider range of settings," Associate Professor George concluded.

The five hospital partners include four Victorian hospitals—Eastern Health, Peninsula Health, Barwon Health, Monash Health and Queen Elizabeth Hospital (Adelaide).

More information: Gregory R. Weeks et al, Varenicline and Nicotine Replacement Therapy for Smokers Admitted to Hospitals, *JAMA Network Open* (2024). [DOI: 10.1001/jamanetworkopen.2024.18120](https://doi.org/10.1001/jamanetworkopen.2024.18120)

Provided by Monash University

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