Studies: E-cigarettes won't help smokers quit, but they may become addicted to vaping
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E-cigarettes are now the most popular product used for smoking cessation in the United States, ahead of all U.S. Food and Drug Administration (FDA)-approved cessation aids combined, from nicotine patches and gum to prescription medications. However, two recently published analyses of a large nationally representative longitudinal study report that e-cigarettes are not effective in helping adults to quit smoking.

The analyses were led by University of California San Diego School of Medicine researchers using data from the Population Assessment of Tobacco and Health (PATH) Study, a longitudinal study of tobacco use and its effect on the health of people in the United States. The PATH study, undertaken by the National Institute of Drug Abuse (NIDA) and the FDA's Center for Tobacco Products under contract to Westat, enrolled a nationally representative sample of 45,971 adults and youth between September 2013 and December 2014 and re-interviews them annually.

In an analysis, published online September 2, 2020 in the journal *PLOS ONE*, the researchers looked at 2,770 daily smokers who reported trying to quit smoking during the first follow-up year. One quarter used e-cigarettes to help with their cessation attempt. At the second follow-up one year later, 9.6 percent of e-cigarette users had been abstinent from smoking over the previous 12 months. But there was no evidence that cessation rates differed from closely matched smokers who did not use e-cigarettes.

"Among this representative sample of U.S. smokers trying to quit, we found no evidence that e-cigarettes were helpful in the quit attempt," said John P. Pierce, Ph.D., Professor Emeritus of Cancer Prevention at UC San Diego Moores Cancer Center, and the study's first author. "This lack of effectiveness was also apparent in the sub-sample who used e-cigarettes on a daily basis for this quit attempt."

The second analysis, published online on July 27, 2020 in the *American Journal of Epidemiology*, considered 2,535 daily and non-daily smokers from the PATH study's second year survey, who reported making a quit attempt during the next follow-up year. Seventeen percent of these used an e-cigarette to help with the quit attempt. At the subsequent follow up survey (PATH study year four), 13 percent reported not smoking for at least 12 months—a somewhat higher rate than the in first analysis, attributed to the inclusion of non-daily smokers who are known to have higher quit rates.

Again, study authors said there was no evidence that cessation rates differed from closely matched smokers who did not use e-cigarettes. However, in this analysis, it was clear that participants who used e-cigarettes to quit smoking were less likely to be nicotine-free at follow-up. This was largely because
many of those who did quit smoking cigarettes were still using e-cigarettes, which also contain nicotine.

"In these analyses, we carefully matched each smoker who used e-cigarettes as a cessation aid with up to two similar smokers who tried to quit without using e-cigarettes," said Karen Messer, Ph.D., professor of family medicine and public health, director of biostatistics at UC San Diego Moores Cancer Center and senior author on both papers. "Our results suggest that these smokers would have been just as successful in quitting smoking without the use of e-cigarettes. However, without the use of e-cigarettes they would have been more successful in breaking their nicotine dependence."

**More information:** PLOS ONE (2020). journals.plos.org/plosone/article ... journal.pone.0237938

American Journal of Epidemiology (2020). academic.oup.com/aje/advance-article ... /aje/kwaa161/5876619

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