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Teens using e-cigarettes may be more likely to start smoking tobacco

New NIH-funded study shows possible link between e-cigarettes and initiation of tobacco use

Students who have used electronic cigarettes by the time they start ninth grade are more likely than others to start smoking traditional cigarettes and other combustible tobacco products within the next year, according to a new study funded by the National Institutes of Health. E-cigarettes deliver nicotine to the lungs by heating a liquid solution that contains nicotine and other chemicals to produce an aerosol that the user inhales, a process often called “vaping.”

The study compared tobacco use initiation among 222 students who had used e-cigarettes, but not combustible tobacco products, and 2,308 who had neither used e-cigarettes or combustible tobacco products when initially surveyed at the start of ninth grade. During the first six months after being surveyed, 30.7 percent of those who had used e-cigarettes started using combustible tobacco products, such as cigarettes, cigars, and hookahs, compared to only 8.1 percent of those who had never used e-cigarettes. Over the following six months leading into the start of 10th grade, 25.2 percent of e-cigarette users had used combustible tobacco products, compared to just 9.3 percent of nonusers.



“While teen tobacco use has fallen in recent years, this study confirms that we should continue to vigilantly watch teen smoking patterns,” said NIDA Director Nora D. Volkow, M.D. “Parents and teens should recognize that although e-cigarettes might not have the same carcinogenic effects of regular cigarettes, they do carry a risk of addiction.”

Video: Dr. Nora Volkow discusses study findings

Data were collected as part of a longitudinal survey of substance use and mental health among high school students in Los Angeles. The study surveyed students from 10 public high schools selected because of their diverse demographic characteristics and proximity. The analysis focused on 2,530 students who initially reported never using combustible tobacco and underwent follow-up assessments after six and 12 months. Students were asked about lifetime and past six-month use of e-cigarettes, combustible cigarettes, full-size cigars, little cigars/cigarillos, hookah water pipes, and blunts.

“Recreational e-cigarette use is becoming increasingly popular among teens who have never smoked tobacco. Adolescents who enjoy the experience of inhaling nicotine via e-cigarettes could be more apt to experiment with other nicotine products, including smokeable tobacco,” said Adam M. Leventhal, Ph.D., associate professor and director of the Health, Emotion, & Addiction Laboratory at the Keck School of Medicine, University of Southern California, Los Angeles, and first author on the study. “While we cannot conclude that e-cigarette use directly

leads to smoking, this research raises concerns that recent increases in youth e-cigarette use could ultimately perpetuate the epidemic of smoking-related illness."

The authors recommend further studies to determine whether the observed link between e-cigarettes and smoking initiation is causal. In addition, the study focused solely on smoking initiation, and further research is needed to assess whether e-cigarette use is associated with an increased risk of ongoing, frequent combustible tobacco use.

The paper, published by Leventhal et al. in the *Journal of the American Medical Association*, can be found at <http://jama.jamanetwork.com/issue.aspx>.

To learn more about e-cigarettes, go to: <http://www.drugabuse.gov/about-nida/noras-blog/2015/02/knowns-unknowns-about-e-cigarettes-teens> and <http://www.drugabuse.gov/related-topics/trends-statistics/infographics/e-cigarettes-facts> and <http://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-cigarettes>

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