

New study links electronic cigarettes and wheezing in adults

February 28 2019



People who vaped were nearly twice as likely to experience wheezing compared to people who didn't use tobacco products, according to a study published in Tobacco Control. Wheezing is often a precursor to other serious health conditions such as emphysema, lung cancer and sleep apnea. The study is concerning because vaping has taken off among youth who use vaping devices like Juuls with nicotine pods in hundreds of different flavors, such as fruit, candy and dessert. Credit: University of Rochester Medical Center

Electronic cigarette use ("vaping") is associated with wheezing in adults, according to a new study published in the journal *Tobacco Control*.

People who vaped were nearly twice as likely to experience wheezing compared to people who didn't regularly use tobacco products.

Wheezing, which is caused by narrowed or abnormal airways, is often a precursor to other serious health conditions such as emphysema, gastro-esophageal reflux disease, heart failure, lung cancer and sleep apnea.

Study author Deborah J. Ossip, Ph.D. says the findings are consistent with past research that shows emissions from electronic cigarette aerosols and flavorings damage lung cells by generating harmful free radicals and inflammation in [lung tissue](#).

"The take-home message is that electronic cigarettes are not safe when it comes to lung health," says Ossip, a tobacco research expert and professor in the Department of Public Health Sciences at the University of Rochester Medical Center (URMC). "The changes we're seeing with vaping, both in [laboratory experiments](#) and studies of people who vape, are consistent with early signs of lung damage, which is very worrisome."

Electronic cigarettes are extremely popular in the U.S. Data from the National Center for Health Statistics indicates that close to 13 percent of U.S. adults have tried electronic cigarettes and nearly 4 percent currently use them. Although electronic cigarettes are marketed as a less harmful alternative to cigarette smoking, many concerns remain related to the long-term health consequences of vaping.

Researchers from URMC analyzed data from more than 28,000 adults in the U.S. who took part in the Population Assessment of Tobacco and Health (PATH) study. After adjusting for age, gender, race/ethnicity, body mass index, secondhand smoke exposure and other factors, adult vapers were 1.7 times more likely to experience wheezing and related

respiratory symptoms (such as difficulty breathing) compared to non-users.

Lead study author Dongmei Li, Ph.D., associate professor in the Department of Clinical and Translational Research at UPMC, acknowledges that there are limitations to the study. PATH study data are self-reported, so it's possible that information collected from participants is subject to recall bias. The analysis cannot prove that vaping causes wheezing; it only identifies an association between the two. Finally, PATH data does not include information on some important factors that could influence the results, such as participants' diet and physical activity levels.

Despite these limitations, senior study author Irfan Rahman, Ph.D., professor of Environmental Medicine at UPMC, says the research clearly identifies another health repercussion from vaping. This is particularly concerning given new data released from the Center for Disease Control and Prevention that shows a dramatic uptick in youth vaping. According to the report, in 2018 vaping increased by 78 percent among ninth to 12th graders and 48 percent in sixth to eighth graders.

With the emergence of small, sleek [vaping](#) devices like Juuls that are used with nicotine pods in hundreds of different flavors (popular flavoring chemicals include fruit, candy and dessert), Rahman fears the number of young people who vape will continue to grow and that serious [health](#) consequences, including allergies, loss of immunity, and subsequent infections will follow.

More information: Dongmei Li et al. Association of smoking and electronic cigarette use with wheezing and related respiratory symptoms in adults: cross-sectional results from the Population Assessment of Tobacco and Health (PATH) study, wave 2, *Tobacco Control* (2019). [DOI: 10.1136/tobaccocontrol-2018-054694](https://doi.org/10.1136/tobaccocontrol-2018-054694)

Provided by University of Rochester Medical Center

Citation: New study links electronic cigarettes and wheezing in adults (2019, February 28)
retrieved 27 April 2024 from

<https://medicalxpress.com/news/2019-02-links-electronic-cigarettes-wheezing-adults.html>

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