Vaping Tied to Rise in Stroke, Heart Attack Risk

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Angina (Chest Pain)  Coronary Artery Disease  Heart Attack  Stroke

WEDNESDAY, Jan. 30, 2019 (HealthDay News) -- People who vape might increase their odds of suffering a stroke, heart attack or heart disease, a new study suggests.

Federal survey data revealed that compared with nonusers, people who use e-cigarettes have a:

- 71 percent higher risk of stroke.
- 59 percent higher risk of heart attack or angina.
- 40 percent higher risk of heart disease.

E-cigarette users also have a doubled rate of smoking traditional tobacco cigarettes, the researchers noted.

"Even as we consider electronic cigarettes as a means of aiding in smoking cessation, we need to be careful about the impact this may have on the health of folks," said lead researcher Dr. Paul Ndunda. He is an assistant professor with the University of Kansas School of Medicine, in Wichita.

The increased health risks linked to e-cigarette use held strong even after Ndunda and his colleagues accounted for other potential risk factors, such as age, excess weight, diabetes and smoking.
Dr. Larry Goldstein is chairman of neurology and co-director of the Kentucky Neuroscience Institute in Lexington. He said, "This is the first real data that we're seeing associating e-cigarette use with hard cardiovascular events."

Goldstein added that "it's quite a concern, especially since nationwide now we've seen a leveling off in and, in many instances, an increase in the risk of stroke-related mortality in the country. It's hard to know what contribution this has to that, but it doesn't appear to be safer, or safe right now, from the data that's available."

About 3 percent of adults and 11 percent of high school students reported using e-cigarettes within the previous month in 2016, the study authors noted. In addition, vaping among young people increased by 900 percent between 2011 and 2015.

For the new study, researchers gathered data on over 400,000 participants in the 2016 Behavioral Risk Factor Surveillance System, a survey regularly conducted by the U.S. Centers for Disease Control and Prevention.

The researchers included nearly 66,800 people who said they had ever regularly used e-cigarettes, comparing them with about 344,000 people who'd never tried the devices.

Ndunda pointed out that the nicotine in e-cigarettes probably isn’t directly causing the strokes or heart health problems, since previous studies have not linked the addictive substance to plaque formation in blood vessels.

"But there are other chemicals found in electronic cigarettes that could increase inflammation of the lining of the blood vessels. That could lead to clot formation, clogging the artery and causing a stroke," Ndunda said.

"The vapor is not innocuous," he concluded.

However, because this is survey data, it cannot draw a direct cause-and-effect relationship between vaping and stroke or heart attack, Ndunda added.

"This study has some limitations that do not allow us to make very firm conclusions and be able to change policy around e-cigarettes. I would look at this as a call for larger and longer studies into this issue," Ndunda said.

Goldstein, a spokesman for the American Stroke Association, agreed.

"In studies of this type, it's a common problem with all of them, is that the adjustment for potential confounders is limited," Goldstein said. "They adjust it for age, sex, smoking status, diabetes and body mass index, but there are obviously other factors that can increase the risk of cardiovascular disease that weren't measured."
Gregory Conley is president of the American Vaping Association, a nonprofit that advocates for sensible regulation of vaping products. He took issue with the new findings.

"Nearly all regular adult users of vaping products are current smokers or ex-smokers," Conley said. "It is not exactly breaking news that [tobacco] smokers are at a far higher risk of suffering serious medical conditions, and that it takes years for some risks to subside once a smoker has quit."

The study findings were to be presented Feb. 6 at the American Stroke Association's annual meeting in Honolulu. Such research is considered preliminary until published in a peer-reviewed journal.

More information


SOURCES: Paul Ndunda, M.D., assistant professor, University of Kansas School of Medicine, Wichita, Kansas; Larry Goldstein, M.D., chairman, neurology, and co-director, Kentucky Neuroscience Institute, Lexington, Ky.; Gregory Conley, president, American Vaping Association; Feb 6, 2019, presentation, American Stroke Association annual meeting, Honolulu

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