Vaping and smoking together increases lung cancer risk fourfold

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Odds Ratios (OR) of lung cancer in chronic smokers who vaped versus chronic smokers who did not vape by gender, histologic cell type (SCC: Squamous Cell Carcinoma, AC: Adenocarcinoma) and pack-years (PY) of cigarette smoking. ORs and 95% confidence intervals are adjusted for matched variables: age, gender and race; and comorbid conditions: Chronic Obstructive Pulmonary Disease (COPD) and Coronary Artery Disease (CAD). Credit: Journal of Oncology Research and Therapy (2024). DOI: 10.29011/2574-710X.10229
People who both vape and smoke are four times more likely to develop lung cancer than people who just smoke, according to new study published by The Ohio State University Comprehensive Cancer Center—Arthur G. James Cancer Hospital and Richard J. Solove Research Institute (OSUCCC—James) and College of Public Health. These findings were consistent across gender and race.

This is the first study to provide evidence that smoking in combination with vaping increases the risk for cancer compared to smoking alone. Researchers reported their findings in the *Journal of Oncology Research and Therapy*.

Lung cancer is the leading cause of cancer-related deaths worldwide, resulting in 1.8 million deaths in 2020 alone. The American Thoracic Society has found that about 87% of these cancers can be directly linked to persistent tobacco smoking.

For this case-control study, researchers analyzed cigarette smoking and use of electronic cigarettes (also known as vaping) in 4,975 people with lung cancer compared to a control group of 27,294 people without cancer. All study subjects were from the same general geographic location (treated in Columbus, Ohio) and had the same distribution of age, gender and race.

Researchers found that vaping combined with cigarette smoking was eight times more common in people with lung cancer compared to the control group of people without lung cancer. In addition, the data showed that the risk of developing lung cancer was four times higher among people who combined vaping and smoking compared to those who only smoked.

"Our findings provide the first evidence that smoking in combination with vaping significantly increases the risk of lung cancer compared to
smoking alone. Most people know that tobacco smoke contains cancer-causing chemicals but, overall, there is less knowledge about the chemicals that are inhaled through vape vapors," said Randall Harris, MD, Ph.D., corresponding author of the study and professor of epidemiology in the College of Public Health.

Researchers say it is critical that regulators consider these additional health exposures in their regulation of the tobacco product industry to further protect public health, particularly when it comes to inhaled flavorings and nicotine dose concentrations.

"From a public health perspective, we have always been concerned about dual-use of both traditional and e-cig products. This study presents clear evidence showing that vaping in addition to smoking can increase your risk for lung cancer. This is especially concerning given the rate of youth and young adults using these products," said lead author Marisa Bittoni, Ph.D., a researcher in the medical oncology division in the College of Medicine.

"More research about the health effects of alternative tobacco products is critically needed to put science behind the regulation of the tobacco industry."


Provided by Ohio State University Medical Center

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