

Cancer survivors who quit smoking found to have 36% lower cardiovascular risk than those who continue

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Cancer patients who continue smoking after their diagnosis have a nearly doubled risk of heart attack, stroke or death due to cardiovascular disease compared with non-smokers, according to research published on

World No Tobacco Day in *European Heart Journal*.

According to the World Health Organization, there were more than 50.5 million cancer survivors worldwide in 2020.

Study author Dr. Hyeok-Hee Lee of Yonsei University College of Medicine, Seoul, Korea said, "A [cancer diagnosis](#) is an extremely stressful life event, which often leads to significant changes in a person's lifestyle. Smoking, in particular, is a health-related behavior that can be heavily influenced by mental distress. However, little was known about the relationship between changes in smoking habits after a cancer diagnosis and the risk of [cardiovascular disease](#)—the leading cause of non-cancer-related death among cancer survivors."

The researchers analyzed data from a Korean national health claims database. The study included 309,095 cancer survivors who had never had a myocardial infarction or stroke. The median age was 59 years and 52% were women.

Participants had health examinations both before and after their cancer diagnosis during which smoking status was assessed using a self-reported questionnaire. Patients were divided into four groups based on their change in smoking habits after receiving a cancer diagnosis: (1) sustained non-smokers, (2) quitters, (3) initiators/relapsers and (4) continuing smokers.

Of the 309,095 cancer survivors, 250,102 (80.9%) sustained non-smoking, 31,121 (10.1%) quit smoking, 4,777 (1.5%) initiated or relapsed to smoking, and 23,095 (7.5%) continued smoking after being diagnosed with cancer. The proportion of initiators/relapsers and continuing smokers combined was highest in survivors of urinary tract cancer and lowest among breast cancer survivors.

The researchers assessed the risk of cardiovascular events (myocardial infarction, stroke or death due to cardiovascular disease) for each group during a median of 5.5 years. The analyses were adjusted for characteristics that could influence the association between smoking and cardiovascular events including age, sex, household income, residential area, alcohol, physical activity, body mass index, [blood pressure](#), [blood glucose](#), cholesterol level, number of other medical conditions, medications, cancer type and anti-cancer treatments.

Compared with sustained non-smoking, the risk of cardiovascular events during follow up was 86%, 51% and 20% higher among continuing smokers, initiators/relapsers and quitters, respectively. The findings were consistent for women and men, and when the risk of [myocardial infarction](#), stroke and cardiovascular death were analyzed separately.

The benefits of quitting were even higher when compared with continuing to smoke. Of those who were smokers before being diagnosed with cancer, 57% quit after finding out they had cancer. Smoking cessation was associated with a 36% reduction in the risk of cardiovascular events compared with continued smoking.

Approximately one in five patients who continued smoking reduced their daily tobacco consumption by at least 50% after receiving their cancer diagnosis. Patients who continued smoking, but smoked less, after learning they had cancer had the same risk of cardiovascular events as those who continued smoking with no reduction.

"Some individuals may find solace in successfully reducing their smoking without completely quitting," said Dr. Lee. "However, our results imply that smoking less should not be the ultimate goal and that smokers should quit altogether to gain the benefits of kicking the habit entirely."

Of those who were non-smokers before their cancer diagnosis, 2% started or resumed smoking after finding out they had cancer. Smoking initiation or relapse was associated with a 51% elevation in the risk of cardiovascular disease compared with sustained non-smoking.

Dr. Lee said, "Although our study does not provide conclusive evidence for the underlying causes of smoking initiation or relapse, some cancer survivors may lose motivation to have a [healthy lifestyle](#) after recovering, while others could turn to cigarettes as a way to cope with the stress of their diagnosis. These are only speculations, and further research is needed to determine factors associated with smoking initiation or relapse in cancer survivors."

He concluded, "Our results reinforce the existing evidence on the well-known cardiovascular risks of tobacco smoking and emphasize the benefits of smoking cessation, even for cancer survivors. Additionally, the finding that over 40% of patients who had been smoking before their cancer diagnosis continued to smoke afterwards highlights the need for more robust efforts to promote [smoking](#) cessation among [cancer survivors](#), who already have an elevated risk of cardiovascular disease compared to their peers."

More information: Hyeon Chang Kim et al, Smoking Habit Change After Cancer Diagnosis: Effect on Cardiovascular Risk, *European Heart Journal* (2023). [DOI: 10.1093/eurheartj/ehad199](https://doi.org/10.1093/eurheartj/ehad199)

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