

Quitting smoking at any age reduces the risk of death after 70

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Smoking harms nearly every organ in the body and causes many diseases. Credit: CDC/Debora Cartagena

Tobacco use continues to be a major cause of cancer and premature death. Most studies of cigarette smoking and mortality have focused on middle-aged populations, with fewer studies examining the impact of tobacco cessation on disease and mortality risk among the elderly. A new study published in the *American Journal of Preventive Medicine*, found

that people aged 70 or older currently smoking were more than three times more likely to die than never-smokers, while former smokers were less likely to die the sooner they quit.

In the U.S., the number of individuals aged 70 years and older is expected to increase from 29.2 million (9.3% of the population) in 2012, to 63.6 million individuals (15.9%) in 2050. "U.S. adults aged 70 and older have a very high lifetime prevalence of cigarette smoking, so it's important to examine the risks associated with smoking and the benefits of quitting at older ages among these individuals," explained lead investigator Sarah H. Nash, PhD, who conducted the research as part of her postdoctoral training at the National Cancer Institute, NIH, Bethesda, MD.

Investigators reviewed data for more than 160,000 individuals aged 70 and over who participated in the NIH-AARP Diet and Health Study. They completed a questionnaire in 2004-2005 detailing their smoking use, and reported deaths were tracked until the end of 2011. Analyses conducted between 2014 and 2016 correlated age at death with self-reported age at [smoking initiation](#) and cessation and amount smoked after 70 years of age.

The 2004-2005 questionnaire assessed smoking intensity in cigarettes per day and smoking history through nine age periods. For this study, participants still smoking in their 70s were identified as current [smokers](#), and former smokers were classified by the decade of life when quitting. For the follow-up, the National Death Index Plus was used to determine deaths, while ICD-9 and ICD-10 codes for smoking-related mortality were used to further identify outcomes. These included lung cancer; other smoking-related cancers, including bladder, colorectal, esophageal, head and neck, kidney and renal pelvis, liver, pancreatic and stomach cancers, and acute myeloid leukemia; heart disease; stroke; diabetes; and respiratory disease (e.g., pneumonia, influenza, chronic obstructive

pulmonary disease, and allied conditions).

Data were adjusted for age, sex, level of education, and alcohol use. Since NIH-AARP participants are predominantly white, adjusting for race did not affect the results and was not included in the final models.

At the beginning of the study (2004-2005), the median age of participants was 75 years. Almost 56% were former smokers and 6% were current smokers. Males were less likely (31% vs 48% of females) to be never-smokers. Males smoked more than females (18.2 pack years vs 11.6 pack years), and males were more likely to have started smoking before 15 years (19% vs 9.5% of [female smokers](#)).

During an average follow-up of 6.4 years, almost 16% of the participants died. While 12.1% of the never smokers died, 16.2%, 19.7%, 23.9%, and 27.9% of former smokers who quit between ages 30-39, 40-49, 50-59, and 60-69 years died, respectively. Current smokers fared the worst, with 33.1% dying. Mortality rates for women were lower than men at each level of smoking use.

"These data show that age at smoking initiation and cessation, both key components of smoking duration, are important predictors of mortality in U.S. adults aged 70 years and older," commented Dr. Nash. "In the NIH-AARP study population, younger age at initiation was associated with increased risk of mortality, highlighting the importance of youth and early-adult smoking on lifetime [mortality risk](#), even among people who live to age 70 years. In addition, former smokers were at substantially reduced risk of mortality after age 70 years relative to current smokers, even those who quit in their 60s. These findings show that [smoking](#) cessation should be emphasized to all smokers, regardless of age."

More information: Cigarette Smoking and Mortality in Adults Aged

70 Years and Older: Results From the NIH-AARP Cohort, *American Journal of Preventive Medicine*, DOI: [10.1016/j.amepre.2016.09.036](https://doi.org/10.1016/j.amepre.2016.09.036)

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