

# UK study involving over 80,000 adults finds smokers tend to eat less and have a less healthy diet than non-smokers

May 13 2024

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New research presented at this year's [European Congress on Obesity](#) (ECO) in Venice, Italy (12–15 May), suggests that smokers tend to eat less and have less healthy eating habits than non-smokers, which could help explain why smokers often gain weight when they quit.

The study, involving over 80,000 UK adults, underscores the importance of providing nutritional and weight management support to smokers, particularly those who are attempting to quit smoking.

People who smoke typically have a lower body weight and body mass index (BMI) than their non-smoking counterparts, while stopping smoking is associated with weight gain. Evidence also indicates that smokers may use smoking to control their appetite and weight.

Pre-clinical research suggests that nicotine in [tobacco smoking](#) may suppress appetite and influence subsequent eating behavior. However, the relationship between smoking and eating behavior in humans is unclear.

To find out more, researchers from Loughborough University and the University of Leicester examined associations between smoking and eating and dietary behaviors in a large, population-based cohort of UK adults.

The cross-sectional study analyzed data for 83,000 adults (aged 18 or older) collected during health assessment programs between 2004 and 2022 by a UK-based health care charity (Nuffield Health).

Participants were divided into two groups based on their status as a smoker (6,454 adults; average age 40 years, BMI 26.0 kg<sup>2</sup>, 37% female) or non-smoker (77,327 adults; average age 44, BMI 25.7 kg<sup>2</sup>, 38%

female).

All participants completed questionnaires asking about their age, sex, socioeconomic status, and smoking status, as well as their usual eating and dietary behaviors. BMI was also measured during the health assessments.

After adjusting for age, sex, and socioeconomic status, smokers were twice as likely to skip meals, and 50% more likely to go more than three hours without food compared to non-smokers. They were also more likely to have fewer meals per day and find it hard to leave something on their plate.

Smokers were 35% less likely to snack between meals and were also less likely to eat food as a reward or out of boredom than non-smokers.

Additionally, compared to non-smokers, smokers were 8-13% less likely to eat sweet foods between meals and for dessert, but were 8% more likely to eat fried food and 70% more likely to add salt, and 36% more likely to add sugar, to meals.

Several of these relationships were modified by age, sex, and [socioeconomic status](#). The most consistent observation was that these relationships were stronger in older individuals compared to younger individuals. In addition, the relationship between smoking and a higher likelihood of adding salt and sugar to meals was stronger in males compared to females, suggesting that male smokers may be particularly susceptible to less healthy dietary habits.

"The worry of gaining weight is a common reason for smokers not attempting to quit or being unsuccessful in their attempts to quit smoking," says chief investigator Dr. Scott Willis from Loughborough University, UK.

"Our findings indicate that smoking is associated with eating behavior patterns consistent with reduced [food intake](#) and worse diet quality, characterized by frequent intake of fried food and adding salt and sugar to meals. This could help explain the [weight gain](#) commonly observed when people stop smoking."

Lead author Arwa Alruwaili from Loughborough University adds, "These findings reinforce the importance of providing nutritional and weight management support in the large-scale efforts to prevent and reduce smoking in the general UK population. This could help to promote more successful quit attempts, and to improve people's eating habits and the many diseases that are related to both of these major health risks."

The authors note that the results are from observational findings, and that a definite cause-and-effect link between smoking and altered eating habits cannot be determined in this type of population-based study; the analyses do not account for the influence of other known risk factors such as [psychological health](#) and physical activity levels which could have an impact on the results; and the study is based on self-reported eating habits that can introduce recall bias, which could also impact the results.

Provided by European Association for the Study of Obesity

Citation: UK study involving over 80,000 adults finds smokers tend to eat less and have a less healthy diet than non-smokers (2024, May 13) retrieved 25 June 2024 from <https://medicalxpress.com/news/2024-05-uk-involving-adults-smokers-tend.html>

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