

International Agency for Research on Cancer



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New evidence on link between obesity and smoking behaviour from genetic data: obese people at higher risk of smoking

Lyon, France, 17 May 2018 – A study by the International Agency for Research on Cancer (IARC) provides new evidence that increased weight and obesity may result in increased smoking. The study, published today in the *British Medical Journal* (BMJ) and funded by Cancer Research UK (CRUK), found that increased body mass index (BMI), body fat percentage, and waist circumference were associated both with a higher risk of being a smoker and with greater smoking intensity, measured by the number of cigarettes smoked per day. These results were consistent in both men and women.

In contrast to previous studies evaluating the relationship between body weight and smoking behaviour, this study was based on genetic markers of obesity using UK Biobank data with genetic information on nearly 450 000 participants.

“Based on genetic markers of obesity, the study allows us to better understand the complex relationship between obesity and important smoking habits such as smoking initiation and intensity, as well as the impact of obesity on smoking cessation,” says Dr Paul Brennan, one of the authors of the article. “The study also suggests that the link between BMI and tobacco exposure may originate in a common biological basis for addictive behaviours, such as nicotine addiction and higher energy intake.”

Body weight and smoking habits

It is well established that smokers have a lower body weight on average than non-smokers, possibly because of a reduced appetite in smokers, but that people tend to gain weight after quitting smoking. However, among smokers, those who smoke more intensively tend to weigh more.

This new analysis of genetic variants linked to body mass highlights the complex relationship between obesity and tobacco smoking.

“Prevention of smoking is key to reducing the global burden of cancer and other chronic diseases, such as cardiovascular disease and diabetes,” says IARC Director Dr Christopher Wild. “Obesity is also among the most important preventable causes of the same diseases. These new results provide intriguing insights into the potential benefits of jointly addressing these risk factors with public health measures that combine weight control and tobacco control strategies.”

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For more information, please contact

Véronique Terrasse, Communications Group, at +33 (0)4 72 73 83 66 or terrassev@iarc.fr
or IARC Communications, at com@iarc.fr

The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer and the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish to have your name removed from our press release email list, please write to com@iarc.fr.