International Agency for Research on Cancer

World Health Organization

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New study links alcohol consumption to increased risk of pancreatic cancer

Questions and Answers (Q&A)

A large international consortium of prospective studies, led by researchers from the International Agency for Research on Cancer (IARC) and partner institutions, has examined the relationship between alcohol consumption and the risk of developing pancreatic cancer. The findings were published in *PLOS Medicine*.[1]

1. What was already known about the association between alcohol consumption and cancer risk?

The *IARC Monographs* programme has classified alcohol consumption as carcinogenic to humans (Group 1). Alcohol consumption has been causally associated with the risk of developing cancers of the upper aerodigestive tract, liver, colorectum, and female breast.

2. What new insights does this study contribute to the existing research?

The findings of this study support a modest positive association of alcohol intake with risk of pancreatic cancer, irrespective of sex and smoking status. Associations were observed for alcohol intake of at least 15 grams of ethanol per day (g/day) in women and 30 g/day in men.

3. What types of alcoholic beverages were assessed in this study?

Analyses by types of alcoholic beverages showed positive associations with pancreatic cancer risk for alcohol intake from beer and spirits/liquor, whereas no association was observed for alcohol intake from wine. The quantity of 15 g of pure alcohol roughly corresponds to the amount of ethanol in a standard glass of wine, beer, or spirits/liquor, because these beverages are served in glasses of different volumes.

4. What were the main limitations of the study, and how might they affect the findings?

The study had limitations. Although the evaluation accounted for a comprehensive list of confounding factors, potential bias from unmeasured confounders cannot be ruled out. Self-reported alcohol intake is prone to systematic measurement error, because participants may underreport their alcohol intake, especially among individuals with heavy alcohol consumption, which may result in biased associations. In addition, alcohol intake evaluated in this study expressed participants' average intake in grams of ethanol per day over the year before

[1] Naudin S, Wang M, Dimou N, Ebrahimi E, Genkinger J, Adami HO, et al. (2025). Alcohol intake and pancreatic cancer risk: an analysis from 30 prospective studies across Asia, Australia, Europe, and North America. *PLoS Med*. Published online 20 May 2025; https://doi.org/10.1371/journal.pmed.1004590

baseline, and did not account for alcohol intakes earlier in life, for example during early adulthood. Also, the study did not evaluate the impact of specific consumption patterns, for example characterized by intake of large amounts over short durations (binge drinking), because of a lack of specific information. Finally, although data from 30 cohorts were pooled in this study, even larger collaborative efforts will evaluate the association between alcohol consumption and risk of pancreatic cancer for specific tumour subtypes and in geographical regions that were not included or were underrepresented in this study.

5. Which data were pooled from prospective studies for this analysis?

A large collaborative effort was undertaken in this study. Population-based individual-level data were pooled from 30 prospective cohorts across four continents: Asia, Australia, Europe, and North America. A total of 2 494 432 participants without cancer at baseline (62% women, 84% of European ancestry, 70% individuals who consume alcohol, and 47% never-smokers) were recruited between 1980 and 2013 at the median age of 57 years. Over a median follow-up period of 16 years, 10 067 incident pancreatic cancer cases were recorded.

6. How significant is the cancer risk associated with alcohol consumption for women compared with men?

Association studies based on observational prospective data quantify the relationship between exposures – in this case, alcohol intake – and the risk of disease – here, pancreatic cancer – by means of relative risk estimates, i.e. by comparing the risk of pancreatic cancer in groups of study participants. For example, individuals who consume alcohol above a certain threshold, such as 2 drinks per day on average, are compared with those who report a consumption of about 1 drink per week (weak intake). Although associations between alcohol consumption and risk of pancreatic cancer were similar in men and women, globally men consume more alcohol than women do, and pancreatic cancer incidence rates are higher in men than in women. As a result, the impact of alcohol intake on risk of pancreatic cancer is higher among men than among women. In other words, under the assumption that alcohol consumption is causally associated with the risk of pancreatic cancer, cancer prevention policies aimed at reduction or cessation of alcohol intake in the general population, if successful, would be more effective in men than in women.

7. Why were the results described as homogeneous across different groups or regions?

In this study, an association between alcohol intake and the risk of pancreatic cancer was observed in studies from Australia, Europe, and North America, whereas no associations were observed in studies conducted in Asia. Cohort participants from Asia had a higher proportion of individuals who do not consume alcohol, particularly among Asian women (62% overall, 82% in women, 55% in men) compared with participants from other regions (15% in Australia or Europe, 33% in North America).

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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, 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 your name to be removed from our press release emailing list, please write to com@iarc.who.int.