Coffee and tea consumption and mortality from all causes, cardiovascular disease and cancer: a pooled analysis of prospective studies from the Asia Cohort Consortium

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Introduction

- Coffee and tea are the two most commonly consumed beverages in the world. Coffee consumption has increased considerably over the past few decades in Asia.
- Coffee consumption has been inversely associated with several chronic diseases, including type 2 diabetes, cardiovascular disease (CVD), stroke, Parkinson's disease, advanced prostate cancer, endometrial cancer land liver cancer.
- The objective of this study was to evaluate the association of coffee, green tea and black tea consumption with all-cause and cause-specific mortality in 12 ethnically diverse Asian cohorts and these cohorts included nearly half a million men and women, involved considerable followup times and were used to study a broad range of dietary and other lifestyle exposures.

Method

Study population

Among these cohorts, the study presented here included data from 12 prospective cohort studies that agreed to participate in this project and represented the four countries that collected baseline information on coffee or tea consumption and follow-up data on mortality. Of these cohorts, seven were conducted in Japan, two in mainland China, two in Korea and one in Singapore.

We used data from 12 prospective cohort studies including 248 050 men and 280 454 women from the Asia Cohort Consortium conducted in China, Japan, Korea and Singapore.

Result

n total, 94 744 deaths were identified during the follow-up, which ranged from an average of 6.5 to 22.7 years. Compared with coffee non-drinkers, men and women who drank at least five cups of coffee per day had a 24% and a 28% lower risk of all-cause mortality, respectively. Similarly, we found inverse associations for coffee consumption with cardiovascular disease (CVD)-specific and cancer-specific mortality among both men and women. Green tea consumption was associated with lower risk of mortality from all causes, CVD and other causes but not from cancer. The association of drinking green tea with CVDspecific mortality was particularly strong, with HRs of 0.79 for men and 0.78 for women who drank at least five cups per day of green tea compared with non-drinkers. The association between black tea consumption and mortality was weak, with no clear trends noted across the categories of consumption.

Discussion

In the Asia Cohort Consortium, we found that coffee consumption was associated with a lower risk of death from all causes, CVD and cancer. Consuming more than five cups of coffee was associated with a 24% and 28% lower risk of death in men and women, respectively.

Green tea consumption was also inversely associated with the risk of death from all causes and CVD among both men and women but was associated with an increased risk of cancer death among women. In our study, black tea was less commonly consumed and the associations of black tea with mortality were inconsistent.

Our study found inverse associations between coffee consumption and all-cause and CVD-specific mortality, which corresponded to the results of previous prospective studies.
An increased risk of mortality from ischaemic heart disease with increased coffee consumption was observed in men, whereas a decreased risk of mortality from ischaemic heart disease was observed in women in the Netherlands Cohort Study. The JPHC study, Japan Collaborative Cohort Study, Miyagi Cohort Study and SCHS reported inverse associations for coffee consumption with all-cause and CVD mortality.

We found that a higher coffee consumption was associated with a lower risk of all-cause mortality as well as lower risks of mortality from CVD and cancer among men and women.
We observed that the reduction in risk was slightly greater at five or more cups compared with less than one cup per day, but there was a lower risk of mortality among those consuming coffee at both lower and higher levels.
The risk of CVD-specific mortality decreased with increasing coffee consumption among both men and women.Both men and women who regularly drank coffee had a lower risk of cancer mortality than non-drinkers.

We found that coffee consumption lowered the risk of cancer-specific mortality. Although several Western cohort studies have found no association or a weak inverse association for overall cancer death, stronger inverse associations have been reported for coffee consumption and deaths from colorectal cancer and liver cancer.
In the present study, for green tea consumption, we observed no association among men and an increased risk of death from cancer among women. Most previous cohort studies found that green tea consumption was not associated with cancer-specific mortality. Previous cohort studies did not report associations between green tea consumption and cancers of the stomach, breast, prostate or colon. Although the reason why we observed an increased risk at five or more cups per day of green tea is not clear, the potential mechanism may include the thermal injury to the mucosa and inflammation from drinking tea that has a high temperature.

Conclusion:

In conclusion, drinking as little as one cup of coffee per day was associated with a lower risk of death during the follow-up period among Asian populations. Green tea consumption was associated with a lower risk of CVD death, but the association between black tea consumption and mortality was unclear. These findings warrant further observational and intervention studies in Asian populations to explore the effects of the specific types of coffee and tea.


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