

Morning coffee may protect the heart better than all-day coffee drinking

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Coffee in the morning might lower your risk for cardiovascular disease, according to research led by Dr. Lu Qi. (Credit: Derek Bridges)

People who drink coffee in the morning have a lower risk of dying from cardiovascular disease and a lower overall mortality risk compared to all-day coffee drinkers, according to [research published in the European Heart Journal](#) today.

The research was led by HCA Regents Distinguished Chair and Professor [Dr. Lu Qi](#) of the [Celia Scott Weatherhead School of Public Health and Tropical Medicine](#) at Tulane University.

“Research so far suggests that drinking coffee doesn’t raise the risk of cardiovascular disease, and it seems to lower the risk of some chronic diseases, such as diabetes,” Qi said. “Given the effects that caffeine has on our bodies, we wanted to see if the time of day when you drink coffee has any impact on heart health.”

The study included 40,725 adults taking part in the US National Health and Nutrition Examination Survey (NHANES) between 1999 and 2018. As part of this study, participants were asked about all the food and drink they consumed on at least one day, including whether they drank coffee, how much and when. It also included a sub-group of 1,463 people who were asked to complete a detailed food and drink diary for a full week.

Researchers were able to link this information with records of deaths and cause of death over a period of nine to ten years.

Around 36 percent of people in the study were morning coffee drinkers (they primarily drank coffee before midday), 16 percent of people drank coffee throughout the day (morning, afternoon and evening), and 48 percent were not coffee drinkers.

Compared with people who did not drink coffee, morning coffee drinkers were 16 percent less likely to die of any cause and 31 percent less likely to die of cardiovascular disease. However, there was no reduction in risk for all-day coffee drinkers compared to non-coffee drinkers.

Morning coffee drinkers benefitted from the lower risks whether they were moderate drinkers (two to three cups) or heavy drinkers (more than three cups). Light morning drinkers (one cup or less) benefitted from a smaller decrease in risk.

“This is the first study testing coffee drinking timing patterns and health outcomes,” Qi said. “Our findings indicate that it’s not just whether you drink coffee or how much you drink, but the time of day when you drink coffee that’s important. We don’t typically give advice about timing in our dietary guidance, but perhaps we should be thinking about this in the future.”

"This study doesn't tell us why drinking coffee in the morning reduces the risk of death from cardiovascular disease. A possible explanation is that consuming coffee in the afternoon or evening may disrupt circadian rhythms and levels of hormones such as melatonin. This, in turn, leads to changes in cardiovascular risk factors such as inflammation and blood pressure."

Qi emphasized the need for further studies in other populations to validate the findings. "We need clinical trials to test the potential impact of changing the time of day when people drink coffee."

In an accompanying editorial, Professor Thomas F. Lüscher from Royal Brompton and Harefield Hospitals, London, UK said: "In their study published in this issue of the European Heart Journal, Wang et al analysed the time of the day when coffee is consumed in 40725 adults from the NHANES and of 1463 adults from the Women's and Men's Lifestyle Validation Study."

"During a median follow-up of almost a decade, and after adjustment for caffeinated and decaffeinated coffee intake, the amounts of cups per day, sleep hours, and other confounders, the morning-type, rather than the all-day-type pattern, was significantly associated with lower risks of all-cause mortality with a hazard ratio of 0.84 and of cardiovascular mortality of even 0.69 as compared with non-coffee drinkers.

"Why would time of the day matter? In the morning hours there is commonly a marked increase in sympathetic activity as we wake up and get out of bed, an effect that fades away during the day and reaches its lowest level during sleep. Thus, it is possible, as the authors point out, that coffee drinking in the afternoon or evening disrupts the circadian rhythm of sympathetic activity. Indeed, many all-day drinkers suffer from sleep disturbances. In this context, it is of interest that coffee seems to suppress melatonin, an important sleep-inducing mediator in the brain.

"Overall, we must accept the now substantial evidence that coffee drinking, particularly in the morning hours, is likely to be healthy. Thus, drink your coffee, but do so in the morning!"