

The Relationship between Green Tea Intake and Type 2 Diabetes in Japanese Adults

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The full report is titled “The Relationship between Green Tea and Total Caffeine Intake and Risk for Self-Reported Type 2 Diabetes among Japanese Adults.” It is in the 18 April 2006 issue of *Annals of Internal Medicine* (volume 144, pages 554-562). The authors are H. Iso, C. Date, K. Wakai, M. Fukui, A. Tamakoshi, and the JACC Study Group.

What is the problem and what is known about it so far?

Type 2 diabetes mellitus is a common disease that interferes with the body’s ability to store energy from food. The pancreas makes insulin, a substance that helps store energy from food. In people with type 2 diabetes mellitus, the body makes enough insulin but cannot use it normally. The result is high blood sugar levels, which can lead to blindness, kidney failure, nerve damage, and heart disease over time. Risk factors for type 2 diabetes mellitus include being overweight, lack of exercise, and family history of the disease. Because type 2 diabetes mellitus is common and has serious complications, it is important to understand factors associated with the disease. It is known that caffeine influences the way the body handles sugar. Recent studies show that people with higher coffee intake are less likely to develop type 2 diabetes mellitus than are people with lower intake. However, these studies have largely been done in western populations and have not evaluated whether tea intake is also related to type 2 diabetes.

Why did the researchers do this particular study?

To examine the relationship between type 2 diabetes mellitus and drinking green, black, and oolong teas.

Who was studied?

6277 men and 10,686 women from 25 communities in Japan who were participating in a study of cancer risk factors. To be included in the study, people needed to be 40 to 65 years of age and free of diabetes, stroke, heart disease, or cancer when the study began.

How was the study done?

At the start of the study and again 5 years later, the study participants completed surveys that asked about health issues, including whether they had been diagnosed with diabetes. The survey also asked about how much coffee and tea (green, black, and oolong teas) participants drank. The researchers looked for associations between participants’ intakes of the various beverages and the development of diabetes over the 5 years of the study. The analyses examined other diabetes risk factors, such as body size, exercise, family history, and age.

What did the researchers find?

People who were frequent drinkers of green tea (>6 cups per day) or coffee (>3 cups per day) were less likely to develop diabetes than those who drank less than 1 cup of these beverages per week. Higher total caffeine intake was also associated with lower risk for diabetes. These relationships were strongest in women and in overweight men. No association was found between black and oolong teas and reduced risk for diabetes.

What were the limitations of the study?

The design of this study did not permit the researchers to be certain that green tea, coffee, and caffeine protect against type 2 diabetes. There may be another factor about people who drink these beverages frequently that protects them from diabetes.

What are the implications of the study?

People who drink more green tea, coffee, or total caffeinated beverages are less likely to develop type 2 diabetes than people who drink none or very little of these beverages.

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