Coffee drinking linked to reduced stroke risk in women

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Drinking more than a cup of coffee a day was associated with a 22 percent to 25 percent lower risk of stroke, compared with those who drank less, in a study reported in *Stroke: Journal of the American Heart Association*.

Low or no coffee consumption was associated with an increased risk of stroke in a study of 34,670 women (ages 49 to 83) followed for an average 10.4 years. It's too soon to change coffee-drinking habits, but the study should ease the concerns of some women, researchers noted.

Coffee is one of the most widely consumed beverages in the world. "Therefore, even small health effects of substances in coffee may have large public health consequences," said Susanna Larsson, Ph.D., lead author of the study and a researcher in the Division of Nutritional Epidemiology, National Institute of Environmental Medicine, Karolinska Institute in Stockholm, Sweden.

Groups who reported drinking 1-2 cups per day, 3-4 cups per day or 5 or more cups per day had similar benefits compared with those who reported daily intake of less than a cup of coffee, researchers said.

The differences were unchanged by smoking status, body mass index, history of diabetes, hypertension or alcohol consumption, indicating that coffee's effects are not influenced by those known cardiovascular risk factors.

Scientists have theorized that coffee could have either beneficial or harmful effects on the cardiovascular system, but earlier studies have been inconclusive. Only one previous prospective study, which was also inconclusive, examined the association between coffee consumption and stroke incidence in healthy women.

"Our research group has previously observed an inverse association between coffee consumption and risk in Finnish male smokers," Larsson said. "We wanted to assess the situation in women."

The women participated in the long-running Swedish Mammography Cohort, an epidemiological study investigating the association between diet, lifestyle and disease development. All the women were free of cardiovascular disease and cancer at baseline in 1997, when they answered the food frequency questionnaire analyzed in the study.

Researchers collected data on cases of first stroke that occurred between Jan. 1, 1998 and Dec. 31, 2008, by linking the study group with the Swedish Hospital Discharge Registry that provides almost complete coverage of Swedish hospital discharges.

Researchers documented 1,680 strokes: 1,310 cerebral infarctions/ischemic strokes (caused by blockages), 154 intracerebral hemorrhages (caused by bleeding inside the brain), 79 subarachnoid hemorrhages (caused by bleeding on the surface of the brain) and 137 unspecified strokes.

After adjustment for other risk factors, coffee consumption was associated with a statistically significant lower risk of total stroke, cerebral infarction and subarachnoid hemorrhage, Larsson said.

The small numbers of intracerebral hemorrhage could have factored in the lack of an association with that stroke subtype, she said. In general,

cerebral infarction is most strongly associated with dietary factors.

The food frequency questionnaire made no distinction between regular and decaffeinated coffee but decaffeinated coffee consumption in the Swedish population is low, Larsson said.

Potential ways that coffee drinking might reduce the risk of stroke include weakening subclinical inflammation, reducing oxidative stress and improving insulin sensitivity, she said.

The study's limitations include the use of a self-administered questionnaire to determine medical history and history of coffee consumption — which inevitably includes some measurement error and misclassification of exposure — and the possibility of an unrecognized confounding factor associated with either low or moderate coffee consumption, Larsson said.

"Some women have avoided consuming coffee because they have thought it is unhealthy. In fact, increasing evidence indicates that moderate coffee consumption may decrease the risk of some diseases such as diabetes, liver cancer and possibly stroke."

More studies on coffee consumption and stroke are needed before firm conclusions can be reached, Larsson said.

Provided by American Heart Association

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