

Vegetarian diet and incidence of total, ischemic, and hemorrhagic stroke in 2 cohorts in Taiwan

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Study objective and summary result

This study tested the hypothesis that vegetarian diets protect against stroke, with the results indicating that vegetarian diets are associated with lower risks of ischemic and hemorrhagic stroke.

What is known and what this paper adds

Vegetarian diets mitigate some risk factors for stroke, such as blood pressure and serum cholesterol levels, but they are also associated with low vitamin B₁₂ intake levels, which could increase the risk of stroke. This investigation clarifies how vegetarianism influences stroke risks.

Participants and setting

Cohort 1 comprised 5,050 individuals who participated in the Tzu Chi Health Study, which recruited participants between 2007 and 2009. Cohort 2 comprised 8,302 individuals who participated in the Tzu Chi Vegetarian Study, which recruited participants in 2005. Recruitment occurred through the Buddhist Dalin Tzu Chi General Hospital (Chiayi, Taiwan). Most of the participants in both cohorts were volunteers in Tzu Chi, a Buddhist humanitarian organization that encourages vegetarianism.

Design, size, and duration

Vegetarians were identified based on responses to food frequency questionnaires completed at baseline. Stroke events occurring by 2014 were detected based on data from the Taiwanese National Health Insurance Research Database. Cox proportional hazards regression was used to analyze the relationship between vegetarianism and stroke outcomes.

Main results and the role of chance

In cohort 1, 54 stroke events occurred over 30,797 person-years of follow-up, and vegetarianism was associated with a reduced likelihood of ischemic stroke. In cohort 2, 121

Table Cohort-specific associations between vegetarian diets and stroke risks

Event type	Hazard ratio (95% confidence interval) for event when comparing vegetarians with nonvegetarians in:	
	Cohort 1	Cohort 2
Overall stroke	0.55 (0.27–1.11)	0.51 (0.33–0.80)
Ischemic stroke	0.26 (0.08–0.88)	0.39 (0.18–0.84)
Hemorrhagic stroke	No analyses performed ^a	0.35 (0.12–1.02)

^a Not enough cases were detected for analyses to proceed.

stroke events occurred over 76,797 person-years of follow-up, and vegetarianism was associated with reduced likelihoods of overall stroke, ischemic stroke, and hemorrhagic stroke.

Bias, confounding, and other reasons for caution

Dietary habits were only assessed at baseline.

Generalizability to other populations

The present study's reliance on Taiwanese individuals who abstained from smoking and alcohol consumption may limit the generalizability of the results.

Study funding/potential competing interests

This study was funded by the Taiwanese Department of Health, the Buddhist Dalin Tzu Chi General Hospital, the Buddhist Tzu Chi Medical Foundation, and the Taiwanese Ministry of Science and Technology. The authors report no competing interests. Go to Neurology.org/N for full disclosures.

A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The corresponding author(s) of the full-length article and the journal editors edited and approved the final version.

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