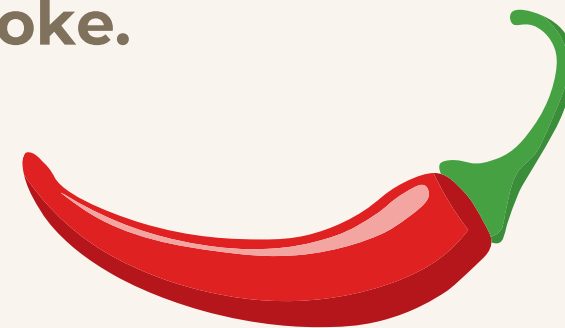


Can spicing it up reduce your chance of stroke?

Recent studies find a link between spicy food consumption and lower incidence of stroke.

September 11, 2025

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INTRODUCTION & BACKGROUND

Stroke is a significant health challenge and is the second leading cause of death and third leading cause of death and disability globally (Feigin et. al, 2025). China's population in particular faces high numbers of stroke and stroke related deaths, with a reported 2.4 million strokes and 1.1 million stroke-related deaths annually, and 11.1 million stroke survivors in the country (Wang et. al, 2017).

Considerable research has focused on reducing the impact of stroke by examining risk factors and potential protective factors (Feigin et. al, 2019). Among these, diet has been of interest, with studies exploring whether certain foods, especially spices, may offer health benefits. Evidence suggests that spices contain health properties including being antiviral, antioxidants, anti-diabetic, and antihypertensive (Singh et. al, 2021; Nilius et. al, 2013). Regular consumption of spicy foods has also been inversely associated with high cholesterol, diabetes, hypertension, and reduced the risk of death from cardiovascular diseases including stroke (Lv et. al, 2015; Spence, 2019).

Studies previously performed in China on the issue were limited in that they only performed research on specific populations and failed to examine the relationship between frequency of spicy food intake and the incident stroke (Chen et. al, 2023; Li et. al, 2023). To address these shortcomings, this study aimed to further investigate the relationships between the frequency of spicy food consumption and the risk of stroke in the overall population by prospectively following approximately 50,000 people aged 30-79 years in Liuzhou City, China from 2004-2017.

Data was collected through assessments of spicy food intake, surveying participants on their specific habits of eating spicy food, both types and frequency. Health status of each participant was also identified through the use of the health insurance system and local disease and death registries (Bennett et. al, 2019).

FINDINGS

This study of roughly 46,000 participants found that the regular consumption of spicy foods was correlated with a reduced risk of stroke, specifically ischemic stroke. Individuals who ate spicy foods monthly, 1-2 times per week, or 3-5 times per week had significantly lower risk of stroke than those who did not consume spicy foods, with the strongest protective effect in the 3-5 times per week group.

The findings of this study suggest a correlation between moderate spicy food consumption and a reduced risk of overall stroke.

Further breaking down the findings, the risk of ischemic stroke was consistent with the overall stroke: being reduced upon the consumption of spicy foods. However, the risk of hemorrhagic stroke showed no significant data. Analyses indicated that this protective association was consistent across BMI, sex, age, and smoking and drinking status, but benefits were found to be most evident in younger adults, smokers, and obese participants.

COMPARATIVE ANALYSIS

In this study, statistical analyses showed that participants who consumed spicy foods 3-5 days per week had a significantly lower risk of stroke after adjusting for covariates (Li et al., 2024). A graph was created which further showed that the consumption of spicy foods and the risk of stroke have a U-shaped relationship, with moderate intake having the greatest protective effect. Besides stroke, previous studies have shown that consuming spicy foods are inversely associated with metabolic diseases such as diabetes and high levels of cholesterol (Lv et al., 2015; Spence, 2019). Spicy foods have also been shown to have the ability to control metabolic syndrome and related disorders in individuals with high blood pressure and obesity (Chen et al., 2023). Another study had similar findings, where chili's antimicrobial properties were found to have a beneficial effect on the gut bacteria, potentially leading to a lower risk of developing obesity (Shi et al., 2017).

Looking at other previous research, Li et al. (2024) expands on evidence from larger cohort studies that link together spicy food intake to reduced mortality and cardiovascular risk. The study Lv et al. (2015) found that regular spicy food consumption was associated with a lower risk of cardiovascular mortality in a study of nearly half a million Chinese adults. Additionally, Ding et al. (2017) reported that capsaicin intake was associated with improved lipid metabolism and lower inflammation, both of which are causes of ischemic stroke. This comparative analysis shows that while prior research emphasizes general cardiovascular and metabolic benefits, the Li et al. (2024) study strengthens the evidence for a direct and disease-specific link between spicy food and stroke prevention.



FUTURE RESEARCH

While the current research concluded that there is a negative association between spicy food consumption and the risk of ischemic stroke, future research should intend to establish a relationship between amounts of spicy food and classifications of spicy food, instead of only exploring the frequency of spicy food consumption and how it impacts the risk of ischemic stroke.

Additionally, future research could specifically explore capsaicin, an active compound found in chili peppers that leads to its spicy taste. Future research should explore how capsaicin can be integrated into medications and supplements that can further lead to the decreased risk of ischemic stroke. While this study identified that the activation of the transient receptor potential capsaicin 1 has the ability of reducing ischemic stroke, future studies should explore how the activation of the capsaicin receptor can lead to adverse health effects, such as cardiovascular issues as well as inflammation (Munjuluri et al., 2021).

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