

Usual Dietary Intake and Risk of Stroke

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The Japan Collaborative Cohort (JACC) and the Japan Public Health Center-based Prospective (JPHC) Studies have reported several interesting findings between usual dietary intake and risks of stroke and coronary heart diseases (CHD). Sheerah HA, *et al.*¹⁾ reported that dietary vitamin D intake was inversely associated with mortality from stroke. Kokubo Y, *et al.*²⁾ reported that higher dietary magnesium intake was associated with reduced risk of CHD in Japanese men. Uesugi S, *et al.*³⁾ also reported that dietary vitamin C intake was inversely associated with the incidence of total stroke and ischemic stroke among non-smokers.

Recently, Okada C, *et al.*⁴⁾ reported dietary intake of energy and nutrients not from total dietary intake but from breakfast. They observed that higher intake of energy from breakfast, primarily saturated or mono-unsaturated fat, was associated with reduced risk of intracerebral hemorrhage in Japanese men. Kubota Y, *et al.*⁵⁾ also reported that the frequency of breakfast intake was inversely associated with the risk of stroke, particularly with cerebral hemorrhage in the Japanese, thus suggesting that eating breakfast everyday may be beneficial in preventing stroke in the JPHC Study.

Notably, several previous studies⁶⁻⁸⁾ have reported that cerebral hemorrhage occurs more frequently in the morning than during the rest of the day. Therefore, it may be important to reduce the frequency or duration of high blood pressure in the morning to prevent cerebral hemorrhage. Witbracht, *et al.*⁹⁾ reported that skipping breakfast was associated with stress-independent overactivity in the hypothalamic–pituitary–adrenal axis because of a longer period of fasting, thus leading to elevated blood pressure in the morning.

The second interesting issue is the gender difference in the inverse association between higher intake of energy from breakfast and risk of stroke. Okada C, *et al.*⁴⁾ raised two reasons. First is the lower reliability

of breakfast energy for women compared with men and the low reliability of breakfast intake of fat (saturated, monounsaturated, and polyunsaturated fat). The second is the half smaller number of stroke cases for women compared with men, thus resulting in low statistical power to detect the association.

The results of the study conducted Okada C, *et al.*⁴⁾ provide very meaningful and suggestive hints that we, particularly the Japanese, could prevent stroke by changing the habitual dietary intake pattern. Further epidemiological studies are warranted to accumulate evidence associated with the usual dietary intake pattern and the incidence of total and ischemic stroke.

Conflicts of Interest

None.

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