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DASH diet reduces risk of stroke and CVD mortality

A longitudinal study in ethnic Chinese adults found that adherence to the Dietary Approaches to Stop Hypertension (DASH) dietary pattern was associated with lower risk of stroke and cardiovascular disease mortality. Furthermore, this inverse association did not appear to be substantially mediated by intakes of sodium, potassium, magnesium, and calcium.

The DASH diet is an eating pattern rich in fruits, vegetables, whole grains, and low-fat dairy and low in red meat, saturated fat, sugar-sweetened beverages, and sodium. This diet is known to substantially decrease blood pressure, a leading risk factor for cardiovascular diseases (CVDs). In particular, the DASH diet promotes intake of a collection of nutrients, particularly higher intakes of potassium, calcium, and magnesium, and lower intakes of saturated fat and cholesterol.

The association between adherence to the DASH diet and more specific CVD outcomes, coronary artery disease (CAD) and stroke was assessed in few previous cohort studies. A meta-analysis of 3 studies found an inverse association with CAD risk and stroke risk. However, all these studies were done in Western countries except for a small study in 2,061 Taiwanese (123 cases) in which the DASH score was not associated with stroke risk.

Moreover, given the observed associations of potassium, calcium, and magnesium with CVD risk, it is plausible to hypothesise that the benefits of the DASH diet may be at least partly mediated through provision of higher intakes of these dietary minerals. The current study therefore aimed to evaluate adherence to the DASH diet and mineral intakes in relation to CVD, CAD, and stroke mortality risk in an Asian population. The study also assessed whether mineral intakes may mediate the DASH diet-CVD relationship and the association between individual DASH components and CVD risk.

For this study, researchers used data from 57 078 participants of the Singapore Chinese Health Study aged 45 to 74 years at baseline (1993-1998). Information on usual diet was collected by a validated 165-item food frequency questionnaire at recruitment, and mortality information was obtained via registry linkage up to December 2014. DASH scores were constructed based on quintiles of intake of 7 predefined food items and sodium.

Key findings

- Greater adherence to the DASH dietary pattern was significantly associated with a lower risk of CVD, CAD and stroke mortality.
- There was an inverse association between potassium intake and CAD mortality and a direct association between sodium intake and stroke mortality.
- No other significant associations were observed for potassium, sodium, magnesium, and calcium intakes in relation to CVD, CAD or stroke mortality.
- Adjustment for mineral intakes did not materially change the association of the DASH score with CAD or stroke mortality.

As for components of the DASH diet, most individual items were inversely associated with a lower risk of CVD, CAD, and stroke mortality. These findings highlight the importance of diet quality as a whole rather than a specific food group or nutrient.

The DASH diet uses a data-driven approach in scoring of components (quintiles), whereas a priori criteria with regional calibration may improve its efficacy through a better utilisation of components such as dairy. As for the sodium component, the study's findings were in line with current dietary guidelines highlighting the adverse effects of high sodium intake despite debates about optimal dose.

Overall, the results support the hypothesis that the DASH dietary pattern can be used as a potential model for CVD prevention in Asian populations.

Source: Journal of the American Heart Association

Image Credit: Pexels

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