
Observational cohort studies and a secondary cardiac prevention trial have shown that adherence to a Mediterranean diet—a diet characterized by high intake of olive oil, fruit, nuts, vegetables, and cereals; moderate intake of fish and poultry; low intake of dairy products, red meat, processed meat, and sweets, and moderate wine consumption with meals—is associated with a lower risk of cardiovascular events. The Prevención con Dieta Mediterránea (PREDIMED) trial was a multicenter, randomized controlled clinical trial in Spain that assessed the effect of 2 Mediterranean diets (1 supplemented with extravirgin olive oil [EVOO] and another with nuts), compared with a control diet (advice on a low-fat diet), on the composite primary end point of stroke, myocardial infarction, and cardiovascular death. Secondary end points were stroke, myocardial infarction, cardiovascular death, and death from any cause. The trial enrolled 7447 men (aged, 55–80 years) and women (aged, 60–80 years) with no cardiovascular disease, who had either type 2 diabetes mellitus or ≥3 of the following risk factors: smoking, hypertension, elevated low-density lipoprotein cholesterol levels, low high-density lipoprotein cholesterol levels, overweight or obesity, or a family history of premature coronary heart disease. Participants were followed up for a median of 4.8 years.

Over the course of the study, there were 96 events (crude rate/1000 person-years 8.1; 95% confidence interval [CI], 6.6–9.9) in the Mediterranean diet with EVOO group, 83 events (crude rate/1000 person-years 8.0; 95% CI, 6.4–9.9) in the Mediterranean diet with nuts group, and 109 events (crude rate/1000 person-years 11.2; 95% CI, 9.2–13.5) in the control group. Among secondary end points, only stroke rate was significantly different in the intervention versus control groups, with crude rates of 4.1 (95% CI, 3.1–5.5) in the Mediterranean diet with EVOO group, 3.1 (95% CI, 2.1–4.4) in the Mediterranean diet with nuts group, and 5.9 (95% CI, 4.5–7.7) in the control group. After adjusting for sex, age, and baseline risk factors, individuals assigned to the Mediterranean diet with EVOO and the Mediterranean diet with nuts were less likely to experience the primary end point compared with the control group (adjusted hazard ratio [HR], 0.70; 95% CI, 0.54–0.92 and HR, 0.72; 95% CI, 0.54–0.96). Stroke was the only secondary end point which was significantly reduced among individuals assigned to a Mediterranean diet with EVOO (adjusted HR, 0.67; 95% CI, 0.46–0.98) and nuts (adjusted HR, 0.54; 95% CI, 0.35–0.84).

Although numerous randomized controlled clinical trials have shown modest changes in dietary patterns and vascular risk factors with dietary counseling, this is the first to show benefit of a diet on primary prevention of cardiovascular events. Interestingly, the results were significant for the composite end point and for the individual end point of stroke, but not myocardial infarction. Further randomized controlled clinical trials are needed to determine whether the Mediterranean diet is beneficial for secondary stroke prevention.


Minorities have higher incidence of stroke, higher prevalence of vascular risk factors, poorer access to healthcare, and worse outcomes after stroke compared with non-Hispanic whites. Most data on race/ethnic disparities in stroke incidence, care, and outcomes in the United States are limited to analyses of whites, blacks, and Hispanics; little is known about the epidemiology of stroke in Asian Americans, Hawaiians, and Pacific Islanders. The few studies that included these minorities grouped Asians with Hawaiians and Pacific Islanders, obscuring potential differences between groups. Nakagawa et al performed a retrospective analysis of consecutive ischemic stroke admissions to a single tertiary referral center in Honolulu, Hawaii.

From 2004 until 2010, 1921 consecutive patients were hospitalized for ischemic stroke (20% Native Hawaiian/Pacific Islander [NHPI], 53% Asian, 24% white, and 3% other). Unadjusted analyses showed that NHPI were younger (60±14 versus 71±14 years) and more likely to have diabetes mellitus (53% versus 22%), hypertension (82% versus 67%), dyslipidemia (43% versus 34%), and obesity (55% versus 26%) compared with whites. NHPI had higher low-density lipoprotein cholesterol levels, lower high-density lipoprotein cholesterol levels, and higher mean body mass index than whites. Asians, on the other hand, were more likely to have diabetes mellitus (34% versus 22%), hypertension (78% versus 67%), and dyslipidemia (44% versus 34%) than whites, but were less likely to have atrial fibrillation/atrial flutter (15% versus 19%) and obesity (12% versus 26%). Asians had higher total cholesterol, low-density lipoprotein, and triglyceride levels, and lower body mass index than whites. Compared with Asians, NHPI were younger and had higher prevalence of diabetes mellitus, prior stroke or transient ischemic attack, smoking, obesity, and had lower high-density lipoprotein levels and higher body mass index.

After adjusting for age, sex, and cardiovascular risk factors, NHPI were less likely to be older, more likely to be female, and more likely to have diabetes mellitus, hypertension, and obesity than whites. Asians were more likely to have diabetes mellitus and hypertension but less likely to have atrial fibrillation/atrial flutter, coronary artery

(Stroke. 2013;44:e75-e76.)

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*Stroke* is available at http://stroke.ahajournals.org

DOI: 10.1161/STROKEAHA.113.001473
disease, and obesity than whites. NHPI were less likely to be older and more likely to have diabetes mellitus, previous stroke or transient ischemic attack, and obesity than Asians.

This study highlights significant differences in the profiles of ischemic stroke among NHPI, Asians, and whites and illustrates the need for separating Asian and NHPI groups given their disparate characteristics. Given these important dissimilarities, targeted, culturally sensitive strategies should be tested for both primary and secondary stroke prevention in these groups with unique vascular risk profiles.
Stroke Literature Synopses: Clinical Science

*Stroke*. 2013;44:e75-e76; originally published online June 13, 2013; doi: 10.1161/STROKEAHA.113.001473

*Stroke* is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0039-2499. Online ISSN: 1524-4628

The online version of this article, along with updated information and services, is located on the World Wide Web at:
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