Intake of trans fat and incidence of stroke in the REasons for Geographic And Racial Differences in Stroke (REGARDS) cohort.

BACKGROUND: Whether elevated intakes of trans fatty acids (TFAs) increase the risk of stroke remains unclear. Except for the Women's Health Initiative-Observational Study, most studies that directly assessed the association between TFA intake and stroke yielded null results.

OBJECTIVE: The aim of this study was to investigate the association between TFA intake and stroke incidence.

DESIGN: We prospectively investigated the association between TFA intake and stroke incidence in black and white men and women (n = 17,107) from the REasons for Geographic And Racial Differences in Stroke (REGARDS) cohort. Participants were recruited between 2003 and 2007 from the continental United States and followed for incident stroke. Diet was assessed by using the Block 1998 food-frequency questionnaire. Cox regression was used to test whether energy-adjusted TFA intake in 1-SD increments was associated with incident stroke.

RESULTS: During a median follow-up of 7 y, 479 strokes were identified, including 401 ischemic strokes. Sex modified the association between TFA intake and stroke (P-interaction = 0.06), and thus the results were stratified by sex. In fully adjusted models, a 1-SD (2-g/d) increase in TFA intake was associated with an increased risk of any stroke in men (HR: 1.14; 95% CI: 1.02, 1.28) but not in women (HR: 0.93; 95% CI: 0.79, 1.11).
Similarly, our results showed an increased risk of ischemic stroke in men (HR: 1.13; 95% CI: 1.00, 1.28) but not in women (HR: 0.93; 95% CI: 0.77, 1.12).

**CONCLUSIONS:** We show that sex modifies the association between TFA intake and stroke; for every 2-g/d increase in TFA intake, there was a 14% increase in the risk of stroke in men but not in women. Our findings provide further evidence to support the concerted effort to minimize TFAs in the diet.

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