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Eating Less Healthy Fish May Contribute to America's Stroke Belt

People living in the "stroke belt" states eat more fried fish than people living in the rest of the country, which may contribute to the high rate of death from stroke in those states, according to a study published in the Dec. 22, 2010, online issue of Neurology®, the medical journal of the American Academy of Neurology.

Studies have shown that the omega-3 fatty acids in fish, especially fatty fish, may reduce the risk of stroke. Research has shown that frying fish leads to the loss of the natural fatty acids.

The study also found that African-Americans and people living in the stroke belt eat more fried fish than Caucasians and people living in the rest of the country. The stroke belt includes the states of North Carolina, South Carolina, Georgia, Alabama, Mississippi, Tennessee, Arkansas, and Louisiana. People living in the stroke belt are more likely to die from a stroke than people living in other parts of the country.

"These differences in fish consumption may be one of the potential reasons for the racial and geographic differences in stroke incidence and mortality," said study author Fadi Nahab of Emory University in Atlanta and a Member of the American Academy of Neurology.

The study involved 21,675 people participating in the Reasons for Geographic And Racial Differences in Stroke (REGARDS) study, with an average age of 65. Of the participants, 21 percent were from the "stroke buckle," which is the coastal plain region of North Carolina, South Carolina and Georgia with stroke mortality rates even higher than in the rest of the stroke belt. Another 34 percent were from the rest of the stroke belt and 44 percent were from the other 40 contiguous states.

Participants were interviewed by phone and then given an in-home physical examination. They took a questionnaire asking how often they ate oysters, shellfish, tuna, fried fish and other fish not fried.

In the entire study, fewer than 1 in 4 participants consumed two or more servings of non-fried fish per week. The

American Heart Association recommends that people eat fish at least two times per week with an emphasis on fatty fish. Those in the stroke buckle were 11 percent less likely to meet the recommendations than those in the rest of the country. Those in the rest of the stroke belt were 17 percent less likely than those in the rest of the country.

African-Americans were more than three-and-a-half times more likely to eat two or more servings of fried fish per week than Caucasians, with an overall average of 0.96 servings per week of fried fish for African-Americans compared to 0.47 servings for Caucasians.

Those in the stroke belt were 30 percent more likely to eat two or more servings of fried fish than those in the rest of the country. Those in the rest of the stroke buckle were 17 percent more likely to eat two or more servings of fried fish. Overall, those in the stroke belt ate an average of 0.68 servings per week, compared to 0.64 in the stroke buckle and 0.62 in the rest of the country. For non-fried fish, those in the stroke belt ate an average of 1.45 servings per week, compared to 1.52 servings in the stroke buckle and 1.63 servings in the rest of the country.

The study was supported by the National Institute of Neurological Disorders and Stroke, the National Institutes of Health, and the Department of Health and Human Services. Funding was provided by General Mills for coding of the food frequency questionnaire.

The REGARDS study enrolled participants across the United States, age 45 or older, between January 2003 and October 2007.

F. Nahab, A. Le, S. Judd, M.R. Frankel, J. Ard, P.k. Newby, V.J. Howard. Racial and geographic differences in fish consumption: The REGARDS Study. *Neurology*, 2010; DOI: 10.1212/WNL.0b013e3182061afb