Good Neighbors Make for Fewer Fatal Strokes

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- Explains that a study found that increased neighborhood cohesion was associated with lower stroke mortality but not a lower incidence of stroke.
- Note that these findings were significant for white but not black participants.

Stroke patients had more than a 50% reduction in the risk of death for every one-unit increase in a measure of social cohesion, investigators in a large cohort study reported.

The survival benefit was limited to whites, as better socialization had no effect on black patients' risk that a stroke would be fatal. Additionally, social cohesiveness had no impact on stroke incidence, according to a study published online in Stroke.

Authors of the study were left to ponder the potential explanations for the findings.

"Neighborhood-level social cohesion was independently protective against stroke mortality," Cari Jo Clark, ScD, of the University of Minnesota in Minneapolis, and colleagues wrote in conclusion.

"Research is needed to further examine observed race differences and pathways by which cohesion is health protective."

Historically, studies of environment and health have focused on physical environment. More recently, researchers have turned their attention to interaction between social environment and health, most often mental health, but increasingly cardiovascular health.

Few investigations have examined the impact of neighborhood social environment and stroke risk, Clark and co-authors noted in the introduction to their findings. Socioeconomic status has received the most attention, consistently showing an inverse association with stroke risk.

Though sparse, available evidence has suggested that social isolation increases the risk of fatal stroke, whereas volunteerism has an inverse association with stroke mortality (Chron Dis Can 2003; 24: 57-64, N Z J Public Health 1999; 23: 571-577, Lancet 2001; 358: 194-200).

"To our knowledge, however, no study has directly examined the relationships between neighborhood-level social cohesion and stroke mortality," the authors wrote.

Responding to the paucity of data, Clark and colleagues designed a study to test the hypothesis that greater neighborhood-level social cohesion would be associated with lower stroke mortality risk. They used data from the Chicago Health and Aging Project, an ongoing longitudinal, population-based study of Alzheimer's disease and other chronic conditions in older people.

The study population was drawn from 1993 to 1996 census data on three adjacent neighborhoods in South Chicago, selected because of their stability and socioeconomic diversity. Participation was limited to residents ages 65 or older.

Questions related to neighborhood conditions were added to data collection during 2000 to 2002. Investigators assessed neighborhood cohesion by means of participant responses to a validated six-item scale. In general, the questions related to study participants' knowledge of and interaction with their neighbors.

The final analysis included 5,789 participants who had a mean age of 75. Women and blacks accounted for 60% and 62%, respectively, of the study population. Most participants had a high school education.

Investigators ascertained 186 strokes. In a regression model controlling for age, sex, education, and race, social cohesion had a significant, inverse association with stroke mortality (HR 0.47, 95% CI 0.26 to 0.86). The results did not change appreciably in a model further adjusted for a variety of clinical variables and neighborhood socioeconomic status.

A model that excluded the 10% of participants who had a history of stroke resulted in an even stronger association between social cohesion and stroke mortality (HR 0.35, P=0.0028). Analysis by quartiles of cohesion scores produced a trend toward increasing protection against stroke mortality with increasing social cohesion.

The authors found a significant interaction between neighborhood social cohesion and race (P=0.04). Race-stratified models confirmed that social cohesion had a protective effect against stroke mortality for whites (HR 0.34, 95% CI 0.17 to 0.67) but not blacks (HR 1.17).

Examination of social cohesion and stroke incidence revealed a non-significant trend toward an inverse association (HR 0.87, 95% CI 0.58 to 1.32). The data showed no evidence of interaction between race and cohesion for stroke incidence.