Objective: To examine racial/ethnic differences in stroke recognition and knowledge of appropriate first action if someone was having a stroke.

Methods: We examined data from 36,150 veterans from the 2003 Behavioral Risk Factor Surveillance System (BRFSS). Respondents indicated recognition of five stroke warning signs/symptoms and first action they would take if someone were having a stroke. Multivariate logistic regression was used to assess the independent effect of race/ethnicity on stroke recognition and appropriate first action, controlling for relevant covariates.

Results: Most respondents recognized at least one warning sign: 96% recognized sudden confusion or trouble speaking; 97% recognized sudden facial, arm, or leg weakness; 88% recognized sudden vision loss; 94% recognized sudden trouble walking; and 80% recognized sudden headache; 86% recognized calling 911 as the appropriate first action. However, only 17% recognized all five warning signs/symptoms, and only 15% recognized all five warning signs/symptoms and would call 911 as the first action. In multivariate models with Whites as reference, Hispanics (OR .37, 95% CI .24–.51) and Others (OR .68, 95% CI .50–.92) were less likely to recognize all five stroke warning signs/symptoms. Hispanics (OR .37, 95% CI .24–.58) and Others (OR .68, 95% CI .48–.96) were less likely to recognize all five warning signs/symptoms and call 911 as the first action.

Conclusions: Most veterans recognize individual stroke warning signs, but very few recognize all five and would take appropriate action to call 911 in the event of a stroke. Low rates of stroke recognition and taking appropriate action are more pronounced in racial/ethnic minority veterans. (Ethn Dis. 2008;18:198–203)

Key Words: Stroke, Ethnicity, Health Disparities, Survey Research, Health Education

INTRODUCTION

In the United States, 500,000 new and 200,000 recurrent strokes occur each year, and the risk of stroke is almost two times greater among racial and ethnic minorities. A number of studies indicate the existence of significant gaps in the public’s knowledge of warning signs and symptoms of stroke, even though current national health objectives include improved recognition of warning signs. More alarming, the recognition of warning signs of stroke is poorest among those that are at highest risk: racial/ethnic minorities and the elderly. One consequence of poor recognition of warning signs of stroke is self-imposed delays in taking the proper course of action.

Data suggest that racial/ethnic minorities are least likely to recognize early warning signs of stroke and are most likely to delay access to emergency acute stroke therapy. Low stroke recognition and lack of appropriate action in racial/ethnic minorities have been attributed to poor stroke education due to lack of access to quality health care. However, little is known about recognition of warning signs of stroke among racially diverse groups with equal access to primary care services, such as veterans.

We hypothesized that no significant racial/ethnic differences would exist in taking appropriate first action to call 911 if someone were having symptoms suggestive of a stroke.

RESEARCH DESIGN AND METHODS

Study Setting and Sample

We analyzed data from the 2003 Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a state-based, random-digit-dialed telephone survey of the United States population aged ≥18 years sponsored by the Centers for Disease Control and Prevention. The BRFSS uses a complex sampling involving stratification, clustering, and multistage sampling to yield nationally representative estimates. Surveys include core questions asked of all participants in modules on specific public health topics of interest to state health programs. Our sample included only persons who identified themselves as veterans.

Measures

We created four age categories: 18–34, 35–49, 50–64, and ≥65 years. We combined race and ethnicity to create four racial-ethnic groups: non-Hispanic Whites (Whites), non-Hispanic Blacks (Blacks), Hispanics, and Non-Hispanic Other (Other). Four levels of education were created: less than high school graduate, high school graduate, less than