Stroke Patients' Recognition and Knowledge of Their Own Vascular Risk Factors: A Sociocultural Study

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Background: We aimed to study the knowledge of vascular risk factors (VRFs) among patients with stroke and the elements influencing this knowledge using analysis tools from the fields of social and health anthropology. *Methods:* A prospective, cross-sectional and observational study in a cohort of patients who had suffered a stroke within the prior 3-12 months. Semistructured, in-depth interviews were conducted by a social anthropologist to evaluate patients' general knowledge of VRF and specifically of their own VRF. *Results:* Overall, 96 patients were included, 56.3% male, mean age 61.6 years. Nearly all patients (97.9%) had at least 1 VRF. When asked to name their VRFs, 45.8% named stress, 29.2% dyslipidemia, 28.1% hypertension, 28.1% cigarette smoking, and 13.5% diabetes. The VRFs most frequently recognized by patients as their own were stress, hypertension, dyslipidemia, cigarette smoking, and cardiac disease. Only 15.6% acknowledged all their VRFs, while 52.1% acknowledged some of them and 32.3% failed to recognize any. Naming stress as a VRF (odds ratio [OR] = .204; 95% confidence interval [CI]: .076-.553) was associated with a lower likelihood of acknowledging at least 1 VRF, whereas working outside the home (OR = 11.314; 95% CI, 1.277-100.232) and having 2 or more VRFs (OR = 3.191; 95% CI, 1.032-9.875) were associated with a higher probability of correctly recognizing at least one of their own VRF. *Conclusions:* VRF knowledge is poor in patients with stroke. Stress was the risk factor that patients identified more frequently and it was associated with poorer knowledge of their own VRF. **Key Words:** Stroke—vascular risk factor—knowledge.

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Cerebrovascular diseases are a leading cause of death and the first major cause of disability in adults. The death rates, disability, and associated costs entail a great burden for patients and society.[1] Stroke secondary prevention is based on reducing vascular risk factors (VRFs) through changes in lifestyle habits combined with the best available medical treatment. Population-based studies have shown that patients with stroke have a poor knowledge of VRF, with only 68%-72% being able to name at least 1 established VRF.[2] Moreover, population groups with the highest risk of stroke, such as the elderly or those with worse health and eating habits, are precisely those who are less aware of VRF.[2,3] This unawareness of VRF, together with other personal or social factors, might be hindering secondary prevention of stroke.

Patients' knowledge and acknowledgment of their own VRF are essential to modify lifestyle. However, this alone is not enough to achieve a change in behavior even in secondary prevention, as shown in patients suffering from coronary heart disease, because the transition from motivation to action depends on different factors.[4] Few studies have focused on analyzing perception, knowledge of, and acknowledgment of one's own VRF among stroke survivors. It has been reported that up to 43%-57% of patients with stroke failed to recall at least 1 VRF in surveys conducted within the first 48-72 hours from the stroke onset.[5,6] One would expect these figures to decrease several months after the stroke when, theoretically, the patient and their family members have been adequately informed by health professionals on VRF and secondary prevention measures, and they have had enough time to cope with their new life after stroke.

We aimed to study the general knowledge and the acknowledgment of VRF among stroke survivors 3-12 months after the stroke, as well as the social and cultural elements influencing this knowledge.

Methods

We conducted a secondary analysis of a previously published study in which the perception of the stroke event was analyzed in a cohort of stroke survivors using a Social Anthropology approach.[7] In brief, the present study was designed as a prospective, cross-sectional, observational study that includes stroke survivors attending a follow-up visit at an outpatient stroke clinic. Main inclusion criteria were age 18 years or older, history of ischemic stroke 3-12 months prior, and modified Rankin Scale (mRS) score of 0-3. The main exclusion criteria were cerebral hemorrhage, mRS score greater than 3, aphasia, significant dysarthria, cognitive impairment, or severe motor problems that could impede an independent interview with the anthropologist.

This study was based on an anthropological perspective following ethnographic techniques such as data collection through in-depth interviews (based on open-ended questions) and participant observation. By in-depth interviews we refer to one-on-one encounters between an anthropology expert and a patient that are directed toward understanding the subjective patient's experiences and knowledge of the stroke event: what they think might have caused it, how they feel about what has happened, and in which ways recovering from a stroke can influence their lifestyle, emotional experiences, and everyday life situations, as expressed in the patient's own words with no time limit. Moreover, as a participant observer, the anthropologist entered the field behaving in such a way that become a nonintrusive part of the scene, analyzing the patient's subjective perception, social relationships, and acquired roles, in relation to a particular study object; attempting thus an approximation, from the social sciences, to the reality of human behavior.[7] This methodology has been used in stroke studies showing its relevance in the identifications of needs as perceived by patients with stroke and their families as well as the barriers to best-quality care.[8]

Data Management

The social anthropologist collected the following: (1) social data: age, sex, educational level, and employment status; (2) knowledge about stroke and VRF, as well as patients' recognition or acknowledgment of their own VRF; and (3) patients' subjective perception of their disease. Data regarding previously diagnosed VRF were obtained from the clinical records, including hypertension, dyslipidemia, diabetes mellitus, cigarette smoking, cardiac disease, previous stroke, family history of stroke, obesity, sedentary lifestyle, and prestroke treatments.

For the descriptive analysis, we worked through the creation of categories and the analysis of quantifiable variables. Interviews were transcribed verbatim and analyzed in detail following a method of discourse analysis, obtaining categories as analytical units that were studied through triangulation of data. Quantifiable variables were weighted and we conducted a multivariate analysis including clinical data.

Statistical analysis was performed using Statistical Package for Social Sciences 15.0 (SPSS, Inc., Chicago, IL) for Windows. Univariate analysis was performed using the χ^2 test or Fisher's exact test for dichotomous variables. Continuous variables were tested with Student's *t*-test or Mann–Whitney's test when normality could not be assumed. *P*-values less than .05 were considered significant. Logistic regression models were constructed to analyze variables associated with recognition of own VRF. Values are presented with a 95% confidence interval (CI). For the multivariate analysis, age, sex, and all other variables related to the knowledge of VRF with *P* values less than or equal to .2 in the univariate analysis were included.

The Ethics Committee for Clinical Research of the La Paz University Hospital approved this study. Written informed consent was obtained from all patients.

Results

A total of 100 patients with stroke were enrolled. Four patients were excluded from the current analysis because of incomplete data on VRF knowledge. From the 96 patients included for analysis purposes, 54 patients (56.3%) were males with a mean age (standard deviation) of 61.6 (15.8) years (range 27-89). Sixteen of the interviewed patients (16.7%) were university graduates, whereas 50 (52.1%) had no education or had attended only primary school. Before their stroke, 38 patients (39.6%) were retired/unemployed, 42 (43.8%) had skilled professions, and 16 (16.7%) had unskilled professions. Up to 20.8% had