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What stroke patients want to know and what medical professionals think they should know about stroke: Korean perspectives

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Abstract

Background and purpose: Patients and medical professionals are likely to have different perspectives of stroke, making what patients want to know about stroke different from what medical professionals think they should know. We wished to determine these differences for patients and medical professionals in South Korea, as well as to identify patients' characteristics associated with perceptions of stroke education. *Methods*: Fifty consecutive patients with acute stroke admitted to Asan Medical Center, Seoul, Korea, and 88 medical professionals (31 doctors and 57 nurses) working in the Departments of Neurology or Neurosurgery were administered a structured questionnaire regarding various aspects of patient education concerning stroke. *Results*: The average ranking of total items for stroke education was higher in nurses than in doctors or patients ($P < 0.01$ for each). Patients gave higher rankings than doctors for 'possibility to cure with drug treatment' ($P < 0.01$), 'stress management' ($P < 0.01$), and most items concerning 'general medical knowledge' and 'post-stroke diet management,' whereas doctors gave higher rankings than patients for most items concerning risk factor management and treatment with surgery. Items concerning 'post-stroke diet management' were ranked lower by male patients than females patients ($P < 0.05$), and were ranked lower by doctors than by patients or nurses ($P < 0.01$). Younger patients gave higher rankings than older patients for items concerning 'medical knowledge regarding stroke,' 'exercise,' and 'post-stroke sexual activities' ($P < 0.01$ for each). *Conclusions*: Perspectives on stroke education differ among doctors, nurses and patients. They also differ according to the situation of the patient. Education of stroke patients should be based on an understanding of these differences.

Keywords: Cerebrovascular disease; Educational need; Medical professionals

1. Introduction

After cancer, stroke is the most frequent cause of death in South Korea, more frequent than heart disease [1]. Despite Korea's rapid industrialization and modernization, mortality from stroke has not decreased until recently. The high incidence of stroke is due, at least in part, to the aging of the population, but there is also evidence that stroke prevention is inadequate in South Korea. For example, although the prevalence of hypertension in the general population is not particularly high compared to Western countries [2], attempts to control hypertension have been initiated in fewer than 20% of hypertensive individuals [3]. In addition, adult Korean males have one of the highest cigarette smoking rates in the world [4].

This inadequate control of risk factors for stroke may reflect an alternative perspective of disease in the Korean population. As in other Asian countries, traditional herbal medicines are highly regarded in Korea, and their presence has influenced the etiology and treatment of diseases such as stroke. Our interviewing of 1000 individuals living in Seoul showed that their views of the etiology, symptoms and treatment of stroke deviated significantly from scientific facts, due in large part to the influence of herbal medicine [5]. Thus, there should be a considerable gap between stroke patients admitted to hospital and medical professionals in their perspectives on this disease.

For patients admitted to hospital for stroke, a proper understanding of the nature, risk factors and prevention of this disease is important for the prevention of recurring strokes. It is, therefore, crucial that medical professionals properly deliver relevant, timely information to stroke patients [6]. Evidence suggests, however, that stroke patients frequently express a lack of understanding about the nature of their

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disease, including recovery and treatment [7–11]. Information provided by health professionals is often perceived as complicated [10] or inadequate, especially at the acute stage of stroke when patients are under great stress [8,11]. It is also likely that medical professionals are ignorant of their patients' perspectives on stroke [12]. This mutual lack of understanding, which may be great in a country like Korea, may lead not only to patient dissatisfaction with the care they receive but also to a low rate of compliance with medical recommendations, thereby hampering the recovery process [13–15]. Indeed, we previously identified significant differences in the perceptions of epilepsy between epilepsy patients and medical professionals; specifically, we found that patients tended to be concerned with specific diets, whereas medical professionals sought to address the comprehensive issues of lifestyle changes [16].

To our knowledge, there have been no investigations of the different attitudes toward stroke or stroke education of patients and medical professionals in Korea, and there has been only one study addressing the differences between caregivers and medical professionals regarding their knowledge of stroke [17]. Therefore, in the present study, we have attempted to determine what stroke patients in South Korea want to know and what medical professionals think they should know about stroke. We also sought to identify patient demographic and clinical characteristics that may be related to differences in perspective on stroke education among individual patients.

2. Subjects and methods

2.1. Participants

We employed a cross-sectional survey that included stroke patients and health care providers. Participants were drawn from a pool of 140 consecutive stroke patients admitted less than 3 days after the onset of stroke to the Department of Neurology of Asan Medical Center between July 2001 and October 2001. This hospital was chosen by the patients or their close relatives.

Patients excluded from the study were those who had miscellaneous etiologies, including subarachnoid hemorrhage, arteriovenous malformation, venous stroke and moyamoya disease ($n = 13$), or who had altered consciousness, aphasia, cognitive dysfunction or severe medical problems, such that a reliable interview was impossible ($n = 25$). Because we wished to eliminate patients who had received formal stroke-related information, we also excluded patients who had experienced a previous stroke or transient ischemic attack ($n = 27$), had spouses or parents who had developed stroke ($n = 16$), or who were referred from other hospitals ($n = 6$). Of the 53 remaining patients, 3 declined to participate in our study; the 50 remaining gave verbal informed consent. This study protocol was approved by the Institutional Review Board of the Asan Medical Center.

2.2. Procedure

At admission of each patient to our hospital, an interview of about 10–25 min was administered by one of the authors (S.K.L.) as soon as the patient became stabilized, generally within 2 days of the onset of stroke but prior to receiving the formal stroke education program. This interview included the items asked on the questionnaire submitted to the medical professionals (see below).

After the interview, a clinical nurse specialist responsible for stroke patients' education delivered an hour-long educational program to patients and their close relatives. At discharge from the hospital, *a physician* reinforced the medical information.

Neurological assessment of each patient was performed by the authors. Motor dysfunction was categorized according to the Medical Research Council scale as none (grade V), mild (grade IV, mild but definite weakness), or severe (equal or worse than grade III), where grade III indicates patient's ability to lift limb against gravity but not against resistance. Level of education was defined as the number of years of schooling. Current economic status was categorized as good (monthly income $>$ 2 million Korean won), average (1–2 million won per month), or poor ($<$1 million won per month) [18]. Cognitive dysfunction was assessed with a mini mental state examination (MMSE), with a score $<$24 regarded as indicative of cognitive dysfunction [19].

Of the 69 nurses then working in the neurology and neurosurgery departments, 62 had been there for at least 6 months. Two were on leave, making 60 eligible for the study. Of the 44 physician staff and residents working in the neurology and neurosurgery departments, two had taken a leave of absence and two were excluded because they were involved in developing the study questionnaires, making 40 doctors eligible for the study. A questionnaire was sent by mail to each nurse and physician, who was asked to return it to one of the researchers. Fifty-seven nurses and 31 doctors returned the questionnaires, whereas three nurses and nine doctors, who did not wish to participate in the study, did not. None of the medical professionals reported having experienced stroke themselves.

The questionnaire consisted of five main subsets with a total of 48 questions regarding general medical knowledge about stroke (12 items), risk factor management (9 items), treatment (6 items related to medication, 5 items related to surgery, and 3 items related to traditional medicine), rehabilitation and post-stroke problems (6 items), and post-stroke diet management (7 items) (Table 1). Subjects (medical professionals and patients) were told to respond to each question on a 5-point rating scale, where 5 represented "the highest need to know" and 1 represented "the lowest need to know." Responses to subsets of items were used to calculate subscale rank scores, reflecting educational need of a specific aspect of stroke.

The questionnaire was developed based on information obtained from clinical nurse specialists engaged in stroke