Quality of Life in Physical and Psychological Health and Social Environment at Posthospitalization Period in Patients with Stroke

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Background: Interaction of quality of life (QOL) in physical and psychological health and social environment has not been tested in stroke during a posthospitalization period, and a better understanding of the components of QOL would lead to a more integrated and person-centered approach to health management and outcome optimization. We investigated how QOL emerges from the sequelae of stroke and interacts with each other during the posthospitalization period. *Methods:* We performed a cross-sectional study in 53 outpatients of stroke survivors (39 men and 14 women with a mean age of 66 years, 46 infarctions, and 7 hemorrhages). *Results:* Eight QOL domains of psychological health were scored by interview, and 2 of them ("desire to distend what they can do" or "desire to do rehabilitation") were associated with the improvement of physical health during the posthospitalization period ($P < .05$ and $P = .08$, respectively). These patients were characterized by the items like "I need to succeed for health improvement, to go home, to go back to work, and to see grandchildren" as goals to achieve their desire ($P < .05$). In interaction of QOL in psychological health and social environment, another psychological domain "to gain satisfaction from the experience" was closely related to the presence of hobby or work before stroke attack ($P < .05$). *Conclusion:* During the posthospitalization period, QOL of psychological health may support that of physical health, being associated with the presence of hobby or work before stroke attack. **Key Words:** QOL—stroke—posthospitalization—psychological health—physiological health.

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Received March 22, 2016; revision received June 6, 2016; accepted June 12, 2016.

Research involving human participants and/or animals

Statement of human right

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent: Informed consent was obtained from all individual participants included in the study.

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1052-3057/$ - see front matter

http://dx.doi.org/10.1016/j.jstrokecerebrovasdis.2016.06.022

Introduction

Stroke is a major health problem and a major cause for caregivers' support.[1] More individuals survive strokes,[2] and most of them return home after hospitalization.[3,4] Many of these individuals have to keep long-term physical and psychosocial health,[5,6] and either coping or self-efficacy is an important determinant of the adaptation process in individuals after stroke.[7] Proactive coping is defined as the effort adopted to prevent or modify a potential problem situation before it actually arises, and is associated with health-related quality of life (QOL) in individuals after stroke.[8-10] Self-efficacy is defined as a person's confidence in his/her own competence to successfully accomplish actions, and higher self-efficacy is also involved in higher health-related QOL in individuals after stroke.[11,12]

In the context of stroke, a key period to determine health components is the posthospitalization time when health services were delivered to keep recovery with the ultimate goal of improving QOL. Knowing the drivers of QOL at the posthospitalization period is an essential step in creating integrated manner of care and developing a person-centered approach to health management. The portrait of stroke impact[13-16] has shown that the aspects of physical function, positive mood, social support, and participation in social and community life are important using regression models of contributors to health-related QOL of the poststroke. However, evidence has not necessarily delineated the interconnections between stroke sequelae and QOL during the posthospitalization period.

The QOL domains of physical or psychological health and social environment will interact with each other, and may outline causal relationships between different patient outcomes. The understanding about the development of disorders and its impact on health-related QOL will facilitate the targeting of health management and outcome optimization. We report here that 2 QOL domains of psychological health ("desire to distend what they can do" or "desire to do rehabilitation") were associated with the improvement of physical health during the posthospitalization period. In interaction of QOL in psychological health and social environment, another psychological domain "to gain satisfaction from the experience" was closely related to the presence of hobby or work before stroke attack.

Subjects and Methods

Overview of Design

The cross-sectional analysis of data at the clinic visit of several-month poststroke patients aimed to explore the structure and relationships among variables of the scores on the QOL domains such as physical health, psychological health, and social relationship and environment. Data were obtained by interview to the patients according to after-mentioned question survey for QOL domains of physical and psychological health and social environment. This study was approved by the Ethics Committee of the Hirosaki Stroke and Rehabilitation Hospital and was performed after written informed consent was obtained from each patient.

Subjects

As shown in Table 1, enrolled were 53 patients (39 men and 14 women with a mean age of 66 years) with confirmed stroke, who did not have a serious comorbidity that was likely to dominate the pattern of care and result in serious health decline within the study period. Inclusion criteria were that they were admitted to the Hirosaki Stroke and Rehabilitation Hospital for the treatment of stroke, and that they made regular clinic visits to the same hospital after being discharged. Patients were interviewed using the question survey for each QOL domain at several-month through several-year poststroke environment. Further characteristics of enrolled patients with poststroke were shown in Table 1. Cerebral infarction was present in 87% of the patients, and hemorrhage in 13%. The history of previous stroke was present in 23% of the

Table 1. *Characteristics of patients*

		Total (n = 53)	Men (n = 39)	Women (n = 14)
Age (years)		65.7 ± 11.2	65.8 ± 10.6	65.3 ± 13.1
Type of stroke	Infarction [number (%)]	46 (86.8)	35 (76.0)	11 (23.9)
	Hemorrhage	7 (13.2)	4 (57.1)	3 (42.9)
Past history of stroke	Presence [number (%)]	12 (22.6)	9 (75.0)	3 (25.0)
	Absence	41 (77.4)	30 (73.2)	11 (26.8)
Risk factors	Presence [number (%)]	32 (60.4)	27 (84.4)	5 (15.6)
	Absence	21 (39.6)	12 (57.1)	9 (42.9)
Atrial fibrillation	Presence [number (%)]	6 (11.3)	5 (83.3)	1 (16.7)
	Absence	47 (88.7)	34 (72.3)	13 (27.7)
Duration of admission (days)		37.5 ± 44.1	40.5 ± 47.6	28.3 ± 31.1