Original Article

Can Stroke Fast Track Improve Quality of Life of Patients with Acute Ischemic Stroke?

Tiamkao S, MD[1,4], Pearkao C, PhD[2], Yubolchit N, MSc[3]

[1] Department of Medicine, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand
[2] Department of Adult, Faculty of Nursing, Khon Kaen University, Khon Kaen, Thailand
[3] Phon Thong Hospital, Roi-Et, Thailand
[4] Integrated Epilepsy Research Group, Khon Kaen University, Khon Kaen, Thailand

Objective: To investigate the relationship between the attaining of the stroke fast track system and the quality of life (QOL) of the patients with acute ischemic stroke (AIS).

Materials and Methods: This descriptive-cross-sectional study was conducted with a group of 190 participants, who had been diagnosed with AIS. The QOL was evaluated by Thai version of the stroke specific quality of life (SSQOL). The QOL was classified into three levels: "good", "moderate", and "low".

Results: Most of AIS patients had a QOL at a "good" level. The demographic data indicated that most of the AIS were males with a mean age of 62 years old. The AIS, who reported to have had attended regular follow-up appointments between the range of 6 months to 2 years, were found to have a "good" QOL (68.95%), while the 30.53% was observed to be at the "moderate" level. It was shown that the factors affecting the QOL of the AIS patients had been the stroke fast track system and receiving thrombolytic treatment. These two factors were found to be associated with the QOL at a significance of $p<0.001$. Additional factors included the following: marital status, levels of education, occupation, follow-up appointments, and the attainable times for home health care, and these were found to be significant at $p<0.05$.

Conclusion: The AIS patients were able to attain a "good" QOL under the circumstances when the stroke fast track system and clinical practice guidelines (CPG) were deployed.

Keywords: Quality of life, Stroke fast track system, Acute ischemic stroke

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Cerebrovascular disease or stroke is a prevailing neurological disease that constitutes the world's primary public health issue. Based on a report from the World Stroke Organization (WSO), cerebrovascular disease holds the second place as the claimer of the lives of world citizens over 60 years old. In addition, it is ranked in fifth place as the deadliest disease for the people ages between 15 to 59 years old. Data from World Health Organization (WHO) shows that stroke claims about six million lives every year, which accounts for 10 percent of all types of casualties[(1)]. It has been shown that the intensity of stroke is increasing over time and that its severity is surpassing the dangers from diabetes mellitus (DM) and heart disease by 1.5 to 2 times[(2)]. These situations obviously show that stroke is a prime healthcare issue for Thailand and the world.

The information above shows how dreadful stroke is for people around the world. The even more bitter fact about stroke is that it can occur in people at all stages of life. Strokes also leave their survivors with psychological, physical, and economical traumas. Some stroke survivors suffer disabilities that require excessive costs for treatment and care. In accordance with the data from Disability-Adjusted Life Year (DALY), the overall number of stroke patients accounts for 15.3 million people in Thailand. The number has been divided into 10 million cases of premature death and 5.3 million cases of disability. This figure is equivalent to an economic loss of 930,053 million Baht (about 7.2 percent of the national gross domestic product (GDP). Non-communicable diseases (NCDs), which develop from changing behaviors, such as alcohol drinking, smoking, obesity, imbalanced diet, and a lack of exercise, are the main factors responsible for the rising frequency of stroke. The first three frequent factors that affect DALY among most males are: 1) road accidents, 2) alcoholic consumption, and 3) strokes, while strokes, diabetes, and stress disorders are the first three diseases that claim for lives of the female counterparts. It can be said that road accidents and alcoholic consumption are the two main factors that trigger public health losses in Thailand. AIDS infection, once the most severe infection, tends to have lower rate of transmission due to higher quality HIV treatments. However, the rate of NCDs is on a trajectory due to the country's confrontation with a prevalence of old-

Correspondence to:
Tiamkao S.
Department of Medicine, Khon Kaen University, Khon Kaen 40002, Thailand.
Phone: +66-43-366869, **Fax:** +66-43-366870
E-mail: somtia@kku.ac.th

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age group members[3].

The reviewing of research papers into the quality of life (QOL) of patients with strokes[4] shows that continuous and time-consuming treatment is required for stroke patients after the post-coma stage. Meanwhile, the patients have to face many difficulties, including physical and mental fatigue due to high costs of treatment, which take place inversely with people of lower income. The patients have to withstand the state of being dependent. About 90 percent of the stroke survivors were reported to have experienced the following difficulties: balance problems, intellective declinations, perception and recognition failures, the inability to communicate, behavioral and emotional problems, and social problems[5]. In addition, stroke patients, who are recuperating at a post-medical stage, can undergo personality changes, such as being irritable and furious as a result of losing their ability to perform their regular routines. These changes bide the patient's' interest from interacting socially. Having lost the ability to maintain social and environmental bonds, leaves stroke patients with mental insecurities, such as being afraid of accidents, falling over, and other forms of discomfort. A sense of feeling desperate, withdrawing, losing interest in communicating, and losing the ability to do daily activities (Activity Daily Living: ADL) are also developed among the patients. Stroke patients have also been found to have high level of association with stress disorders[6].

In addition to the factors of feelings, emotions, and social interactions and the patient's' ability to maintain a daily routine, individual's factors (i.e., the patient's gender, age, level of education, type of stroke, physical functioning, chronicle of diseases, memory loss, and loss of the ability to communicate) portend to QOL of the stroke patients[7,8].

Despite the fact that stroke causes a high rate of mortality among Thai people, the current medical treatment for this disease is proving to be more effective. Intravenous thrombolytic therapy has been successfully employed with the application of a medicine called recombinant tissue plasminogen activator (rtPA), which stops vessel clog in the acute ischemic stroke patients. To increase higher level efficiency of the medical use, it is important for the patients to receive this drug within 4.5 hours (about 270 minutes) following the stroke occurrence. Unfortunately, only 10 percent of stroke patients are able to receive this type of treatment since most patients are uninformed about the symptoms of stroke. Premedical perceptions, such as the patients' anxiety about the medical costs can delay the capacity of stroke treatment. As a matter of fact, all Thai patients are able to obtain stroke treatment at their local provincial hospitals. Some community hospitals are capable of performing the Stroke Fast Track System with the assistance of medical staff members, who have been well-trained on stroke treatment. Advanced equipment and medical products for acute ischemic stroke screening are equipped at some community hospitals. The doctor can prescribe rtPA to the acute ischemic stroke patients under following circumstances: if a patient has been diagnosed with acute ischemic stroke within a period of 4.5 hours after initial symptoms have developed, if the neurological examination stroke severity score shows non-exceeding level of danger (National Institutes of Health Stroke Scale, NIH Stroke Scale, NIHSS), and if the patient has proven to have no contraindications to thrombolytic use. Under the course of rtPA application, this state-of-the-art treatment assures a 50 percent[9] chance of total stroke recovery within a course of three months.

One of the objectives of stroke treatment is to minimize its health impacts, such as preventing patient disability and the recurrence of the disease. Stroke treatment also aims to prevent brain injury and to assure the highest possibility of brain recuperation[10]. The stroke treatment is divided into three phases: the acute phase, post-acute phase, and the rehabilitation phase. The secret to effective stroke treatment relies on the quick and precise diagnosis. The treatment must be in strict compliance with the prescriptive medical path to assure the patient's chances of full rehabilitation. It is unfortunate that most of the stroke patients have received unduly and delayed treatment, which has allowed time for severe brain damage to take place, and which can cause other negative effects for the patient[10].

Stroke Fast Track System has been introduced to assure a timely and effective treatment for acute ischemic stroke patients, which lessens their chances of experiencing other negative effects of the disease. The system is a means to help create wellness among the stroke patients and their families.

The present study aimed at investigating the relationship between the attainment of the Stroke Fast Track System and the QOL of the acute ischemic stroke patients. The results from this study should also reflect the clinical performance with regard to the nursing care for emergency patients and the physical and mental rehabilitation of stroke patients. The results are expected to assist in developing the working process of the Thai public healthcare system in the future.

Objective

To investigate the relationship between the attainment of the Stroke Fast Track System and the QOL of acute ischemic stroke patients.

Materials and Methods

This descriptive-cross-sectional study was conducted with a group of 190 participants, who had been diagnosed with acute ischemic stroke and were receiving medical treatment at anonymous hospitals located in Roi-Et and Kalasin Provinces. Both are a mid-sized local hospital affiliated with Public Health Service Network area 7. The study took place between September and October 2018. The research instrument was a Thai version of the Stroke Specific Quality of Life, SSQOL[10] with the reliability figure of 0.94, which is considered a good degree of reliability. In addition, the questions were relevant to the research objectives. The Stroke Specific Quality of Life was divided into two parts. The first one was designed to obtain personal information of

the patients, and the latter was comprised of specific questions to test the patient's QOL. The data were interpreted via percentiles, means, standard deviations, and quartile ranges. The statistics correlation was obtained via Chi-square, Fisher Exact, univariate analysis, and multivariate logistic regression analysis. The study protocol was approved from the Khon Kaen University Ethics Committee in Human Research (HE612201).

Results

In the present study, 190 patients, who had been diagnosed with comprehensible acute ischemic stroke, participated. Of those, 58.95 percent of the participants were males, and 31.58 percent of the participants' were between 61 to 70 years old. The mean age of all participants was 62.70 years old (SD = 12.49 years), and 82.63 percent were married. 46.84 percent held primary school certificates, and 25.79 percent worked as day laborers. In addition, 57.89 percent reported having a moderate amount of savings. The majority of the patients (99.47 percent) had caretakers, and 55.26 percent had experienced acute ischemic stroke at a period of 6 to 12 months. Furthermore, 77.37 percent reported to have had home visits once or twice from an integrated health care team under the Home Health Care (HHC) program, while 90 percent reported to have had the following chronic diseases: hypertension (64.21 percent), dyslipidemia (31.05 percent), diabetes (28.42 percent), and coronary artery disease (10.53 percent). With regard to their experiences with the Stroke Fast Track System, 83.68 percent of the participants had previously used the service, while another 16.32 percent were unaware of the service. About 30.53 percent of the patients had received rtPA, and 69.47 percent had never been given rtPA. About 5.79 percent of the patients had been re-admitted within 28 days, while 94.21 percent had not been re-admitted, as detailed in Table 1.

With respect to the relationship between the participants' personal information and its association with the level of QOL for the acute ischemic stroke patients, Univariate analysis was used for analysis. A significant correlation at p-value <0.05 was observed between the patients' QOL and the individual factors including the following: age, marital status, level of education, occupation, assistance from caretakers, medical follow-up appointments, the number of visits from the HHC team, and readmission within a period of 28 days. However, the patient's QOL was not observed to be correlated with the individual factors, such as gender, family economy situation, and chronic diseases, such as hypertension, dyslipidemia, diabetes and coronary artery disease (CAD). More details are presented in Table 2. From the univariate analysis, it was observed that the implementation of the Stroke Fast Track System and the prescription of rtPA were significantly related (p-value <0.05) to the QOL of the acute ischemic stroke patients. More details are presented in Table 3.

All of the individual information of the stroke patients was analyzed by employing univariate analysis

Table 1. Number of patients (percent) divided by the sample's characteristics (n = 190)

Characteristics	Numbers (%)
Gender	
Male	112 (58.95)
Female	78 (41.05)
Age	
≤40	6 (3.16)
41 to 50	27 (14.21)
51 to 60	43 (22.63)
61 to 70	60 (31.58)
≥71	54 (28.42)
Mean ± standard deviation	62.70±12.49
Median (min: max)	63.00 (23.00:95.00)
Marital status	
Single	10 (5.26)
Married	157 (82.63)
Widowed	18 (9.47)
Divorced	5 (2.63)
Levels of education	
Never attended school	5 (2.63)
Primary	89 (46.84)
Secondary	46 (24.21)
Lower degree certificate	36 (18.95)
Bachelor's degree and higher	14 (7.37)
Occupations	
No job	39 (20.53)
On demand laborers	49 (25.79)
Farmers	48 (25.26)
Government officials	7 (3.68)
Government enterprise workers	22 (11.58)
Traders/merchants	25 (13.16)
Family economics	
Sufficient/without savings	72 (37.89)
Sufficient/with savings	110 (57.89)
Insufficient/with debt	8 (4.21)
Having a caretaker	
Not having caretaker	1 (0.53)
Having caretaker	189 (99.47)
Follow-up appointments	
≤12 months	108 (56.84)
13 to 18 months (1 year to 1.6 years)	41 (21.58)
>1.6 years to 2 years	40 (21.05)
>2 years	1 (0.53)
Number of home visits by the Health Home Care (HHC) team	
Never been visited	6 (3.16)
Been visited 1 to 2 times	147 (77.37)
Been visited 3 to 5 times	37 (19.47)
Chronic diseases (multiple answers are possible)	
Having no chronic disease	19 (10.00)
Having a chronic disease	171 (90.00)
Diabetes	54 (28.42)
Hypertension	122 (64.21)
Hypercholesterolemia	59 (31.05)
Coronary artery disease	20 (10.53)
Obtaining service from the Fast Track System	
Never obtained	31 (16.32)
Used to obtain	159 (83.68)

Table 1. Cont.

Characteristics	Numbers (%)
Having been prescribed with rtPA	
Never been prescribed	132 (69.47)
Been prescribed	58 (30.53)
Readmission within 28 days	
Yes	11 (5.79)
No	179 (94.21)

using multivariate logistic regression analysis. Every piece of the patients' individual data (*p*-value >0.20) was analyzed, which included information about age, marital status, level of education, occupation, assistance from caretakers, medical follow-up appointments, the number of visits by the HHC team, the implementation of the Stroke Fast Track System, the provision of rtPA, and the conditions of dyslipidemia and diabetes. The final model as observed in multivariate logistic regression analysis showed that the stroke patients' QOL was related to the following: marital status (adjusted OR 3.34: 95% CI; 1.05 to 10.59), regular job as a laborer (adjusted OR 10.35: 95% CI; 2.73 to 39.25), farming job (adjusted OR 15.00: 95% CI; 3.49 to 64.59), public enterprise worker (adjusted OR 14.10: 95% CI; 2.38 to 83.69), trader (adjusted OR 15.26: 95% CI; 3.01 to 77.31), and the attending service of the Stroke Fast Track System (adjusted OR 24.98: 95% CI; 5.80 to 107.49). More details are as presented in Table 4.

Discussion

Quality of Life of patients with acute ischemic stroke: overall, the QOL of the stroke patients was rated at a "good" level, which should be the result of timely stroke treatment. The fact that people were more aware of the dangers of stroke had led to prompt and duly stroke treatments. As a part of the Fast Track campaign, people had been acknowledged about health promotion, stroke alert, stroke awareness, and emergency medical services (EMS). Once people were aware of the stroke danger and the need for the patient to obtain immediate diagnosis and treatment, they did not hesitate to call for EMS, which led to the lessening of stroke hazards among the patients. Given that the patients had received medical treatment within the Golden Period-a period of 270 minutes after the first stroke symptom is observed when the patients are still capable of restoring cerebral blood flow, which may lead to improvement or resolution of neurologic deficits and the reduction of mortality and the morbidity rate[9]. Other factors that could constitute either negatively or positively on QOL among stroke patients were age, level of education, having caretakers, attending medical follow-up appointments, physical therapy, and having other diseases.

If a patient were to arrive at the hospital within a golden period and the examination proved that the patients did not conform to any treatment risks or limitations, then rtPA drug would be immediately given. rtPA is an effective drug for resolving blood clots in the brain by allowing the restoration of cerebral blood flow. As a result, the patients' observable physical abnormalities such as distorted lips, unclear articulation, and muscle weakening, can be corrected[9,11].

Most of the patients, who had obtained Stroke Fast Track service, experienced a better QOL compared to the group which was unaware of the system. As a matter of fact, the patients receiving stroke treatment via the Fast Track System had only experienced a mild level of brain damage, which guarantees higher rate of brain rehabilitation during the clinical practice guideline (CPG) process as compared to the group with delayed treatment[12].

The Stroke Fast Track is a key factor in helping to increase the QOL for stroke patients. The system is performed with high stroke treatment standards at the pre-stroke treatment, the continuing treatment, and the post-treatment stages. After returning home, families and communities play a part in the patients' QOL. The factors affecting the patients' lives after the course of hospital treatment are the patients' regularity in attending medical follow-up and therapy appointments, the community's involvement in the patients' home visit, and the availability of good caretaking[12]. Actually, the involvement of these factors is crucial for the treatment of acute ischemic stroke at all phases. Conscientious approaches to stroke management lead to full rehabilitation among the patients with significant lessening of the patients' chance of experiencing disability[4-6]. Particularly in the present study, it was observed that most of the patients had a "good" level of QOL due to the fact that most of them had obtained a timely and highly-efficient stroke treatment.

It was concluded in the present study that being well-informed about the safety practices against acute ischemic stroke has helped to increase the patients' plausibility to obtain the Stroke Fast Track Service. The later process after being registered with the Stroke Fast Track System is for the patients to attain stroke treatment based on the Clinical Nursing Practice Guideline (CNPG) in acute stroke patients in the acute phase[13], which involves a prompt prescription of rtPA in the form of an intravenous injection. The prescription of rtPA is effective in reducing brain damage due to blood clotting and this prescription was found in this study to be capable of reducing the patients' disability. In addition, holistic nursing care, HHC, rehabilitation, and mental support were forces that had helped the patient to perform daily routines and live their lives in as normal a manner as possible. In a situation in which all of these factors are well-controlled, it is highly positive that the overall life quality for the acute ischemic stroke patient will be improved[12]. Note that no evaluations on stroke risk factors or associated diseases and its related conditions were reported[14-20].

Conclusion

Acute ischemic stroke is a neurological disease, which threatens the lives of people in Thailand and

Table 2. Relationship between acute ischemic stroke patients' characteristics and quality of life based on Univariate analysis

Characteristics	Quality of life		*p*-values
	Moderate	Good	
Gender			0.660
Male	33 (29.46)	79 (70.54)	
Female	25 (32.47)	52 (67.53)	
Age	65.71±12.87	61.31±12.16	0.025
Marital status			0.015
Single/widow/divorced, separated	16 (48.48)	17 (51.52)	
Married	42 (26.92)	114 (73.08)	
Levels of education			0.008
No school/primary school	39 (41.94)	54 (58.06)	
Secondary school	7 (15.22)	39 (84.78)	
Lower degree certificate	9 (25.00)	27 (75.00)	
Bachelor's degree or higher	3 (21.43)	11 (78.57)	
Occupation			<0.001
No jobs	24 (61.54)	15 (38.46)	
On demand laborers	10 (20.41)	39 (79.59)	
Farmers	13 (27.66)	34 (72.34)	
Government officials	1 (14.29)	6 (85.71)	
Government enterprise workers	5 (22.73)	17 (77.27)	
Traders/merchants	5 (20.00)	20 (80.00)	
Family economics			0.217
Insufficient income	25 (35.21)	46 (64.79)	
Sufficient income	33 (76.36)	85 (123.64)	
Having a caretaker			1.000*
No	0 (0.00)	1 (100.00)	
Yes	58 (30.85)	130 (69.15)	
Attending medical follow-up appointments		0.010	
≤12 months	13 (32.50)	27 (67.50)	
13 to 18 months	20 (48.78)	21 (51.22)	
>1.6 years	25 (23.15)	83 (76.85)	
Number of home visit by the health home care team			0.003*
Never been visited	1 (16.67)	5 (83.33)	
Been visited 1 to 2 times	37 (25.34)	109 (74.66)	
>3 times of home visit	20 (54.05)	17 (45.95)	
Re-admissions			0.023
No	58 (32.58)	120 (67.42)	
Yes	0 (0.00)	11 (100.00)	
Chronic diseases			0.337
No chronic disease	4 (21.05)	15 (78.95)	
Having chronic disease	54 (31.76)	116 (68.24)	
Hypertension	41 (33.88)	80 (66.12)	
Hypercholesterolemia	23 (38.98)	36 (61.02)	0.096
Diabetes	22 (40.74)	32 (59.26)	0.058
Coronary artery disease	4 (20.00)	16 (80.00)	0.273

Chi-square test, * Fisher exact test

around the world. It is important for the patients to be well-informed about the disease and the need for all patients to obtain a timely treatment. Moreover, the Stroke Fast Track System should be publicized to ensure that the patients will receive standard treatment under CPG. As the evidence showed in this study, the Stroke Fast Track System can help reduce the patient's' risk of mortality and disability while also lowering other stroke complications. This finding should be used to enhance public health policy in order to ensure a broader spectrum of standards for stroke treatment in Thailand. In addition, it is the researchers' hope that this study will provide a basis for an in-depth study on the QOL for acute ischemic stroke patients.

Suggestions

Suggestions for nursing practices

As evidenced in this research study, the Stroke Fast Track System can help to increase the acute ischemic

Table 3. Relationship between the obtaining of stroke fast track service and the rtPA on the quality of life of acute ischemic stroke patients based on the univariate analysis

Patients' characteristics	Obtaining stroke fast track service		Obtaining rtPA		*p*-value
Levels of life quality	Fast track	Non-fast track	rt-PA	Non-rt-PA	<0.001
Moderate level	30 (18.99)	28 (90.32)	8 (14.04)	50 (37.88)	
High level	128 (81.01)	3 (9.68)	49 (85.96)	82 (62.12)	

Chi-square test, * Fisher exact test

Table 4. Factors affecting the quality of life of acute ischemic stroke patients based on multivariate logistic regression analysis (n = 189)

Variables	Moderate level of life quality	Good level of life quality	Adjusted OR (95% CI)	*p*-values
Marital Status				
Single/widow/divorced/separated	16 (48.48)	17 (51.52)	1	
Married	42 (26.92)	114 (73.08)	3.34 (1.05 to 10.59)	0.040
Occupation				
No jobs	24 (61.54)	15 (38.46)	1	
On demand laborers	10 (20.41)	39 (79.59)	10.35 (2.73 to 39.25)	0.001
Farmers	13 (27.66)	34 (72.34)	15.00 (3.49 to 64.59)	0.000
Government officials	1 (14.29)	6 (85.71)	10.27 (0.86 to 122.35)	0.065
Government enterprise workers	5 (22.73)	17 (77.27)	14.1 (2.38 to 83.69)	0.004
Traders/merchants	5 (20.00)	20 (80.00)	15.26 (3.01 to 77.31)	0.001
Obtaining fast-track service				
No	28 (90.32)	3 (9.68)	1	
Yes	3 (18.99)	128 (81.01)	24.98 (5.80 to 107.49)	0.000

Goodness of fit = 0.419 (the model fits with the information), ROC = 0.907 (the factors have high capacity for life quality prediction)

stroke patients' quality of life. It is recommended that holistic nursing practices be implemented by a multidisciplinary medical team in order to achieve optimal clinical results.

Suggestions for future study

There should be a prospective study, which examines the long-term QOL of the patients because the patients' QOL on the post-medical stage of stroke treatment may differ among the holistic or the itemized investigation. The result obtained from this type of study should provide insight into the patients' health condition at different points of time. The data obtained from the prospective study should provide a clue for nursing practices for the patients.

What is already known on this topic?

Cerebrovascular disease or stroke is a prevailing neurological disease that constitutes the world's primary public health issue.

What this study adds?

Acute ischemic stroke is a neurological disease which threatens the lives of people in Thailand and around the world. It is important for the patients to be well-informed about the disease and the need for all patients to obtain a timely treatment.

Potential conflicts of interest

The authors declare no conflicts of interest.

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ความสัมพันธ์ระหว่างการเข้ารับบริการช่องทางด่วนพิเศษต่อคุณภาพชีวิตของผู้ป่วยโรคหลอดเลือดสมองขาดเลือดเฉียบพลัน

สมศักดิ์ เทียมเก่า, ชัจคเณค์ แพรขาว, หนึ่งฤทัย ยุบลชิต

วัตถุประสงค์: เพื่อศึกษาความสัมพันธ์ระหว่างการเข้ารับบริการช่องทางด่วนพิเศษต่อคุณภาพชีวิตของผู้ป่วยโรคหลอดเลือดสมองขาดเลือดเฉียบพลัน

วัสดุและวิธีการ: การวิจัยเชิงพรรณนาแบบภาคตัดขวาง ณ เวลาใดเวลาหนึ่ง กลุ่มตัวอย่างคือผู้ที่ได้รับวินิจฉัยจากแพทย์ว่าเป็นโรคหลอดเลือดสมองขาดเลือดเฉียบพลันจำนวน 190 คน รวบรวมข้อมูลจากการสัมภาษณ์ โดยใช้เครื่องมือวัดคุณภาพชีวิตผู้ป่วยโรคหลอดเลือดสมองแบบเฉพาะเจาะจง ฉบับแปลภาษาไทยการศึกษาคุณภาพชีวิตนี้แบ่งออกเป็น 3 ระดับ คือ ดี ปานกลางและน้อย

ผลการศึกษา: พบว่าส่วนใหญ่มีคุณภาพชีวิตโดยรวมอยู่ระดับดี ซึ่งปัจจัยที่มีความสัมพันธ์ต่อคุณภาพชีวิตผู้ป่วย ได้แก่ ข้อมูลส่วนบุคคล พบว่าส่วนใหญ่เป็นเพศชาย อายุเฉลี่ย 62 ปี มาตรวจติดตามอาการสม่ำเสมอในช่วงระยะเวลาระหว่าง 6 เดือนถึง 2 ปี มีคุณภาพชีวิตอยู่ในระดับดี คิดเป็นร้อยละ 68.95 และรองลงมาคือมีคุณภาพชีวิตอยู่ระดับปานกลาง คิดเป็นร้อยละ 30.53 โดยการศึกษานี้ พบว่าปัจจัยที่มีความสัมพันธ์กับคุณภาพชีวิตของผู้ป่วยโรคหลอดเลือดสมองขาดเลือดเลือดเฉียบพลันได้แก่ ระบบบริการช่องทางด่วนพิเศษ การได้รับยาละลายลิ่มเลือดทางหลอดเลือดดำ มีความสัมพันธ์กับคุณภาพชีวิตอย่างมีนัยสำคัญทางสถิติ รวมถึงสถานภาพสมรส ระดับการศึกษา อาชีพ การมาตรวจอาการตามนัด และจำนวนครั้งที่ได้รับการเยี่ยมบ้าน มีความสัมพันธ์กับคุณภาพชีวิตของผู้ป่วยโรคหลอดเลือดสมองขาดเลือดเลือดเฉียบพลันอย่างมีนัยสำคัญทางสถิติ

สรุป: หากได้รับการดูแลตามระบบบริการช่องทางด่วนพิเศษและได้รับการดูแลตามแนวปฏิบัติการดูแลผู้ป่วยโรคหลอดเลือดสมองอย่างถูกต้องครบถ้วน จะเป็นปัจจัยที่ช่วยส่งเสริมให้คุณภาพชีวิตของผู้ป่วยโรคหลอดเลือดสมองขาดเลือดเลือดเฉียบพลันมีคุณภาพชีวิตที่อยู่ในระดับดียิ่งขึ้นต่อไป