

Relationship of Functional Status and Hopelessness among Stroke Patients

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Abstract: Stroke might cause neurological deficit such as hemiparesis and hemiplegia which may affect a person's functional status. Patient with stroke needs other's assistance in meeting their daily needs, unable to carry out their functions and roles in the family and cannot work properly, causing anxiety, stress and depression and trigger feelings of hopelessness. The research aimed to identify relationship between functional status and hopelessness feeling in stroke patients. The type of the research was correlation study used cross sectional study design. The research was conducted on 110 patients with stroke by using purposive sampling method. Data collection was done by guided interview used Barthel Index and Beck Hopeless Scale questionnaires. The result of the research showed that majority of patient with stroke had moderate level dependence (49,1 %) and 37,3% had moderate level hopelessness. Spearman Rank test resulted correlation coefficient (r) 0,569 with $p=0,00$ ($p<0,05$). It means that there was a relationship between functional status and hopelessness in stroke patients. It is recommended for healthcare team to provide physical and psychological supports for patients to assist them in accepting their physical limitation and neurological deficit, so they could manage their lives optimally.

1 INTRODUCTION

Cerebro Vascular Accident (CVA) is a disturbance in intracranial blood vessel as resulting the sudden cessation of blood supply to the brain which is causing loss of brain function accompanied by neurological deficits. Clinical manifestations of stroke patients include impairment of consciousness, hemiplegia and hemiparesis, paresthesia, impaired verbal communication, visual and cognitive impairment (Lewis, Dirksen, Heitkemper, Bucher, Harding, 2017).

Stroke is ranked the second cause of death and disability globally. A total of 6.2 million deaths globally in 2015 were caused by stroke. Stroke incidents in Indonesia in 2013 were approximately 1.236.825 people and Aceh province were included among 10 provinces in Indonesia that suffered the most from stroke with 34.313 people. More than two-thirds of

stroke patients experience long-term disabilities for instance inability of activity daily living (ADL) including bathing, dressing, moving and walking due to hemiparesis and hemiplegia. (Basic Health Research, 2013; Johnson, Onuma, Owolabi, sachdev, 2016).

Hemiplegia and hemiparesis and various neurological deficits can affect the functional status of stroke patients. Functional status is the ability of a person to perform daily activities to be able to fulfill basic needs, carry out roles and functions in the family, and maintain health and welfare (Chen, Moeliono & Amalia, 2016, Lewis et al, 2017).

Functional assessment aims to evaluate the severity of the disease, measure a person's treatment needs, and monitor health changes all the time. Evaluation of functional status is very essential to be assessed in stroke (Krishnison, Leong,Lye, Johar & Ismail, 2015).

According to Nanda International Inc. (2015), hopelessness is a subjective condition when an individual perceives limitations or lack of alternatives or personal choices and unable to mobilize energy for his own sake. Hopelessness can be caused by deteriorating physiological conditions, pain, discomfort, prolonged weakness, inability to participate in desired activities and barriers to functional ability: walking, elimination and eating (Christensen, 2014; Marvin & Zeltzer, 2017)

2 METHODS

The type of research in this study was correlation study with cross sectional study design. Determination of samples using consecutive sampling, so that obtained 110 post stroke patients who were treated at the neurology clinic of Dr. Zainoel Abidin General Hospital Banda Aceh. Data analysis used Spearman Rank test.

The functional status of the patients was measured using the Barthel Index questionnaire which consisted of 10 question items. The Barthel Index had validity value of 0.73-0.77 (p

<0.001) and reliability value of 0.87 ($p <0.001$) (Mahoney & Barthel, 1965)

Barthel index is a functional instrument to measure the extent to which a person can function independently and have mobility in carrying out their daily life activities (ADL). Activities were assessed including mobilization, eating, taking care of yourself, taking a bath, walking on a flat surface (mobility), using stairs, dressing, defecating (intestinal control), and urinating (bladder control) (Christensen, 2014; Marvin & Zeltzer, 2017)

Beck Hopelessness Scale (BHS) assessed 3 aspects i.e. affective, motivational, and cognitive aspects. BHS consisted of 20 true-false statements, 9 positive statements and 11 negative statements. Responses for each statement were given a score of 0 or 1. BHS with validity value of 0.86 ($p <0.001$) and reliability value of 0.93 (Beck et al., 1974).

3 RESULTS

Demographic data in this study included age, gender, marital status, last education, employment, length of stroke, and neurological deficits of patients.

Table 1: Demographic data characteristics of stroke patients.

Demographic data	Frequency	Percentage
Age		
36-45 years	16	14,5
46-55 years	32	29,1
56-65 years	39	35,5
≥ 65 years	23	20,9
Gender		
Male	70	63,6
Female	40	36,4
Marital status		
Married	90	81,8
Not married	5	4,5
Widow	13	11,8
Widower	2	1,8
Last education		
Basic	22	20,9
Middle	41	37,3
High	46	41,8
Occupation		
Civil servant	18	16,4
Retired	34	30,9
Housewife	16	14,5
Farmer	1	0,9

Demographic data	Frequency	Percentage
Entrepreneur	20	18,2
Unemployed	21	19,1
Length suffered stroke		
≤6 months	32	29,1
<1 year	26	23,6
≥1 year	52	47,3
Barriers of physical mobility		
Hemiparesis	79	71,8
Hemiplegia	31	28,2

Table 2: Frequency distribution of functional status of stroke patients

Functional status	Frequency	Percentage
Mild dependence	19	17,3
Moderate dependence	54	49,1
Severe dependence	34	30,9
Total dependence	3	2,7

Table 3: Frequency Distribution of Hopelessness feeling of Stroke Patients

Hopelessness feeling	Frequency	Percentage
Minimal hopelessness	11	10,0
Mild hopelessness	40	36,4
Moderate hopelessness	41	37,3
Severe hopelessness	18	16,4

Table 4: The relationship between functional status and hopelessness of stroke patients

Functional status	Hopelessness (%)										α	p -value
	Minimal		Mild		Moderate		Severe		Total			
	f	%	f	%	f	%	f	%	f	%		
Mild dependence	6	42,8	10	20	4	9,7	1	5,5	19	17,3	0,05	0,00
Moderate dependence	5	35,7	21	52,5	17	41,5	3	16,7	54	49,1		
Severe dependence	2	14,2	5	12,5	18	40	13	72,2	38	34,5		
Total dependence	1	7,1	3	7,5	2	4,9	1	5,5	7	6,4		
Total	14	100	40	100	41	100	18	100	110	100		

Table 4 showed that 54 (49.1%) stroke patients with moderate dependency functional status, there were 17 patients (41.5%) who experienced moderate hopelessness. Through the Spearman Rank statistical test, it was obtained p -value = 0.00 (<0.05) so that H_0 was rejected which meant that there was a relationship between functional status and feelings of hopelessness in stroke patients.

4 DISCUSSION

The results showed that there was a relationship between functional status and hopelessness feeling in stroke patients. Most stroke patients experienced a change in functional status i.e. moderate dependence (49.1%) and 37.3% of

patients experienced moderate hopelessness. Post-stroke disability will affect the patient's psychosocial conditions such as feelings of low self-esteem, feeling unlucky, grieving, anxious and afraid. This condition is a manifestation of feelings of hopelessness that lead to depression. Limitations in performing daily activities make patients very dependent on others and need assistance in meeting their daily activities. The greater the neurological deficit obtained by the patient, the more unable the patient will be in carrying out his daily activities (Lopez-espuela et al., 2016).

The results of this study were also supported by research conducted by Elisabet & Taviyanda (2013) which showed that most stroke patients in the outpatient installation of Babtis Hospital were dependent on meeting their daily

activities. Patients need help with activities for example moving, walking and climbing stairs because the patient is difficult to move part of his body. In addition, assistance in caring for themselves and bathing is also needed by patients.

Recovery of neurological deficits in stroke patients can be rapid within the first 6 months after a stroke. If after 6 months they still have disability, the repair will not be too significant, although minor repairs can still occur within 2 years. In general, disability experienced by patients after 2 years will tend to settle. Patients after 2 years and more than this period tend to experience disability continuously and this is one of the factors causing hopelessness in patients (Ardi, 2011, Ratnasari, Kristiyawati, & Solechan, 2012)

The results showed that the length of patients with the most stroke was > 1 year (47.3%) with the most neurological deficits obtained by patients was hemiparesis (71.8%). This is related to the long-term effects of neurological deficits obtained by patients and adherence of patients to post-stroke rehabilitation therapy which serves to improve the functional status of patients.

This study is in accordance with research conducted by Krishnian, Leong, Lye, Johar dan Ismail (2015) on functional status in stroke patients who stated that the duration of stroke affected the functional status of stroke patients. Stroke patients who are suffered more than 24 months usually experience persistent disability so they have functional status of severe dependence on others. Prolonged disability and weakness are related to hopelessness.

Research conducted by Chen et al., (2016) on the functional status of stroke patients in outpatient installation Hasan Sadikin General Hospital explained that rehabilitation therapy can improve the functional status of stroke patients from moderate dependence to be mild dependency in fulfilling their daily activities. Rehabilitation therapy and post-stroke treatment are carried out regularly from the first 6 months or even 2 years or more to reach the optimal functional level requires quite a lot of costs. The length of the treatment process and

stress with economic issues are also factors cause hopelessness in patients.

Dependence on others in carrying out daily activities will interfere with the role of patients in the family. In this study the majority of patients (81.8%) were married. Stroke patients with married status were prone to experience impaired role functions in families both in men and women.

Male patients cannot perform their role as head of family. Patients cannot work to make a living, so they can cause economic problems in the family, while patients also need a fee for treatment. Female patients also cannot act as wives and mothers as before due to hemiparesis or hemiplegia. This will lead to feelings of hopelessness in the patient because of cannot do something better for himself and his family (Sawab, Bahrudin, Daulima, 2015).

The results of further analysis of the study at the Neurological Polyclinic of the dr. Zainoel Abidin Regional General Hospital Banda Aceh using the Spearman Rank showed that there was a relationship between functional status and hopelessness feelings in stroke patients with moderate relationship. This can be seen in the results of the study 41.5% of patients with dependency functional status are experiencing moderate hopelessness, which is reflected in the feeling of sadness because they cannot perform daily activities such as moving, eating, walking, climbing stairs, unable to perform their functions and roles in the family and cannot do various other desired activities.

The inability to perform the role function will lead to feelings of hopelessness so that stroke patients lose the meaning of life. Changes in the meaning of life can occur because of feelings of underappreciation, not being included in various activities, not being consulted, feeling excluded and feeling useless. This condition creates feelings of hopelessness, depression and raises the idea of suicide (Sawab et al., 2015).

Kosasih's (2006) study explains that post-stroke patients experience feelings of hopelessness, have no prospect that conditions will get better and the impact of stroke can

affect physical, and psychological functions and also social relations.

5 CONCLUSION

Neurological deficit experiencing among stroke patients can affect functional status. The higher level of dependence showed the higher level of hopelessness feeling on patient with stroke. This condition needs attention from nurses and the whole healthcare team to give support for patients so patients keep spirit and optimistic in spite of limitations. These efforts are expected to avoid being hopelessness feeling with patients' condition.

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