

Rehabilitation-related knowledge correlate to visit compliance in post-ischemic stroke patients in an outpatient rehabilitation clinic



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ABSTRACT

Background: Stroke is a serious medical condition potential that affects humans and requires special attention. The treatment of stroke is highly dependent on patients' knowledge and adherence in undergoing rehabilitation. Knowledge about medical rehabilitation will determine the level of patients' adherence undergo medical rehabilitation. The study aimed to find the correlation between patients' knowledge and adherence to chronic stroke patients undergoing medical rehabilitation.

Methods: This is an observational analytic study conducted in the executive medical rehabilitation policlinic at dr. Zainoel Abidin Hospital. Seventy-four respondents were selected by the non-probability sampling technique and accidental sampling method. Two questionnaires were used, namely the "Overview of Familial Behaviour towards Stroke Patients in Rehabilitation Efforts" questionnaire and the "Correlation of Family Support with Stroke Patients Rehabilitation Adherence" questionnaire. Data were analyzed using Chi-Square statistical test.

Results: 45.9% of respondents had good knowledge and compliance, 23% of respondents had average knowledge and compliance, and 9.5% of the respondents had poor knowledge and compliance. Data analysis showed a significant correlation between patients' knowledge and level of adherence in undergoing medical rehabilitation.

Conclusion: Increasing patients' knowledge about medical rehabilitation is crucial to improve patient's adherence in undergoing medical rehabilitation.

Keywords: Ischemic Stroke, Knowledge Level, Medic, Patients Adherence Level.

Cite This Article: Nadila, I., Syahrul., Suherman., Mamfaluti, T., Firdausa, S. 2021. Rehabilitation-related knowledge correlate to visit compliance in post-ischemic stroke patients in an outpatient rehabilitation clinic. *Bali Medical Journal* 10(2): 549-552. DOI: 10.15562/bmj.v10i2.2409

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Received: 2021-04-20

Accepted: 2021-06-22

Published: 2021-06-30

INTRODUCTION

According to American Heart Association, stroke is a severe illness potential to affect anyone, which requires special attention. Annually, there were 15 million newly stroke-diagnosed patients in the world in which the mortality rate was one third while two-third had comorbidity of long term disability.^{1,2}

Riset Kesehatan Dasar (RISKESDAS) 2018 reported that the prevalence of stroke in Indonesia based on health workers diagnose 10.9 patients per mil. Recently, the province with the highest stroke prevalence In Indonesia was North Kalimantan which was 14.7 patients per mil. Aceh had the lowest position regarding the incidence of stroke in Indonesia. However, stroke was listed as the twentieth cause of hospitalization in Aceh Province.³

Rehabilitation is highly crucial for stroke patients to normalize or minimize sequels of the stroke. A complete rehabilitation program can be commenced at the hospital by physiotherapy, occupational therapy, and speech therapy. The program was not limited to recovery but also psychosocial rehabilitation supported by special affection and empathy to motivate the patient. Patients' adherence in undergoing rehabilitation programs is possible to affect disability recovery speed. Currently, patients' level of adherence has been the main serious issue of the medical professional. Research and program development are meaningless without patients' adherence to the medication.³

Muttaqin mentioned a significant correlation between the knowledge of the patient and the family and care of stroke

patients. The study emphasized adequate family knowledge. Knowledge is highly dependent on education, experience, age, and also existing information. Among these four factors, experience and information are highly modifiable factors. Health workers are responsible for providing adequate information regarding medical rehabilitation for better care knowledge. With better knowledge, family members are expected to give full attention to stroke patients.⁴

Patients' knowledge regarding medical rehabilitation will determine ischemic stroke patients' adherence to undergoing medical rehabilitation. The treatment of ischemic stroke is divided into three phases; they are acute phase, subacute phase, and chronic phase. Rehabilitation is different in each step, so the patient and his family must be informed of every

progress.⁵ A study conducted in Yogyakarta found that family roles without knowledge related to the care provided will decrease the treatment efficacy.⁶

Based on the theory and observed phenomenon, the author was attracted to finding out the correlation between patients' knowledge and adherence to chronic stroke patients undergoing medical rehabilitation.

METHODS

The study is an analytic observational study with the cross-sectional design held at the medical rehabilitation policlinic in Zainoel Abidin Hospital Banda Aceh. The study was conducted from April to December 2019, which included 74 subjects post-ischemic stroke patients. The inclusion criteria of this study were 12-weeks post-ischemic stroke patients diagnosed by a neurologist and aged between 45 to 69 years old. The exclusion criteria of this study were stroke patients in acute and subacute phase with aphasia and patients with cognitive impairment proven by Mini Mental State Examination (MMSE) questionnaire scored < 24. Subjects were selected by the non-probability sampling technique and accidental sampling method. Anyone arriving at medical rehabilitation policlinic accidentally when the study was conducted assigned as the subject. The ethical committee has approved all study protocols of Universitas Syiah Kuala/Dr. Zainoel Abidin General Hospital. Data analysis was performed by Statistical Package for the Social Sciences (SPSS) version 20. Descriptive analyses were used to serve the result. Categorical variables are expressed as percentages. Chi-square was used as the inferential statistics to detect association among variables and described as p-values (p<0.05 considered significant).

RESULTS

The subject's characteristics are provided in [Table 1](#). The majority of respondents were male (55.4%), and the most prevalent age among the subject who attend the rehabilitation program was less than equal to 60 years old. Based on the house distance, most patients lived in an area that ranged less than 13 km from Zainoel

Table 1. The Respondents' Characteristics.

Characteristics	Frequency (n)	Percentage (%)
Gender		
Male	41	55.4
Female	33	44.6
Age		
≤ 60 years	38	51.3
> 60 years	36	48.6
House distance		
≤ 13 km	49	66.2
>13 km	25	33.8
Occupation		
Retired	17	23.0
Entrepreneur	12	16.3
Housewife	19	25.7
Civil servant	18	24.1
Farmer	3	4.1
Merchant	3	4.1
Laborer	2	2.7
Frequency of Visit		
Non-adhere to treatment		
< 7 times per month	16	21.7
Adhere to treatment		
≥ 7 times per month	58	78.3
Total	74	100.0

Table 2. The frequency distribution of Respondents' Knowledge regarding Medical Rehabilitation.

Level of Knowledge	Frequency (n)	Percentage (%)
Poor	20	27.0
Sufficient	37	50.0
Good	17	23.0
Total	74	100.0

Table 3. The Frequency Distribution of Respondents' Level of Adherence regarding Medical Rehabilitation.

Adherence Status	Frequency (n)	Percentage (%)
Adhere	58	78.3
Non-adhere	16	21.7
Total	74	100.0

Abidin General Hospital.

From this study, it was found that many respondents were housewives (25.7%), and based on the frequency of visit, the majority of respondents adhered to treatment because they came to the clinic more than equal to seven times per month.

From this study, it was found that many respondents had a "sufficient" level of knowledge with 50% prevalence, while respondents who had a "good" level of knowledge were only 23% ([Table 2](#)). Fifty-eight respondents (78.3%) adhered to the

medical rehabilitation, as shown in [Table 3](#).

Data were analyzed using Chi-Square with 90% Confidence Interval (CI), showing the significance or p-value of <0.001. This study found a correlation between patients' level of knowledge towards adherence in undergoing medical rehabilitation ([Table 4](#)).

DISCUSSION

Stroke and other neurological disorders are the most common complications in

Table 4. The Correlation between Knowledge and Adherence to Medical Rehabilitation.

Knowledge of Medical Rehabilitation	Level of Adherence				Total		p-value
	Non-adhere		Adhere		N	%	
Poor	N	%	N	%	N	%	0.000
Sufficient	13	17.6	7	9.5	20	27.0	
Good	3	4.1	34	45.9	37	50.0	
	0	0.0	17	23.0	17	23.0	

Note: Chi-Square test, significant p value < 0.05.

diabetes mellitus, especially in type 2 diabetes. Some of the characteristics of medical conditions such as age, gender, and several other risk factors such as smoking history, hypertension, dyslipidemia, and diabetes mellitus.⁷

Stroke incidence can increase due to several factors; one of them is smoking. Male patients smoke more often than female patients, so that is the reason why men are more likely to have a stroke than women.⁸ This result is significant with a study by Priandhini at Soetomo Surabaya General Hospital in 2019, which also found that stroke patients undergoing medical rehabilitation were dominated by males (56.9%) because of the smoking habit in men. The result was also concordant with Chang et al. in Korea, in which males (55.1%) were found more than females (44.9%).⁹

Chang et al. stated that ischemic stroke patients in his study were aged 61 years old, which increased simultaneously and age, but the incidence rate is reduced in patients over 80 years old.¹⁰ A stroke epidemiology data by Hong et al. revealed that patients aged between 65-74 years old tend to have a stroke (30%) in which the most significant proportion was male compared to female. The fact was supported by the theory that vascularization has a higher tendency on the elderly. However, this study did not involve patients aged more elevated than 69 years old due to compromised cognitive impairment.¹¹

The majority of patients who lived in the area ranged less than 13 km from Zainoel Abidin General Hospital. In this range, the Aceh Government had provided public transportation, namely Trans-Kutaraja, so that patients can have better access. This facilitation is one of the factors potentials to increase patients' adherence

in undergoing medical rehabilitation. This result is significant with a study conducted by Nai Wen Guo where one of the factors affecting stroke patients' motivations for rehabilitation is distance and accommodation facilities.¹²

Based on the occupation, there were 19 respondents as housewife (25.7%), 18 civil servants (24.1%), 17 retired citizens (23%), entrepreneurs (12%), farmers (4.1%), merchant (4.1%), and labourer (2.7%). It can be inferred that respondents with higher psychological stressors, such as housewives, civil servants, and entrepreneurs, had a higher risk of suffering stroke than respondents with physical stressors such as merchants, farmers, and laborers. However, both psychological and physical stressors played crucial parts in the compliance.

The precise frequency of respondents' visits was categorized into two groups: adhered and non-adhere-to-treatment groups. The patient was considered to adhere to the treatment if the frequency was more than equal to 7 times per month and was supposed to be non-adhere if the frequency was less than seven times per month.

In this study, it was found that half of the respondents had sufficient knowledge regarding medical rehabilitation. This finding was supported by Arianti which also found that 46.9% of respondents had an adequate level of knowledge.¹³ However, Handayani in Semarang had a different result. The whole respondents had poor knowledge level due to low educational background and inadequate education regarding the patient condition for the patient and its family.¹⁴

The majority of respondents who adhere to treatment were dominant in this study. This corresponded with the guarantee of

medical rehabilitation services, where the government has facilitated eight visits per month for medical rehabilitation because it is considered optimal for treatment. Silvi supports this study. The whole respondents were adhered to the medical rehabilitation due to higher motivation to recover from stroke and prevent recurrent stroke.^{15,16} In contrast, a study by Arianti revealed that 65.6% of respondents have not adhered to the treatment. External motivation and belief are potential to cause hesitancy in the family as the decision-maker. Several families had assumed that alternative treatment or seeking another hospital treatment are better steps to take compared to medical rehabilitation. Undeveloped progress after long term therapy is the reason for this phenomenon.^{13,17,18}

Our result found that a minor of respondents with poor knowledge adhered to the medical rehabilitation program, half of the respondents with sufficient knowledge adhered to the program, and a quarter had good knowledge adhered to the treatment. Patients' good educational background influenced the result, education provided by the health workers, and the absence of economic burden since the medical rehabilitation program was insured by Indonesia's Badan Penyelenggara Jaminan Sosial (BPJS).¹⁶

The highest frequency of visitors to the Medical Rehabilitation Clinic in this study was more than equal to seven times per month. The insurance restricts the number of visits due to economic reasons, and it had been considered adequate to support patients' recovery. However, Sridharan stated that medical rehabilitation would give better outcomes if home care were also available. The physiotherapist does home care daily to train the patient and involve the family to support both moral

and material. It is expected that patients have to avoid depression as stroke affects not only the physical condition but also psychological aspects.^{19,20}

CONCLUSION

It can be concluded that there was a significant correlation between patients' knowledge with adherence in undergoing medical rehabilitation. This study found that it would be more obedient to undergoing rehabilitation if a person's level of knowledge was higher.

ETHICAL CONSIDERATION

The study has been approved by the Health Research Ethics Committee of the Faculty of Medicine at Universitas Syiah Kuala and the Dr. Zainoel Abidin General Hospital (RSUZA), Banda Aceh (KEPPKN Registration number: 1171012P; No.247/EA/FK-RSUDZA/2019).

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the manuscript.

FUNDING

The authors are responsible for the funding without grant, sponsorship, or other funding support sources.

AUTHOR CONTRIBUTION

All authors contributed equally to the study's content, including data gathering, statistical analysis, and data synthesis.

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