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Research article

The effect of perceived severity on activity of daily living in post non hemorrhagic stroke patients

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Abstract

Stroke is a major health problem that can lead to disability and death with a higher incidence of non-hemorrhagic stroke compared to haemorrhagic stroke. Stroke often leaves sequelae that cause the patient's condition is not the same as before with the most common problem in the form of muscle weakness that affects the patient's activity of daily living. Efforts can be made to reduce the impact of stroke by increasing healthy behaviour which can be seen in the health belief model theory, one of which is in the aspect of perceived severity. This study was conducted to determine the effect of perceived severity on the activity of daily living of patients after non-hemorrhagic stroke. The method used was analytical observational with a cross sectional approach with a sample of 80 respondents who met the inclusion criteria at KRMT Wongsonegoro Hospital Semarang using the Consecutive Sampling technique. Data were collected using a questionnaire instrument which was then tested using Spearman rank with the help of computer software. The majority of respondents had a high level of perceived severity at 58 respondents (72.5%) and independent activity of daily living results at 32 respondents (40%). The results of the bivariate test between perceived severity and activity of daily living obtained p value 0.000. There is a significant influence between perceived severity on the activity of daily living of post-stroke non haemorrhagic patients (p value 0.000).

INTRODUCTION

Stroke is a neurological disorder due to a rapid circulatory disturbance of the brain with clinical symptoms in the form of decreased neurological function caused by tumours, trauma, or infection of the central nervous system.[1] Symptoms of stroke occur suddenly and can include paralysis, sensory disturbances on one side of the face, upper or lower extremities, speech and language disorders and other neurological symptoms such as staggering, vertigo, dysphagia, diplopia, and narrowed vision.[2] Stroke is divided into hemorrhagic stroke and non-hemorrhagic stroke. Non-hemorrhagic stroke is a type of stroke that is almost 80% more common than other types of stroke. This stroke is caused by a clot or blocked artery in the brain and is generally not accompanied by vomiting, severe headache,

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decreased consciousness and blood pressure is not high. [3,2]

After cancer and heart disease, stroke ranks third in Indonesia. Stroke is the leading cause of death in almost all hospitals in Indonesia with a prevalence of 14.5%.[4] The incidence of non-hemorrhagic stroke in 2012 was 0.07% lower than the previous year (0.09%) with Salatiga City having the highest rate (1.16%).[5] According to Rikesdas 2018, the incidence of stroke was 10.9% or around 2.120,362 patients with the highest prevalence in East Kalimantan (14.7%) and DI Yogyakarta (14.6%).[6] The results of a preliminary study conducted at KRMT Wongsonegoro Hospital Semarang, obtained data on the population of patients after non-hemorrhagic stroke in January 2022 to June 2022 who were undergoing outpatient treatment as many as 366 patients.

Because it results in a decrease in quality of life, disability and even death.[7] Most stroke patients, both non-hemorrhagic and hemorrhagic strokes, will not be in the same condition as before.[8] The problems that most often arise in stroke patients are weakened muscle strength and difficulty moving due to damage to the nervous system in the brain. This has an impact on activities of daily living where post-stroke patients will have difficulty and need other people to assist in their daily activities such as eating, bathing, wearing clothes, and others.[9] Efforts that can be made to prevent recurrent strokes and reduce the impact of post-stroke are by implementing healthy behaviours such as implementing a healthy lifestyle, being compliant during the treatment process and conducting therapy.[10] One theory that focuses on improving a person's behaviour towards their health is the Health Belief Model (HBM).[11] One aspect of the HBM is perceived severity. Perceived severity is a person's perception of the severity that will be felt from the disease suffered.[10] In Rahmania Ambarika's research entitled " Health Belief Model Dalam Upaya Meningkatkan Perilaku Waspada Stroke pada Kelompok Risiko Tinggi di Wilayah Kerja Puskesmas Poncokusumo Kabupaten Malang. " stated that as many as 55 (71.4%) respondents had a level of perceived severity and poor behaviour.[7] When someone feels they are at risk of a disease, they will apply good and healthy living behaviour in order to avoid or prevent the severity of the disease.[12]

Preventing the onset of a disease is better than treating and certainly requires less cost because it does not have to spend more money on treatment. A disease can be prevented one of them by implementing a healthy lifestyle by doing good habits such as managing a healthy lifestyle and staying away from bad habits that can cause health problems or cause a disease.[13] Rasulullah Saw said:

عن ابن عباس رضي الله عنو قال :قال رسول الله صلى الله عليو وسلم
(نعمتان مغبون فيهماكثيرمن الناس :الصحة والفراغ)

Meaning: "Ibn 'Abbās reported that the Prophet Muhammad said: "Many people lose out on two favours: health and leisure". (H.R. Bukhari).

From the hadith, it is explained that Allah grants two blessings that are often ignored by His servants, namely the blessing of health and the blessing of free time. Someone who is not grateful for the blessings that Allah has given is indeed a person who will be very lost. For that it is appropriate for humans to be grateful for the blessings that Allah SWT has given. From the hadith, lessons can also be taken to always maintain health so that you can still carry out Allah's commands as well as possible and stay away from Allah's prohibitions according to the provisions in the Qur'an and Al-Hadith.[14]

METHOD

Design, setting, and participants

This study is a type of analytic observational quantitative research with a cross sectional approach design. The population in this study were non-hemorrhagic post-stroke patients who had been treated and were undergoing treatment at KRMT Wongsonegoro Hospital Semarang who had met the inclusion criteria from January to June 2022 and were domiciled in Semarang City with a total sample size of 80 respondents. The sampling technique used was consecutive sampling.

The inclusion criteria in this study were non haemorrhagic post-stroke patients > 3 months at KRMT Wongsonegoro Hospital Semarang who still lived with their families, patients aged > 40 years and willing to become research respondents. The exclusion criteria were patients with severe physical disabilities, uncooperative respondents and those who did not complete the questionnaire. This study took place at the RSUD KRMT Semarang and was conducted from October 26, 2022 to November 28, 2022.

Measures

The measuring instrument used to assess the level of perceived severity in this study is a perceived severity questionnaire with a Likert scale measurement of 7 questions that have been tested for validity and reliability. While the measuring instrument used to measure the level of activity of daily living of patients in this study uses the Barthel index questionnaire which contains 1 questions regarding the patient's daily activities.

Data Collection

The research was conducted after obtaining a decision on ethical feasibility according to the letter from the Research Ethics Commission of KRMT Wongsonegoro Hospital Semarang with No. B/1021/030/3661/2022.

Statistical Analysis

All analyses used the Statistical Package for the Social Sciences (SPSS) version 22.0. The data analysis used was univariate analysis and bivariate analysis with the Spearman Rank test. If the p value is <0.05, then Ha is accepted, which means that there is an influence of Perceived Severity of response to the daily living activities of patients after non-hemorrhagic stroke.

RESULT

Participant characteristics

Based on table 1 characteristics of respondents at KRMT Wongsonegoro Hospital Semarang with a total of 80 respondents, the most cases were found in respondents with age > 65 years, 43 respondents (53.8%), age 56 to 65 years, 35 respondents (43.8%) and age 46 to 55 years, 2 respondents (2.5%). Based on gender, the majority of respondents were male with a frequency of 50 respondents (62.5%) and female as many as 30 respondents (37.5%). The majority of respondents' education level is high school graduates with 22 respondents (27.5%), elementary school graduates as many as 21 respondents (26.3%), junior high school graduates as many as 17 respondents (21.3%), diploma/graduate graduates as many as 14 respondents (17.5%), and no school as many as 6 respondents (7.5%). Respondents who worked as traders were 2 respondents (2.5%), unemployed 17 respondents (21.3%), farmers 8 respondents (10%), civil servants 3 respondents (3.8%), self-employed 12 respondents (15%), and respondents with other jobs (retired) were 38 respondents (47.5%). For the frequency of marital status, the majority of respondents were married as many as 70 respondents (87.5%), living divorce as many as 1 respondent (1.3%), and death divorce as many as 9 respondents

(11.3%). Distribution based on length of illness obtained most respondents had suffered a stroke for > 2 years as many as 43 respondents (53.8%), < 1 year as many as 30 respondents (37.8%), 1-2 years as many as 7 respondents (8.8%) and all respondents lived with family as many as 80 respondents (100%).

Table 1
General Characteristics of Study Participants (n=80)

Indicators	f	%
Age		
46-55	2	2,5
56-65	35	43,8
>65	43	53,8
Gender		
Male	50	62,5
Female	30	37,5
Education		
Not school	6	7,5
Elementary school	21	26,3
Junior high school	17	21,3
Senior high school	22	27,5
Diploma/ bachelor	14	17,5
Job		
Doesn't work	17	21,3
Trader	2	2,5
Farmer	8	10,0
Employee	3	3,8
Self-employed	12	15,0
Etc	38	47,5
Marital status		
Married	70	87,5
Divorced live	1	1,3
Divorced die	9	11,3
Duration of illness		
<1 year	30	37,5
1-2 years	7	8,8
>2 years	43	53,8
Residence		
With family	80	100
Alone	0	0
Perceived Severity		
Low	1	1,3
Medium	21	26,3
High	58	72,5
Activity of Daily Living		
Independent		
Light dependency	32	40,0
Moderate dependency	23	28,7
Heavy dependency	8	10,0
Total dependency	8	10,0
	9	11,3

Based on the level of perceived severity, it is known that there are 58 (72.5%) respondents who have a high level of perceived severity, while there are 1 (1.3%) respondents who have a low level of perceived severity and based on the level of activity of daily living, there are 32 (60%) respondents who have independent ADL results, and 8 (10%) respondents each have moderate and severe dependence ADL results.

Analysis of the Influence of Perceived Severity with Activity of Daily Living (ADL)

Based on table 2 it is known that the results of the analysis of the effect of perceived severity on the activity of daily living of post-stroke non-hemorrhagic patients at KRMT Wongsonegoro Semarang Hospital out of 80 respondents, the majority of respondents with high perceived severity had independent ADL results as many as 29 (50.0%) respondents. While respondents with low perceived seriousness had mild dependence ADL results of 1 (100%) respondent.

From the results of the Spearman rank analysis, the p value was 0.000 (<0.05) and r = -0.410. Because the p value <0.05 so that the results obtained there is an influence between perceived severity on the activity of daily living of post-stroke non-hemorrhagic patients. The value of r = -0.410 indicates that there is a moderate correlation with a negative relationship direction, which means it is not unidirectional. The higher the level of perceived severity, the lower the level of activity of daily living.

Table 2
Spearman correlation test results

	Activity of Daily Living					p	r
Behavioral Factors	Independent	Light	Medium	Heavy	Total		
Perceived Severity							
Low	0 (0%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0,00	-0,410
Medium	3 (14,3%)	4 (19,0%)	5 (23,8%)	4 (19,4%)	5 (23,8%)		
High	29 (50,0%)	18 (31,0%)	3 (5,3%)	4 (6,9%)	4 (6,9%)		

DISCUSSION

Table 1 shows that 32 respondents (40%) of a total of 80 post-stroke patient respondents had a good level of independence as measured using the Barthel Index questionnaire. The Barthel Index questionnaire is used to measure a person's independence in daily activities including eating, bathing, self-care, using clothes, controlling defecation and urination, using the toilet, moving from one place to another and going up and down stairs.[15] Most of the stroke patients have limitations in carrying out their activities and tend to depend on others. The purpose of assessing ADL using the Barthel index is useful in determining therapy that is appropriate to the patient's condition to improve the quality of life of post-stroke patients, one of which is by doing muscle movement exercises. This is in accordance with research with the title "Relation of Active ROM Therapy to Activity of Daily Living (ADL) of Post Stroke Patient" where post-stroke patients need to do exercises so that they can carry out their activities again independently without the help of others.[16] If patients are unable to carry out their own activities, it can result in disability and dependence on others. [17]

The influence of Perceived Severity and activities of daily living

Based on table 2 shows that 29 (50.0%) of 80 respondents had a high perception of seriousness with independent ADL results. Based on the results of the study, it also shows that there is an influence between perceived severity on the activity of daily living in non-hemorrhagic post-stroke patients with the results of Rank Spearman analysis obtained a p value of 0.000. Perceived severity is a person's perception of the seriousness or impact that will be felt when exposed to a disease so that he will try to find prevention or treatment of a disease so as not to worsen his condition.[18] Perceived seriousness can be in the form of thinking that the disease can cause disability, interfere with social and community activities and even threaten life. Stroke itself can cause serious conditions and cause various disorders in the body system, disability, and even death.[19] This will cause a person to worry so that they will make preventive efforts to control their disease, especially those who have a history of stroke-causing factors such as hypertension, diabetes mellitus and high cholesterol.[20,21] This is in line with a study entitled " Health Belief Model Dalam Upaya Meningkatkan Perilaku Waspada Stroke pada Kelompok Risiko Tinggi di Wilayah Kerja Puskesmas Poncokusumo Kabupaten Malang.". The study showed that the higher a person's perception of the disease suffered is more dangerous for health, they will perceive it as a threat and try to prevent it by carrying out healthy behaviour.[7]

From the results of the analysis also obtained a coefficient correlation value of -0.410 which indicates that there is a moderate strength of relationship with the opposite direction of the relationship where the higher the level of perceived severity of a person, the lower the level of ADL level of that person. This is not in line with a study entitled " Analisis Implementasi Aktivitas Fisik Berdasarkan Health Belief Model oleh Tenaga Kesehatan di Puskesmas.". The study explained that the greater the impact

that will be caused if the disease is attacked, the greater the prevention programme that will be carried out in order not to avoid the impact of the disease. [22]

One of the preventions that can be done is by implementing a healthy lifestyle by routinely controlling the risk factors of stroke itself such as routinely checking blood pressure, GDS and cholesterol levels, doing physical activity, avoiding abstinent foods, alcohol and not smoking.[21] This is in accordance with HBM Rosenstock's theory if the perception of the seriousness of a disease can affect a person to carry out prevention by being more aware of a disease which is characterised by activities in improving health, preventing and protecting oneself from disease or other health problems and taking treatment when sick.[7]

Limitations

There were limitations in the study found by the researcher, namely that there were several outpatient post-stroke patients at KRMT Wongsonesogoro Hospital Semarang who had limitations in speaking and communicating so that they needed families who accompanied the patients to help respondents during the interview. It is feared that there will be differences in interpretation of family statements with patient statements.

CONCLUSION

From the research that has been done, it is found that there is an influence between perceived severity on activity of daily living (ADL) in post-stroke non-hemorrhagic patients at KRMT Wongsonegoro Hospital Semarang.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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