THE EFFECT OF PERCEIVED BENEFIT AND PERCEIVED BARRIER ON ACTIVITY OF DAILY LIVING IN NON-HEMORRHAGIC STROKE POST PATIENTS

Dyfani AG[*], Lahdji A and Romadhoni

Faculty of Medicine, Muhammadiyah University Semarang, Indonesia

[*]ghinaadyfani15@gmail.com

Abstract: Stroke is one of the leading causes of death and disability worldwide. Stroke is classified into two, namely non-hemorrhagic stroke and hemorrhagic stroke. The incidence of non-hemorrhagic stroke is higher than hemorrhagic stroke. Non-hemorrhagic post-stroke events can lead to functional disability and decreased quality of life which can affect the physical, psychological, and social so as to reduce the quality of life of non-hemorrhagic post-stroke patients. This can be overcome if the patient has perceived benefits and perceived barriers which are aspects of the health belief model. The purpose of this study was to determine the effect of perceived benefits and perceived barriers on the activity of daily living in post-stroke non-hemorrhagic patients. This research is quantitative research with a cross-sectional study design. The samples were post-stroke non-hemorrhagic patients undergoing outpatient treatment at the geriatric clinic of KRMT Wongsonegoro Hospital from October-November 2022 who met inclusion and exclusion criteria as many as 80 respondents. The method used to measure the perceived benefit and perceived barrier variables is to use a questionnaire in the form of statements that are measured using an ordinal scale. Meanwhile, to measure the activity of daily living the researchers used the barthel index. Then the researcher tested the hypothesis using Spearman's rank correlation so that the results of the analysis of the perceived benefit variable were obtained (p=0.044) with a correlation coefficient of -0.225 and perceived barrier variables (p=0.865) with a correlation coefficient of -0.019. There was a significant effect between perceived benefit on the activity of daily living in non-hemorrhagic post-stroke patients and there was no effect between perceived barrier and activity of daily living in non-hemorrhagic post-stroke patients.

Keywords: activity of daily living, non-hemorrhagic stroke post patients, perceived barrier, perceived benefit

Introduction

A stroke or Cerebrovascular Accident is a state of sudden cerebral dysfunction with local and global clinical manifestations due to cerebral blood flow disturbance with a duration of > 24 hours (Raisa, 2014). Stroke is a non-communicable disease caused by interruption of blood flow to the brain due to bleeding (hemorrhagic stroke) or blockage (ischemic stroke),

*Corresponding Author's Email: ghinaadyfani15@gmail.com

which may cause temporary or permanent impairment and death (Hardika et al., 2020). Stroke is the second most common cause of death and the sixth most common cause of disability according to data from the World Health Organization (WHO) (Jamaluddin et al., 2020). Based on Basic Health Research data in 2018, the result showed that the incidence of stroke is increasing in Indonesia was 2,120,362 people (Kemenkes RI, 2018). The city of Semarang has the highest incidence of stroke in Central Java according to a study by the Central Java Provincial Health Office in 2013 of 3,986 cases (Dinas Kesehatan Provinsi Jawa Tengah, 2019).

Previous studies have found that two risk factors can influence non-hemorrhagic stroke, namely modifiable risk and unmodifiable risk. Age, gender, genetics or family history, and race are classified as unmodifiable risk factors. Meanwhile, modifiable risk factors are smoking habits, unhealthy lifestyles, lack of physical activity, and stress (Ramadhani & Adrian, 2015). In general, when a stroke occurs, the brain will be damaged due to disruption of the blood supply, causing various adverse effects on the body, both physically and psychologically. Adverse effects arise such as impaired body coordination, facial drop, hemiplegia, difficulty speaking with other people (aphasia), and other disabilities due to impaired brain function (Mardiani et al., 2022).

Various changes in post-stroke patients can disrupt the quality of life and reduce productivity, either permanently or temporarily (Bariroh et al., 2016). Research conducted by Esa Kurnia entitled "Relationship Between Family Support and Independence Activity of Daily Living After Stroke" states that post-stroke will make a person more dependent on other people so that later it will reduce the ability of individual functional activities in fulfilling daily needs or activity daily living (ADL) such as eating, moving, toileting, dressing, etc (Esa, 2016).

Stroke is classified as a type of serious disease and can be life-threatening, so early prevention efforts are needed by modifying the lifestyle of stroke sufferers. The research from Agnes Silvina Marbun, et al entitled "The Relationship Between Stress and Lifestyle with the Quality of Life of Stroke Patients" states that stroke prevention must be taken seriously with a high sense of discipline by adopting a healthy lifestyle for those at risk of stroke such as avoiding smoking, not eating foods that contain high cholesterol, not doing excessive physical activity, not thinking too much and having to be able to control emotion (Marbun et al., 2016). Healthy living behaviors adopted by post-stroke patients help prevent recurrent strokes, complications, and even death.

Perception is a key element with behavior modification as the end result according to the HBM paradigm. A previous study entitled "Health Belief Model in an Effort to Improve Stroke Alert Behavior in High-Risk Groups in the Working Area of the Poncokusumo Health Center in Malang Regency" stated that perceived benefits and perceived barriers are the two

factors most related to stroke prevention behavior (Sumarsono, 2020). Individual decisions are ultimately influenced by people's views of the advantages and disadvantages of engaging in healthy practices. According to Rosenstock in HBM theory, perceived benefit is the perception of the benefits of the effectiveness of health measures to reduce disease severity. Meanwhile, perceived barriers are any obstacles or obstacles that are felt related to the act of change (Rahmania, 2015).

This research refers to research by Etika Emaliyawati (2016) entitled "Knowledge about Stroke and Perceptions of Stroke Relapse Prevention in Stroke Patients". The update in this research lies in the

research location, total respondents, research methods, and year of research. Apart from that, there has been no research on the influence of perceived benefits and perceived barriers on activities of daily living in non-post stroke patients hemorrhagic.

Materials and Methods

The purpose of this research is to identify perceived benefits to the activity of daily living of non-hemorrhagic stroke patients and to identify perceived barriers to the activity of daily living non-hemorrhagic stroke patients. This research was conducted from 26 October to 23 November 2022 on non-hemorrhagic post-stroke patients at the KRMT Wongsonegoro Regional General Hospital, Semarang City. The total sample that met the inclusion and exclusion criteria was 80 people. This research uses primary data and secondary data. Primary data included informed consent sheets, demographic data questionnaires, perceived benefits questionnaires, perceived barriers questionnaires, and the Barthel index questionnaire. Secondary data was obtained from medical records in the form of diagnoses of non-hemorrhagic stroke patients in General Hospital KRMT Wongsonegoro area, Semarang City January 2022 - June 2022. The inclusion criteria in this study were post-stroke non-hemorrhagic patients >3 months who underwent outpatient care at KRMT Wongsonegoro Hospital, Semarang City who lived with their families, aged ≥ 40 years, and were willing to be respondents by signing an informed consent sheet. The exclusion criteria were patients with severe physical disabilities and respondents who were uncooperative.

The demographic data questionnaire contains the identity of the respondent including name, age, gender, education, and marital status is used to see the characteristics of the respondent. The perceived benefit questionnaire is used to measure the level of perceived benefit for each individual. The perceived benefit questionnaire contains instruments for measuring perceived benefits that have been tested for validity and reliability and consists of 7 statements and uses a Likert scale. The results of the validity test on the perceived benefit questionnaire are 0,398 to 0,662 at $p > 0,05$. The result of the reliability test using the Cronbach's alpha formula of this instrument is 0.588, because the Cronbach Alpha value is > 0.50, it means that this

instrument is feasible to use. The perceived barrier questionnaire is used to measure the level of perceived barriers for each individual. The perceived barrier questionnaire contains instruments for measuring perceived benefits that have been tested for validity and reliability and consists of 11 statements and uses a Likert scale. The results of the validity test on the perceived benefit questionnaire are 0,312 to 0,720 at $p > 0,05$. The result of the reliability test using the Cronbach's alpha formula of this instrument is 0.745, because the Cronbach Alpha value is > 0.50, it means that this instrument is feasible to use. The assessment of each answer to these two questionnaires was divided into scores of "Strongly Disagree", "Disagree", "Agree", and "Strongly Agree". Meanwhile, the Barthel index questionnaire was used to assess the patient's level of activity daily living when carrying out daily activities. The barthel index questionnaire has been tested for validity which contains 10 items of basic daily life activities such as eating, bathing, self-care, dressing, urinating, defecating, using the toilet, moving (sleeping or sitting), mobility, and going up and down the ladder. This study was analyzed by the Spearman rank correlation test.

The steps in processing this research data include editing, coding, entry, processing, and cleaning. Editing is the stage of checking again after conducting research including the identity of the respondent, the perceived benefit, and perceived barrier questionnaires. Coding is the stage to make it easier to enter data in the data analysis stage. Entry is the process of entering data that has been obtained and then entering it into computer software and calculating the frequency which is then displayed in a table. Processing is the process of analyzing research data. Cleaning is the stage of ensuring that data has been retrieved.

The researcher has obtained approval from the Research Ethics Committee of KRMT Wongsonegoro Semarang City Hospital with letter number B/8193/010/X/2022.

Results

Table 1. Characteristics of Respondents Variable	n	%
Age		
40-70	61	76,25
>70	19	23,75
Gender		
Male	50	62,5
Female	30	37,5
Education		
No School	6	7,5
Elementary School	21	26,25
Junior High School	17	21,25
Senior High School	22	27,5
Diploma/Bachelor	14	17,5
Work		

Based on table 1 the characteristics of respondents at the KRMT Wongsonegoro Hospital in Semarang City with a total of 80 respondents, all respondents live with their families. From 80 people, the majority of respondents were male with a total of 50 people aged between 40-70 years as many as 61 people. The average patient is mostly high school graduates 22 people with married status of 70 people and 43 people have been sick for more than 2 years. Most of the respondents had other jobs such as laborers, construction workers, and casual workers. Most of the respondents had independent ADL results as many as 32 of respondents. The majority of respondents have moderate perceptions of benefits as many as 38 people. The majority of non-hemorrhagic stroke patients have a moderate perception of obstacles as many as 59 people (73.8%).

The results of the analysis of the effect of perceived benefit on the activity of daily living of post-stroke non-hemorrhagic patients at RSUD KRMT Wongsonegoro Semarang from 80 respondents the majority of respondents with medium perceived benefits had independent ADL results of 18 respondents (47.4%). While respondents with low perceived benefits had high dependency ADL results of 1 respondent (16.7%). The results of the analysis using the Spearman rank test obtained a p-

value of 0.044 (p <0.05) and r = -0.225 because the p-value <0.05 then H0 is rejected and Ha is accepted, there is an influence between the perceived benefit on activity of daily living of post-stroke non-hemorrhagic patients with a relationship in the opposite direction, which means the higher the perceived benefit, the lower the level of dependence (independence) a person has and vice versa.

Then the results of the analysis of the effect of perceived barriers on the activity of daily living of non-hemorrhagic post-stroke patients at KRMT Wongsonegoro Hospital Semarang from 80 respondents the majority of respondents with moderate perceived barriers had independent ADL results of 26 respondents (44,1%). From the results of the analysis using the Spearman's rank test, the p-value was 0,865 (> 0,05), because the p-value>0,05, H0 was accepted, and Ha was rejected which showed that there was no effect between the perceived barrier on the patient's activity of daily living post stroke non-hemorrhagic. The correlation coefficient value that occurs between the two variables obtained a value of -0.019, which indicates that there is a very weak correlation with a negative relationship, which means it is not unidirectional. The higher the level of perceived barrier, the lower the level of one's activity of daily living.

Discussion

Based on the results table on the characteristics of the respondents, it is known that the majority of patients who suffer from non-hemorrhagic strokes are male respondents, namely 50 patients (62,5%). The results of this study are in line with previous research conducted by Amran, which showed that men have a 2.8 times higher risk of having a stroke than women. The National Stroke Association report also says that men have a slightly higher stroke risk than women. This is due to physiological differences between males and females which are hormonal. According to Bushnell, men have the hormone testosterone which can increase blood LDL levels, if high LDL can increase blood cholesterol levels which is a risk factor for degenerative diseases such as stroke. In addition, men tend to have unhealthy lifestyles such as smoking and consuming alcohol, which will increase the risk and make men more susceptible to stroke. Smoking can trigger fibrinogen levels which can trigger the process of atherosclerosis (Laily, 2017).

Based on research that has been conducted on post-stroke non-hemorrhagic patients, it was found that the majority of respondents had a moderate perception of benefit with a percentage of 47.5% or 38 respondents, and as many as 36 respondents (45.0%) had a high perceived benefit. The results of this study are similar to research from Setiyorini and Tatiani, it was found the higher the individual feels the benefits, the higher the person performs recommended health or preventive behaviors to reduce the risk or severity of the disease suffered (Berhimpong et al., 2020). Perceived benefit is one component of the health belief model which is a person's belief in the benefits that have been felt from adopting a healthy lifestyle as an effort to improve health or to reduce the threat of disease (Hupnau, 2019). Based on the results of the research conducted, perceived benefits have a significant effect on post-stroke non-hemorrhagic patients. Previous research conducted by Annisa (2015) states that a person's high belief in the benefits of treatment and secondary prevention therapy has an influence on the low level of activity of daily living (independent) so that it can reduce the incidence of recurrent stroke. Rehabilitation is very important for post-stroke patients in order to reduce nerve dysfunction, minimize long-term disability, and prevent recurrent strokes (Anissaa et al., 2015). This is in line with

research conducted by Purwono (2014) which states that there is a significant relationship between perceived benefits and tertiary prevention efforts for hypertension (Janu, 2014).

Non-hemorrhagic or ischemic stroke usually causes a decrease in performance which leads to weakness that makes post-stroke patients dependent on others. According to research conducted by Dharma stated that some of the problems that are often found in someone after a stroke include weakness in the hands and feet so that they experience difficulty moving, loss of sensation, difficulty speaking or understanding other people's speech, and difficulty or inability to carry out daily needs such as bathing, getting dressed, going to the bathroom, walking, and preparing food (Ligita, 2016). Therefore, in the process of recovery, a stroke patient must have high motivation to recover quickly, because with high motivation, recovery will be felt more quickly so that maximum results will be obtained with the condition of being healed and able to be independent without dependence (M.Jannah & Azam, 2018).

Perceived barriers are anything that hinders individuals from making certain behavioral changes. Perceived obstacles can be in the form of discomfort (such as pain, and anger), being burdened with the enormous cost of post-stroke care, the distance to health facilities that are far away, and the length of time the treatment is carried out. Based on the results of the research conducted, perceived barriers do not have a significant influence on the activity of daily living in patients after non-hemorrhagic stroke. This explains that each individual has a different way of implementing new

behavior to improve perceived health problems. It all depends on each person's beliefs (knowledge about health problems and individual perceptions about the symptoms of the disease) and whether they are willing to access the health services that are provided. This result is reinforced by previous research conducted by Rosiana, which obtained the results of the perceived barrier (p 0.752> 0.005) so that there was no relationship between the two variables, but had a weak correlation (- 0.019) the correlation results (-) due to obstacles originating from style unhealthy life (Rayanti et al., 2021). This explains that each individual has a different way of implementing new behaviors to improve perceived health problems. The greater the obstacles felt, the lower the individual's desire to make changes in behavior.

Conclusion

The majority of non-hemorrhagic post-stroke patients at the KRMT Wongsonegoro Hospital in Semarang City have moderate perceptions of benefits and moderate perceptions of barriers. The majority of non-hemorrhagic post-stroke patients at the KRMT Wongsonegoro Hospital in Semarang City have a good level of independence. There is an influence between perceived benefits on the activity of daily living (ADL) in non-hemorrhagic post-stroke patients at KRMT Wongsonegoro Hospital, Semarang City. There is no effect of perceived barrier on the activity of daily living (ADL) in non-hemorrhagic post-stroke patients at KRMT Wongsonegoro General Hospital, Semarang City.

For future researchers, it is expected to provide writing tools for respondents who have limitations to communicate verbally. This is to ensure the same perception between respondents and families who assisted in filling out the research questionnaire. Apart from that, future researchers are expected to examine other variables that have not been included in the research, such as cues to action. Cues to

action itself are accelerating actions that make a person feel the need to take action or take concrete action to carry out healthy behavior.

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Declaration of Interest Statement

The authors declare that they have no conflict of interest.

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