

**RELATIONSHIP OF KNOWLEDGE OF STROKE PATIENT WITH COMPLIANCE THROUGH PHYSIOTHERAPY ON PHYSIOTHERAPY CLINIC IN DR.PIRNGADI HOSPITAL ON YEAR 2016**

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**ABSTRACT**

Stroke is a clinical syndrome due to brain blood vessel disorders, sudden onset and usually affects patients aged 45-80 years. Generally men are affected slightly more often than women. There are usually no symptoms prodroma or sudden onset of early symptoms. After a stroke a few patients have disorders such as paralysis, decreased communication skills, mental changes due to depression. Therefore, stroke patients need to undergo rehabilitation as much as possible in order to restore the function of the body. One type of care given is physiotherapy. Physiotherapy is essential to prevent stiffness and immobility. Stroke patients considers incurable disease and stroke will suffer a lifetime, while the good treatment of post-stroke disability can be minimized, thus the need to undergo physiotherapy stroke patient compliance. Post-stroke patient compliance in undergoing physiotherapy Installation Medical Rehabilitation Hospital in Slen<sup>2</sup>, known in category obedient as many as 13 people (65.5%). This research is an analytic that aims to determine the relationship of patients' knowledge about stroke with compliance with physiotherapy in the physiotherapy room Hospital RSUD Dr.Pirngadi on year 2016, with<sup>2</sup> cross sectional study. Respondents in this study as many as 32 people by using accidental sampling. Results showed that the majority of 15 respondents (46.9%) are knowledgeable enough [and as many as 21 respondents (65.5%)<sup>4</sup> do not comply with physiotherapy and 9 respondents (28.1 %) dutifully<sup>13</sup> undergoing physiotherapy. Based on an analysis using the chi-square test showed no significant relationship between the knowledge of stroke patients with adherence to undergo physiotherapy, ie, p-value = 0.021 (p <0.05).

**Keywords:** Stroke, Physiotherapy

**Background**

Stroke is a clinical syndrome due<sup>3</sup> to brain blood vessel disorder, sudden onset and usually affects patients aged 45-80 years. Generally men are affected slightly more often than women. There are usually no symptoms prodroma or sudden onset of early symptoms (Jusuf misbach 2011). According to WHO, stroke is the presence of clinical signs of growing quickly due to focal brain dysfunction (or global) with gejala symptoms lasting for 24 hours or more which causes death in the absence of any other obvious cause of<sup>3</sup> r than vascular (Judha, 2011)

Based on WHO data, every year there are 15 million people worldwide suffer a stroke. Among them are found the number of deaths by 5 million people and 5 million more people experiencing disability<sup>6</sup> in adulthood and is one cause in the world. Stroke ranks as the third leading cause of death after coronary heart disease and cancer in developing countries. Developing countries also accounted for 85.5% of total deaths from

stroke worldwide. Two-thirds of strokes occur in countries that are developing. There are approximately 13 million new stroke victims each year, of which about 4.4 million of them died within 12 months (WHO, 2010). Based on data collected by the Stroke Foundation of Indonesia (Yastroki), stroke issues more important and urgent because now the highest number of stroke survivors and ranks first in Asia. The number of diseases caused by stroke ranks second in over 60 years and fifth in the age of 15-59 years (Yastroki, 2012). In Indonesia estimated that each year 500,000 people suffered a stroke, about 2.5% or 12.5000 people died, and the rest is mild or severe disability. In general, one can say the numbers kejadian stroke is 200 per 100,000 population. In one year, between 100,000 population, 200 people will suffer a stroke. The incidence of ischemic stroke or transient ischemic attack shortly (Transient Ischemic Attacks, TIA) approximately 80% of the total cases of stroke, while the incidence of hemorrhagic stroke is only about 20% of the

total cases of stroke (Yastroki, 2012). Based on the 7th Health Research (Riskesdas) National, the national prevalence of stroke was 0.8% (based on the diagnosis of health personnel and symptoms). A total of 11 of 33 provinces in Indonesia have prevalence above national prevalence, including West Sumatra province with prevalence of 6.9% in the 10th highest in Indonesia. From the data available on the National Stroke Hospital (RSSN) Bukit Tinggi as much as 30% - 40% of ischemic stroke patients treated in neurology aged 30-50 years (National Riskesda, 2007).

Having suffered a stroke a few patients experiencing disorders such as depression, decreased mental change communication capabilities to depression. Therefore, stroke patients need to undergo a rehabilitation process as much as possible in order to restore the function of the body. Stroke rehabilitation is the process whereby stroke patients undergoing treatment to help him return to normal life. During rehabilitation, stroke patients learn to move, think and care for themselves (Sec Health, 2013).

One type of treatment provided are Physiotherapy. Physiotherapy is essential given to prevent stiffness and immobility. The results obtained in 25-50% of cases patients are stroke, the first time the patient did not achieve independence back and in need of intensive care (Davey, 2006). From the viewpoint of physiotherapy, will be a lot of complications that arise if not handled properly (Rujito, 2007). Acts of service physiotherapy in patients with stroke with a Functional Limitation (functional limitations) that the decline in the ability to move the upper limbs of the body, for example, take out or grab something. The aim of physiotherapy in stroke patients is, improve the functional ability of patients to carry out everyday activities to reduce morbidity (morbidity) and the potential occurrence of the disability by secondary prevention measures as well as handle the accompanying disorder (Suhardi, 2007).

Stroke patients considers incurable disease and stroke will suffer a lifetime, while with good care disability after a stroke can be minimized, thus the need to undergo physiotherapy stroke patient compliance, so that stroke patients dependency on others can be minimized (Irdawati, 2009). Compliance in carrying out physiotherapy for patients with

post-stroke is important, because physiotherapy is one of the ways in which to optimize and maximize the body's functions and capabilities limbs remaining in post-stroke patients, thereby reducing dependence on others. Post-stroke patient compliance in undergoing physiotherapy Medical Rehabilitation Hospital in Sleman installation, known in category obedient as many as 13 people (65.5%). The results showed that patients in compliance with physiotherapy as per instructions of health workers (Rosiana, 2012). In connection with the large number of morbidity and mortality caused by stroke patients, then conducted research in the field of medical science as the means of physiotherapy increasingly sophisticated and the discovery of drugs that could treat stroke patients.

Therefore, today many open means of physiotherapy in various regions that aims to help stroke patients in the healing process, so the result of many stroke patients who suffered paralysis of almost 85% can be cured with physiotherapy and can do the job as before, although time is it takes a very long time ranging from weeks, months to years duration (Suhardi, 2007).

Based on the results of a preliminary survey conducted in the Hospital Dr. Terrain Pirngadi obtained stroke number of patients undergo physiotherapy in the physiotherapy room in the period January to December 2015 a total of 120 patients, with Compliance Stroke Patients Undergoing Physiotherapy room Physiotherapy at Hospital Dr. Pirngadi Medan.

Based on the above, the research to prove Relationship With Compliance Knowledge Stroke Patients Undergoing physiotherapy in Space Physiotherapy Hospital Dr. Pirngadi Medan.

#### Problem Formulation

Based on the above the formulation of this research is How the Relationship Knowledge about the disease Stroke Patients Undergoing With Compliance Physiotherapy room Physiotherapy at Hospital Dr. Pirngadi Medan 2016.

#### Objective

General purpose To determine the relationship of patients' knowledge about stroke with compliance

physiotherapy in Space Physiotherapy Hospital Dr. Pirngadi Medan 2016.  
Special purpose

1. To determine the patients' knowledge about stroke in Space Physiotherapy
2. To determine the adherence of stroke physiotherapy in Space Physiotherapy
3. To determine the relationship of patients' knowledge about stroke with compliance with physiotherapy in Space Physiotherapy

#### Benefits Research

##### 1. For Researchers

This research is helpful to enhance the learning experience and insight in research on the relationship of knowledge about stroke patients with adherence to undergo physiotherapy.

##### 2. For Hospital

As input for hospital managers to improve health care for people, especially for stroke patients to physiotherapy

#### Hypothesis research

There is a relationship of knowledge about stroke patients with adherence to undergo physiotherapy.

## RESEARCH METHODS

### a. Design Research

This type of research is analytical, that is to find the relationship between the dependent and independent variables. The research design used in this study was a cross sectional study design is a method which is the study design with measurement or observation at the same time / once upon a time (Notoatmodjo, 2010).

### b. Location and Time Research

Location of the study will be conducted at room Physiotherapy Hospital Dr. Pirngadi Medan, when researchers began in December 2015 - July 2016.

### c. Population and Sample Research

#### Population

The population in this study were all stroke patients who underwent physiotherapy and outpatient in Space Physiotherapy Hospital Dr. Terrain Pirngadi 2015 as many as 120 people.

#### Sample

The sample size in this study were 32 respondents. How sampling in this research is to use accidental sampling technique, done by taking the case or the respondent accidental or provided somewhere within the context of research.

Sample size formula used is as follows

$$n = N / (1 + N (d^2))$$

$$n = 120 / (1 + 120 (0.15)^2)$$

$$n = 120 / (1 + 120 (0.0225))$$

$$n = 120 / (1 + 2.7)$$

$$n = 120 / 3.7$$

$$n = 32.4$$

$$n = 32$$

information :

N: Large population

n: number of samples

d: The level of the desired provision (Nursalam 2008)

The inclusion criteria are criteria or characteristics that need to be met by each member of the population that can be taken as a sample and exclusion criteria are characteristics of members of the population that can not be taken as a sample (Notoatmodjo, 2012).

Criteria for inclusion in this study are:

1. Stroke patients who underwent physiotherapy who are willing to be used as a sample.
2. Stroke patients who underwent physiotherapy at room Physiotherapy Dr. Pirngadi Medan
3. Stroke patients who can not communicate and can read and write. D. Types and Data Collection Method

### d. Data Types

Data used in this study is a type of primary data that researchers obtain data directly to the target (the respondents) and secondary data is data obtained from space Physiotherapy Dr. Pirngadi Medan.

### e. How Data Collection

Data collection is done by direct interview to the respondents to the questionnaire as a measuring tool. This data collection is done first briefed about the purpose of the study respondents. If willing to become respondents, are welcome to sign an agreement and then given an explanation of the questionnaires.

### f. Processing and Data Analysis

#### 1. Data Processing

##### a. Primary data

Primary data is processed by means of computerized be determined by the category of each instrument used and subsequently analyzed to determine the relationship of knowledge of stroke patients with compliance with physiotherapy, the researchers asked 10

questions for compliance, 10 questions for knowledge, in the questionnaire of compliance and knowledge assessment is carried out by using Guttman scale with scoring as follows:

- a. For every question answered and was rated 1.
- b. For questions not answered or wrong then given a 0.

Criteria for the respondents' knowledge according to Arikunto (2006), divided into three categories, namely:

1. The level of knowledge of "good" if the respondent can answer as many as 75-100% with a total of 15-20.
2. The level of knowledge "enough" if the respondent can answer as many as 55-74 with a total of 11-14.
3. The level of knowledge "less good" if the respondent can answer as many of <55% with a total of 1-10.

b. secondary data

The data collected is processed by the data processing steps as follows:

1. Editing

Results of interviews or questionnaires obtained or collected through questionnaires need to be redacted (edited) in advance. If there are still no data or information that is incomplete, and re-interview is not possible, then the questionnaire is issued (droup out).

2. Coding

Sheet or card code is an instrument in the form of columns to record data manually. Sheets or code card contains the number of respondents, and the numbers question.

3. Tabulating

Namely create data tables, according to the research or desired by the researcher.

g. Data Analysis

1. Univariate analysis

This analysis aims to explain or describe the characteristics of each variable penelelitian. The data collected was analyzed descriptively by looking at the percentage of the collected data and produce a proportion of each of the variables measured and presented in tabular form distribution

2. Bivariate analysis

Bivariate analysis conducted on two variables were related. This analysis uses statistical tests chi square with significance level  $\alpha = 0.05$  by the formula:

$$X^2 = \sum ((fo-fe)^2) / fe$$

Information :

X = chi-square count

$\Sigma$  = sum

O = The observations of each cell

E = Expected value

Results of statistical analysis considered significant if  $p < 0.05$  ha acceptable means there is a significant correlation between the two variables studied and the relationship is not significant if  $p > 0.05$  Ha rejected.

## RESULTS AND DISCUSSION

Research after collecting data on patients' knowledge about stroke relation to compliance with physiotherapy in the Physiotherapy Hospital Dr. Terrain Pirngadi 2016 respondents who are stroke survivors 32 people, the obtained results are then processed and analyzed and presented in a frequency distribution table. The results of this study were divided into two parts, the stroke patient knowledge and compliance of stroke in patients undergoing physiotherapy. Here is a frequency distribution and percentage of respondents.

1. Univariate Analysis

Univariate analysis was conducted to see the frequency distribution of knowledge and compliance of stroke patients undergoing physiotherapy at room Dr.Pirngadi Physiotherapy Hospital Medan in

2

Table 4.1

Respondents Frequency Distribution of Knowledge Based Stroke Living in Space physiotherapy Physiotherapy Hospital Dr. Terrain Pirngadi 2016

Knowledge	Frekuensi	Persentase
Good	8	25.0
Enough	15	46.9
Less	9	28.1
Total	32	100.0

4

Based on table 4.1 above in mind that the majority of respondents berpengetahuan simply by the number of respondents as many as 15 respondents (46.9%) and respondents were knowledgeable about as many as 8 respondents (25%).

2  
Table 4.2

Respondents Frequency Distribution Based Compliance Knowledge of Stroke with Undergoing physiotherapy at room Fisioterpi Hospital Dr. Terrain Pirmgadi 2016

Obidience	Frekuensi	Persentase
Submissive	11	34.4
Not obey	21	65.6
<b>Total</b>	<b>32</b>	<b>100.0</b>

Based on table 4.2 above note that respondents were obedient as many as 11 respondents (34.4%) and respondents who do not comply as much as 21 respondents (65.6%)

2. The Bivariate Analysis Bivariate analysis was conducted to determine the relationship between patients' knowledge about stroke with compliance with physiotherapy in hospital physiotherapy room Dr.Pirmgadi Terrain, 2016.

2  
Table 4.3

Respondents Frequency Distribution Based on Stroke Patient Knowledge With Compliance Undergoing physiotherapy in Space Physiotherapy Hospital Dr. Terrain Pirmgadi 2016

	Obediance		Total
	Submassive	Not obey	
Good	5	3	8
Enaugh	6	9	15
Less	0	9	9
<b>Total</b>	<b>11</b>	<b>21</b>	<b>32</b>

4  
4.3 Based on the above table it is known that the respondents were knowledgeable both with compliance with physiotherapy as many as five respondents (15.6%) of respondents who are knowledgeable both with non-compliance with physiotherapy as many as three respondents (9.4%), respondents were knowledgeable enough to compliance with physiotherapy as much 6 respondents (18.8%), respondents were knowledgeable enough to noncompliance with physiotherapy as much as 9 respondents (28.1%), respondents were knowledgeable about the compliance with physiotherapy as 0 respondents (0%). Respondents who are knowledgeable about the non-compliance with physiotherapy as much as 9 respondents (28.1%)

### 3. Chi-Square Analysis

2 Chi-square analysis is said to be significant if the results of the analysis showed statistically significant correlation between the variables, with a value of  $p < 0.05$ . Based on the research that has been done, the obtained results of chi-square analysis recapitulation of knowledge of stroke patients with adherence to undergo physiotherapy in the hospital room Dr. Pirmgadi Terrain Physiotherapy 2016, as table 4.4 below

Table 4.4

Chi-Square Analysis recapitulation of Knowledge of Stroke Patients Undergoing Compliance Physiotherapy room Physiotherapy at Hospital Dr. Terrain Pirmgadi 2016

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.730 <sup>a</sup>	2	.021
Likelihood Ratio	10.408	2	.005
Linear-by-Linear Association	7.227	1	.007
N of Valid Cases	32		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.75.

2 Based on the results of Chi-square analysis of patient knowledge about stroke relation to compliance with physiotherapy, obtained p-value = 0.021 ( $p < 0.05$ ) suggesting that there is a statistically significant correlation between patients' knowledge about stroke with adherence to undergo physiotherapy.

### B.Discussion

#### 1. Knowledge of physiotherapy Stroke Patients

Stroke patients' knowledge about physiotherapy is all the information has been obtained about the patient physiotherapy. Increased knowledge can lead to changes in a person's perception and habits. Knowledge will influence someone to do something, where the higher the person's knowledge of compliance in carrying out physiotherapy getting better.

From the results obtained from the respondents, namely, good knowledge of stroke patients as much as 9 respondents (28.1%), stroke patients who are knowledgeable enough as many as 15 respondents (46.5%), stroke patients who are knowledgeable about as many as 8

respondents (25%). In this study found as many as 8 respondents (25%) were less knowledgeable. With the knowledge that less can be inhibitors of stroke patients in carrying out physiotherapy therapy that has been determined.

From the results of the study conducted by researchers when seen from the characteristics of knowledge, respondents were knowledgeable both majority are in the age of 56-65 years of elementary education. Respondents were knowledgeable enough majority are at the age of 56-65 years of junior high school education. Less knowledgeable respondents are in the age of 56-65 years high school educated. In Irdawati study (2009), that knowledge dipengaruhi by the individual's background and experience and insight, it also relates to a person's age. The longer a person undergoing the process of life, will be followed by increasing one's knowledge. In accordance with the theory Erfandi (2009) that, knowledge of stroke patients can be affected by several things, namely: age, increasing age will be growing also capture power and the mindset of someone so that the knowledge gained, the better. However IQ decline with age, especially some abilities such as vocabulary and general ability. Education can also affect the knowledge, the higher one's education the easier person to receive information, but someone with little education does not mean absolute bepengetahuan also lower.

## 2. Compliance Stroke Patients Undergoing Physiotherapy

Adherence is the extent to which the behavior of stroke patients in the running of physiotherapy. From the results obtained respondent obedient researchers have physiotherapy as many as 11 respondents (34.4%) and respondents who do not comply with physiotherapy as many as 21 respondents (65.6%).

Compliance patients about stroke can be influenced by patients' knowledge about stroke, where the better knowledge about stroke patients then underwent physiotherapy stroke patient compliance will be better as well. In accordance with the theory of Niven (2012).

From the results of a preliminary survey has been done the cause of stroke patients do not comply with physiotherapy because they assume their stroke disease can not be cured.

This is in line with Irdawati (2009) in his research said stroke patients assume stroke can not be cured and will suffer a lifetime, while with good care disability after a stroke can be minimized, thus the necessary compliance stroke patients undergoing physiotherapy so that dependence stroke patients against others can be minimized.

## 3. Relationship Knowledge of Stroke Patients Undergoing Compliance Physiotherapy.

Based on this research, it is known that the respondents were knowledgeable good and obedient to undergo physiotherapy as much as five respondents (15.5%), respondents were knowledgeable enough and compliant with physiotherapy 6 (18.8%), respondents were less knowledgeable and compliant undergo physiotherapy from 0 respondents (0%). There are 3 respondents (9.4%) were knowledgeable good and not obedient to undergo physiotherapy. This is because the respondents said that the disease can not be cured anymore with physiotherapy treatment, respondents also have been aged 38 years, 40 years and 41 years of high school educated, respondents came unaccompanied by family. There are also nine respondents (28.1%) were knowledgeable enough not obedient to undergo physiotherapy. This is due to the majority of respondents who are knowledgeable enough to be at the age of 56-65 years of junior high school education, it can affect respondents' knowledge and compliance in undergoing physiotherapy. Thus there were respondents who are knowledgeable enough not obedient to undergo physiotherapy

This is consistent with the theory Notoadmodjo (2007), that knowledge is the establishment of compliance in the health domain. According to research by Munro (2007), that the higher knowledge of the patient, the better the acceptance of information about pengobatan it receives so that stroke patients would be obedient in the treatment of disease.

The results of Bivariate analysis using Chi-square test was obtained p-value = 0.021 (p < 0.05). Statistically significant p value indicates that there is a relationship of knowledge about stroke patients with adherence to undergo physiotherapy. Knowledge of physiotherapy is needed by patients with stroke in the running of physiotherapy. By knowing about the physiotherapy treatment of stroke patients to

be noncompliant with physiotherapy, so it can maximize the function of the patient's limb, thereby reducing dependence on others

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## CONCLUSIONS AND RECOMMENDATIONS

### A. Conclusion

Based on the results of researchers who have conducted research on the relationship stroke patients' knowledge about compliance with physiotherapy in the physiotherapy room Hospital Dr. Terrain Pimgadi 2016 with 32 respondents, it could be concluded as follows:

1. The majority of stroke patients who underwent physiotherapy in the physiotherapy room have enough knowledge with the number of respondents as many as 15 respondents (46.9%)
2. The majority of stroke patients who do not comply with physiotherapy in the physiotherapy room has a 21 respondents (65.5%).
3. There is a significant relationship between knowledge of stroke patients with adherence to undergo physiotherapy in the physiotherapy room Hospital Dr. Pimgadi Medan Year 2016. The majority of knowledgeable enough not comply with physiotherapy with the number of respondents was 9 respondents (28.1%).

### B. Suggestions

1. For further research is expected to provide health care to stroke patients who are undergoing physiotherapy to improve the knowledge and compliance of stroke patients undergoing physiotherapy.
2. For Hospital Dr. Pimgadi Medan, particularly physiotherapy officers in order to improve health services through health education on physiotherapy treatment to stroke patients who underwent physiotherapy.
3. For institutions / academic is expected to enhance the knowledge of students in order to provide health care education memalui quality healthcare to patients.
4. For patients expected to increase the knowledge and obedient to undergo physiotherapy.

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