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Medication Adherence With Blood Pressure Of Hypertension Clients At Baureno Public Health Center

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ABSTRACT

Hypertension still increasing due to non-adherence to taking medication which results in uncontrolled blood pressure so that there is a risk of complications. Thus study aims to determine the relationship between Medication adherence and blood pressure.The type of research used correlational research with a cross sectional approach. The population in this study were hypertension clients of Prolanis participants in Baureno Public Health Center, Bojonegoro at April 2021 with a sample size of 45 clients selected through purposive sampling. Inclusion criteria were hypertensive clients who received antihypertensive medication, hypertension clients who were PROLANIS participants, and permanent residence. While the exclusion criteria for this study were hypertension clients who had other chronic diseases. The variables were medication adherence and blood pressure. The research instrument used a modified Morisky Medication Adherence Scale 8 (MMAS 8) questionnaire and a sphygmomanometer The data obtained were processed using Spearman Rho correlation analysis. The results of this study obtained that most hypertension clients (51.1%) had high adherence and most of them (68.9%) had blood pressure in the prehypertension range. The results of the analysis showed a significant relationship between Medication adherence and blood pressure (p=0.001). The higher the adherence to taking Medication, the more stable the blood pressure. It is expected that hypertension clients can improve adherence in taking Medication because with high Medication adherence it can control blood pressure and prevent complications.

Keywords: Medication adherence, blood pressure, hypertension

INTRODUCTION

Hypertension is widely known as a cardiovascular disease and is one of the main causes of premature death in the world. Hypertension can be established where the systolic pressure is above 140 mmHg and the diastolic pressure is above 90 mmHg (Poter& Perry, 2010). The incidence of hypertension is still increasing due to one of the factors related to the client's non-adherence in taking medication. This non-adherence results in uncontrolled blood pressure so that there is a high risk of complications (Ningsih et al., 2014)

Based on Basic Health Research (RISKESDAS) at 2018, the province of East Java was ranked sixth with a prevalence of hypertension sufferers of around 35%. According to data from the Bojonegoro Health Office, in 2018 the number of people aged >18 years who experienced hypertension was 120,473 (21.63%) (Dinas Kesehatan Bojonegoro, 2018). Hypertension ranks first for the most chronic diseases the working area of the Baureno Health Center, Bojonegoro. The data accumulated at the Baureno Health Center contained 4019 patients with hypertension in 2020.

The results of an initial study with five hypertension clients in the working area of the Baureno Health Center found that three respondents did not comply with taking antihypertensionMedications. The reason of three clientsthat not being obedient to taking medication was because the respondents felt healthy and thought that when taking medical Medications regularly they would be addicted. From three respondents, it was found that two respondents had blood pressure of 120/80 mmHg and 130/85 mmHg and one respondent had blood pressure of 145 /90 mmHg

Hypertension is a lifelong disease that cannot be cured permanently so many patients are bored and do not comply with treatment. An increase in blood pressure in the long term can cause damage to the kidneys, heart and brain if not detected early and receive adequate treatment. Treatment of hypertension is influenced by adherence to medication and lifestyle modifications such as running a diet, doing physical activity, not smoking, and reducing stress (Harijianto, Rudijianto, & N., 2015). Adherence with medication in hypertension clients is very important because taking antihypertensionMedications regularly can control blood pressure in hypertension clients, so that in the long term the risk of damage to organs such as the heart, kidneys, and brain can be reduced. One of the efforts to control blood pressure so that complications of hypertension do not occur, it is necessary to get used to taking medication regularly from the dose, time, period, and method of taking medication. So this study aims to determine the relationship between medication adherence and blood pressure

METHODS

This research was a type of correlational research with cross sectional study. Sampling using purposive sampling technique with a sample of 45 respondents. Inclusion criteria were hypertensive clients who received antihypertensive medication, hypertension clients who were PROLANIS participants, and permanent residence. While the exclusion criteria for this study were hypertension clients who had other chronic diseases. The study was conducted in the BaurenoPublic Health Center, Bojonogoro at April 202 The variables of this study were medication adherence and blood pressure. The medication adherence variable was categorized into three, namely high adherence, moderate adherence, and low adherence. While the blood pressure variable was categorized into four, namely normal, prehypertension, grade 1 hypertension, grade 2 hypertension The research instrument used a modified Morisky Medication Adherence Scale 8 (MMAS 8) questionnaire and a sphygmomanometer. Data collection has been carried out face-to-face by complying with the health protocol. started by filling out a questionnaire that was given 10-15 minutes then followed by checking blood pressure. The research questionnaire has been tested for validity and reliability before being used. This data were analyzed using the Spearman rho test. This research is non-coercive and guarantees the confidentiality of the respondent's identity. Research ethics has been carried out at the Ethics Commission of the Health Polytechnic Surabaya with Number EA/458KRPK-Poltekkes_Sby/V/2021 and was declared ethically fit according to 7 WHO standards.

RESULTS

Demographic characteristics

Demographic characteristics Hypertension clients at the Baureno Health Center are mostly 51-60 years old (62.2%), most are female (73.3%), most have elementary school education (53.3%), and almost half are housewives stairs (46.7%). Complete data can be seen in table 1

Table 1. Frequency Distribution of Demographic Characteristics of Hypertension Clients

Characteristics	Category	Frequency	Percentage(%)
Age	41-50 years old	15	33.3
	51-60 years old	28	62.2
	> 60 years old	2	4.4
Gender	Male	12	26.7
	Female	33	73.3
Education	Elementary school	24	53,3
	Junior High School	7	15,6
	Senior High School	10	22,2
	University	4	8,9
Job	Housewife	21	46.7
	Farmer	10	22.2
	Swasta	8	17.8
	Labor	4	8.9
	Civil Servant	2	4.4
	Total	45	100,0

Distribution of Disease Characteristics of Hypertension Clients

The characteristics of hypertension clients at the Baureno Health Center mostly have no hereditary history of hypertension (71.1%), most of them have been diagnosed with hypertension since 2-4 years (64.4%), and most of the Medications taken Amlodipine 5 mg (53.3%)). Complete data can be seen in table 2.

Characteristics	Category	Frequency	Percentage (%)
Hypertension history	Parent	12	26.7
	Grandmother	1	2.2
	Nothing	32	71.1
	< 2 years	6	13,3

Long of diagnosed hypertension	2-4 years	29	64,4
	> 4 years	10	22,2
Medicine	Amlodipine 5 mg	24	53,3
	Amlodipine 10 mg	12	25,7
	Captopril 25 mg	9	20,0
	Total	45	100,0

Table 2. Frequency Distribution of Disease Characteristics of Hypertension Clients

Medication Adherence

The results showed that of the 75 respondents, a small proportion had low adherence (15.6%) and most had high adherence (51.1%). Complete data can be seen in table 3

Table 3. Frequency Distribution of Medication Adherence

Medication Adherence	Frequency	Percentage (%)
Low adherence	7	15.6
Moderate adherence	15	33,3
High adherence	23	51,1
Total	45	100,0

Blood Pressure

The results showed that of the 45 hypertension clients, most had blood pressure in the prehypertension range (68.9%) and a small portion (2. 2%) hypertension grade 2. Complete data can be seen in table 4

Table 4. Frequency Distribution of Blood Pressure

Blood Pressure	Frequency	Percentage (%)
Normal	5	11,1
Prehypertension	31	68,9
Hypertension Grade 1	8	17,8
Hypertension Grade 2	1	2,2
Total	45	100,0

Correlation Medication Adherence with Blood Pressure

There were 23 clients with high adherence had blood pressure almost entirely (78.3%) in the prehypertension range. Based on the results of the spearman rho statistical test p value = 0.001, it means there is a relationship between medication adherence and blood pressure. Complete data can be seen in table 5.

Table 5. Cross tabulation between Medication Adherence with Blood Pressure

Medication Adherence	Blood Pressure								Total	
	Normal		Pre Hypertension		Hypertension Grade 1		Hypertension grade 2			
	f	%	f	%	f	%	f	%	f	%
Low adherence	0	0,0	3	42,9	3	42,9	1	14,2	7	100,0
Moderate adherence	1	6,7	10	66,7	4	26,6	0	0,0	15	100,0
High adherence	4	17,4	18	78,3	1	4,3	0	0,0	23	100,0
Total	5	11,1	31	68,9	8	17,8	1	2,2	45	100,0
r = -0,466; p = 0,001; α = 0,05										

DISCUSSION

Medicine Adherence

Most of them had high adherence. The results of this study are in line with the research of Nurmalita, Annisa, & Pramono (2019) which showed that most hypertension clients had high adherence. Adherence is an action taken by a patient to take medication or repeat medication prescriptions on time that involves communication between patients and health workers (Fauzi&Nishaa, 2018). According to Nurjanah, Astrid, &Kusumaningsih (2021) the factors that influence the level of adherence are demographic factors such as age and education. Education is a factor that affects knowledge, the higher the knowledge, the better the adherence. However, low education does not hinder a person's ability to acquire knowledge. Information factors from extension workers and the media can also affect a person's knowledge. This is supported research byRasajati, Raharjo, & Nigrum (2016) which shows

that there is no relationship between education and medication adherence. Respondents with high and low education both want to recover from their illness so that the level of education does not affect adherence to treatment.

Age can also affect adherence because a person's age can make changes in physical and psychological aspects. The psychological aspect of a person's level of thinking will be more mature and mature, but in the elderly, the thinking process will experience a decline. This will affect adherence to taking medication in the elderly so that family support is needed.

According to Muhadi (2019), there are several classes of antihypertension drugs, namely ACE inhibitors, ARBs, B-blockers, CCBs, and diuretics. Based on the results of the study, it showed that hypertension clients were taking antihypertension drugs of the ACE Inhibitor (Captopril) and CCB (Amlodipine) groups. The mechanism of action of Captopril is to inhibit the conversion of angiotensin I to angiotensin II. This CCB class of antihypertension drugs works to relax the heart and smooth muscles by inhibiting the entry of calcium into arterial blood vessel cells causing dilation of coronary arteries and peripheral arteries so that blood pressure becomes stable.

There are also hypertension clients, some of whom have low adherence. This is in line with Anwar&Masnina's (2019) research which states that a small proportion of hypertension clients have low levels of adherence. The low level of adherence in taking antihypertension drugs occurs because of the low understanding of the patient in understanding the purpose of therapy and the patient setting his own medication schedule that is not as recommended by health workers. In addition, the side effects of this hypertension drug are also a cause of client discomfort in the treatment of hypertension

Sources of information are very important in helping to improve adherence where patients know the influence of the importance of taking medication for blood pressure control. Hypertension clients have a high level of adherence because it is supported by the Prolanis activity where hypertension patients are given health education about the disease and are given a schedule to take medicine once a month. Efforts are made to continue health education to support adherence to taking medication so that it can control blood pressure.

Blood Pressure

Blood pressure is mostly prehypertension. This study is in line with the results of Anwar & Masnina's (2019) study which showed that most people with hypertension had blood pressure in the prehypertension range. Hypertension is a medical condition in which blood pressure is above normal limits. A person's blood pressure is not constant and can be influenced by several factors. According to Hastuti (2019), a person's blood pressure is influenced by several factors such as gender, this study shows that the most of hypertension clients are women. This is because the average woman will experience an increase in high blood pressure or hypertension after menopause, namely age over 45 years. Women who have not menopause are protected by the hormone estrogen which plays a role in increasing levels of High Density Lipoprotein (HDL). However, after menopause the hormone estrogen is not able to produce HDL in large quantities so that the process of atherosclerosis occurs due to increased levels of LDL cholesterol (Low Density Lipoprotein).

According to Hastuti (2019), a person's blood pressure is also influenced by age. Individuals aged 45 years or more have a risk of suffering from hypertension. With age, there is a degenerative process, namely a decrease in the elasticity of the blood vessel walls, so that arterial pressure is higher. However, it is possible that hypertension can also be experienced at a young age. Several factors can affect hypertension at a young age such as heredity and lifestyle (Aripin, Sawitri, &Adiputra, 2015).

The rise and fall of blood pressure is influenced by a healthy lifestyle, for example by physical activity. In the research of Harahap, Rochadi, &Sarumpaet (2017), it is explained that physical activity affects blood pressure. People who rarely do activities tend to have a higher heart rate. This causes the heart muscle to work harder with each contraction. The harder the heart muscle pumps blood, the greater the blood pressure imposed on the artery walls so that peripheral resistance causes blood pressure to increase. This study shows that most of the hypertension clients work both inside and outside the building. This will make the hypertension client expend energy so that blood pressure does not increase.

The results of this study indicate that most hypertension clients have prehypertension blood pressure. This does not mean changing the status of the hypertension client, recovering and not experiencing hypertension anymore. Blood pressure Hypertension clients are in the prehypertension range because clients routinely take medication as shown in the data presented in table 3. Sustained hypertension can interfere with the function of other body organs. The need for attention to hypertension will later be a factor to reduce the mortality rate and the severity of cardiovascular disease. It is expected to continue to carry out routine blood pressure control and compliance in carrying out hypertension treatment and a healthy lifestyle.

Correlation Medication Adherence with Blood Pressure

Based on the results of spearman's rho analysis, it was stated that there was a significant relationship between the level of medication adherence and blood pressure in hypertensive clients in the work area of the BaurenoBojonegoro Health Center. These results indicate that the relationship between the medication adherence and blood pressure is quite strong, the higher the compliance, the controlled the blood pressure.

Hypertension is a disease that cannot be cured but can be controlled or controlled by taking antihypertensive drugs for life. Adherence to taking medication for hypertension is very important because it can control or control blood pressure. The results of this study are in line with Efendi, Tiahesara, & Azana (2018) which showed that there was a relationship between medication adherence and blood pressure and the strength of the relationship was sufficient.

Non-adherence in taking hypertension medication can trigger a rebound, meaning that blood pressure that has fallen when treated can suddenly spike higher when the drug is stopped. The risk of cardiovascular complications and death increases in patients who do not adhere to consistent therapy. Consistency in adherence is a key factor in controlling blood pressure which will ultimately affect clinical outcomes. The impact of low adherence is a major contributor to hypertension with uncontrolled blood pressure. Low adherence is a failure to initiate pharmacotherapy, to take medication as often as prescribed and to persist on long-term therapy is recognized as a contributing factor to poor blood pressure control (Rikmasari, Rendowati, & Putri, 2020).

Adherence to taking medication greatly supports the success of hypertension treatment. It is hoped that health workers can still become educators and facilitators by scheduling routine drug taking, carrying out routine supervision through Prolanis activities every month, and providing health education in stages. This is can support the client to continue to have high adherence in taking medication so as to produce stable blood pressure.

CONCLUSION

Most hypertension clients had high adherence and most had blood pressure in the prehypertension range. In the Spearman Rho test it was stated that there was a relationship between medication adherence and blood pressure in hypertensive clients, the higher the compliance, the lower the blood pressure.

Hypertensive clients are expected to maintain or improve adherence to taking antihypertensive drugs in order to control blood pressure so that the risk of complications can be reduced. Health workers can become educators and facilitators by carrying out routine supervision and providing health education in stages. Future researchers are expected to be able to use it as a source of data for further research based on other factors, different variables, with a larger number of samples.

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