The Relationship Between Knowledge And Drug Compliance In Hypertension Patients

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ABSTRACT	*Hypertension is one of the most common causes of untimely death worldwide and can result in an increased risk of mortality if left untreated. The treatment of hypertension requires the implementation of long-term therapy, so that in an effort to manage its therapy requires adherence and compliance in carrying out treatment. Knowledge about hypertension is also very important to shape one's awareness and behavior. The purpose of this study was to determine the relationship between knowledge and compliance with taking medication in hypertensive patients. Observational research method with cross-sectional design using non-probability sampling technique with purposive sampling approach. The research instrument used the Hypertension Knowledge Level Scale (HK-LS) questionnaire and the Probabilistic Medication Adherence Scale (ProMAS). Data analysis using Pearson correlation test. The results showed that there was a significant relationship between knowledge and medication adherence (p=0.003; r=0.320). Knowledge and compliance are very important in the treatment of hypertension to produce long-term blood pressure control effects and prevention of various complications that can be caused.*
KEYWORDS	Hypertension, Knowledge, Compliance

INTRODUCTION

Hypertension is a condition of increased blood pressure above normal with systolic blood pressure ≥140 mmHg and diastolic blood pressure ≥90 mmHg (Saiz et al., 2022). Until now, hypertension is still one of the serious health problems because hypertension is called a silent killer disease where patients do not realize the initial signs or symptoms that arise before complications finally appear (Dominiczak & Meyer, 2020). The causes of hypertension are divided into two, namely primary hypertension, which has no clear cause and secondary hypertension with clear causes, such as renal artery stenosis, atherosclerosis, renal failure, and hyperthyroidism (Kovesdy, 2022).

Hypertension is one of the leading causes of premature death worldwide. According to the World Health Organization (WHO), an estimated 1.13 billion people worldwide suffer from hypertension, but only 1 in 5 people with hypertension can control their blood pressure (Saiz et al., 2022). Basic Health Research data shows that the prevalence of hypertension based on measurement results in the population aged ≥18 years in Indonesia is 43.11%. Regionally, the prevalence of hypertension in Central Java was 12.9%, West

Java 9.67%, and East Java 8.01% (Riskesdas, 2018). Based on age, the prevalence of hypertension in Central Java is 55-64 years old (54.60%), 65-74 years old (64.42%), and >75 years old (71.31%) (Riskesdas, 2018).

In addition to having a very high prevalence, hypertension is one of the most complicated diseases that can result in an increased risk of mortality if not treated properly. Some of the complications include heart disease, kidney disease, retinopathy (retinal damage), and stroke (Farrah et al., 2020). Therefore, proper management of hypertension treatment is needed to achieve the desired blood pressure target. Treatment of hypertension can be done non-pharmacologically and pharmacologically. Hypertension treatment requires the implementation of long-term therapy, so that in an effort to manage its therapy it requires obedience and compliance in carrying out treatment. However, in reality there are still many who stop and do not comply with treatment when they feel their body is slightly improved (Satriana et al., 2022).

Medication adherence can be defined as the behavior and attitude of a patient in taking medication, following a diet or making lifestyle changes in accordance with agreed recommendations from a health care provider (Shen et al., 2020). Adherence can be influenced by several things including: age, gender, employment status, and education. In addition, a factor that can affect compliance is the patient's knowledge of their disease. Knowledge is very important to shape a person's awareness and behavior. With increasing knowledge, it will show that a person has known, understood and understood the purpose of the treatment they are undergoing so that they are more encouraged to be aware and obedient to the treatment they are taking (Mohebbi et al., 2021). Therefore, researchers are interested in knowing the relationship of hypertension knowledge with medication compliance and blood pressure control in hypertensive patients in Banyudono Village, Boyolali.

RESEARCH METHOD

his study is an observational study with a cross-sectional research design conducted in Banyudono Village, Boyolali. The population in this study were hypertensive patients in Banyudono Village, Boyolali with a total of 106 hypertensive patients. The number of samples in this study was calculated using the Slovin formula and obtained 54 samples. The sampling technique in this study used non-probability sampling with a purposive sampling approach in hypertensive patients who met the research criteria to get the desired number of samples.

The sample criteria in this study were divided into two: Inclusion criteria: patients with age $\geq$ 18 years, patients with therapy 1-3 number of hypertension drugs, patients can communicate and fill out the questionnaire properly, patients diagnosed with hypertension with a minimum of 3 months treatment. Exclusion criteria: patients with a health education background and health profession, patients who are not willing to participate in the study. Data collection techniques in this study used interview techniques to patients using questionnaires. In this study, the questionnaire used was the Hypertension Knowledge Level Scale (HK-LS) questionnaire and the level of compliance with taking medication was measured using the Probabilistic Medication Adherence Scale (ProMAS) questionnaire. Data analysis was carried out descriptively and statistically using the Pearson correlation test.

RESULT AND DISCUSSION

Patient demographic data presented in Table 1 shows that most hypertensive patients have female gender (61%). These results are in accordance with the research of Consolazio et al., (2022) which shows that most of the respondents are female (66.50%). This is due to the relationship between hormonal factors such as decreased estrogen levels in women aged > 50 years who experience menopause (Piťha et al., 2023). This hormonal factor causes an increase in renin release, which can trigger an increase in blood pressure (Sabbatini & Kararigas, 2020).

Table 1. Demographic Characteristics

No	Variable	Frequency	Percentage (%)
1	**Gender**		
	Female	33	61
	Male	21	39
2	**Age**		
	18-44 year	14	26
	45-60 year	18	33
	>60 year	22	41
3	**Education**		
	Primary school	9	17
	Junior high school	14	26
	Senior high school	18	33
	Diploma	5	9
	Bachelor	8	15
4	**Jobs**		
	Not Employed	26	45
	Self-employed	19	35
	civil servants	9	17
5	**Durasi Penggunan Obat**		
	<1year	23	43
	>1 Year	31	57

The age of hypertensive patients in this study was mostly >60 years with a percentage of 41%. The age factor is very influential on the incidence of hypertension because with increasing age, the risk of suffering from hypertension becomes higher. This is due to natural changes in the body that affect the reduced elasticity of blood vessels (Wang et al., 2020).

The last education of respondents is mostly Senior high school with a percentage of 33%. In a study conducted by Paczkowska et al., (2021) showed similar results, namely as many as 43,9 % of respondents who experienced hypertension had the last education of Senior high school. The higher a person's level of education, the better his knowledge will be, resulting in an increase in self-power to maintain, maintain and improve his health (Rikmasari et al., 2023).

Most hypertensive patients in this study did not work/retire with a percentage of 45%. These results are in accordance with research conducted by Paczkowska et al., (2021) which shows that more hypertensive patients do not work (73.2 %). In this study, it was dominated by respondents aged 60 years and over so that many respondents did not work or were retired. This causes a lack of physical activity. Someone with less physical activity

tends to have a higher heart rate frequency so that the heart muscle works harder with each contraction.

Table 1 shows that 57% of respondents had hypertension for more than 1 year. The longer the patient undergoes treatment, the greater the possibility of non-adherence to treatment. This is because the treatment that has been carried out for a long time can burden and encourage patients to forget about the drugs consumed and stop the treatment earlier than recommended because they feel their health condition is normal and stable (Mohanty et al., 2021).

Table 2. Knowledge Level Related to Hypertension

Category	Quantity	Percentage (%)
Low	19	35
High	35	65
Total	54	100

The data in Table 2 shows that most respondents have a high level of knowledge related to hypertension with a percentage of 65%. The results of this study are in line with research conducted Oktaviani & Gunawan, (2021) which states that as many as 128 respondents (62.1%) have a good level of knowledge. A high level of knowledge will indicate that someone already knows, understands and understands the purpose of the treatment they are undergoing, so that someone will be more encouraged to adhere to their treatment.

Table 3. Patient Adherence Level of Taking Hypertension Medication

Category	Quantity	Percentage (%)
Low	2	4
Medium-low	5	9
Medium-high	18	33
High	29	54
Total	54	100

Table 3 shows that most of the respondents had a high level of compliance, at 54.%. Algabbani & Algabbani, (2020) also reported that 73.5% respondents were more compliant in undergoing treatment. Compliance in taking medication is needed to achieve therapeutic success so as to reduce the risk of complications. Other studies have also shown that the highest hypertension treatment failure rate occurs in patients who have non-compliant behavior in taking medication.

Table 4. Relationship between Hypertension Knowledge and Adherence to Taking Medication

Knowledge	Compliance				Total n (%)	Correlation Test
	Low	Medium-low	Medium-high	High		
Low	1 (1%)	2 (4%)	7 (13%)	9 (17%)	19 (35%)	p=0,003[a]
High	1 (1%)	3 (5%)	11 (20)	20 (37%)	35 (65%)	r=0.320 [b]
Total	2 (2%)	5 (9)	18 (33%)	29 (54%)	54 (100%)	

Keterangan:

a = p <0.05 means there is a significant relationship

b= the relationship direction is positive but has a weak relationship

Table 4 shows that high knowledge of hypertension is followed by a high level of compliance. This is indicated by the high percentage (42.3%) of respondents with a high level of knowledge and high compliance. In the Pearson correlation test results, the p value = 0.004 (<0.05) indicates that there is a significant relationship between the level of knowledge of hypertension and the level of compliance with taking medication in hypertensive patients. The Pearson correlation value of 0.321 indicates that the strength of the relationship is weak and the direction of the relationship is positive. This shows that the higher the level of knowledge, the higher the level of patient compliance.

The results of this study are in line with research conducted by Paczkowska et al., (2021) which states that there is a significant relationship between knowledge and compliance of hypertension patients with a p value of 0.001 (<0.05). With the knowledge possessed by patients about hypertension, such as the symptoms caused, development, and control, as well as knowledge about the hypertension treatment process, it will certainly help a person to control himself and increase his awareness to be more compliant with the treatment being undertaken. The existence of such compliance is very important in the treatment of chronic diseases such as hypertension because the use of compliant antihypertensive drugs is needed to produce long-term blood pressure control effects and prevention of various complications that can be caused.

CONCLUSION

Based on the research that has been done, it can be concluded that there is a significant relationship between knowledge and compliance with taking medication (p value = 0.003; r = 0.320). Knowledge is very important to shape a person's awareness and behavior, with increased knowledge will show that a person already knows, understands and understands the purpose of the treatment they are undergoing so that they are more encouraged to be aware and obedient to the treatments they are doing.

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