

## **RELATIONSHIP BETWEEN LEVEL OF KNOWLEDGE AND MEDICATION ADHERENCE AMONG HYPERTENSIVE PATIENTS**

**Fetty Yublika Pasole\*, Yosin Herloheti Pella, Serly Sani Mahoklory**

Bachelor of Nursing Program, STIKES Maranatha Kupang, Jl. Bajawa Nasipanaf, Baumata West, Kupang, East Nusa Tenggara 85361, Indonesia

[\\*fettyqueenpasole@gmail.com](mailto:fettyqueenpasole@gmail.com)

### **ABSTRACT**

The high number of hypertension cases in the East Nusa Tenggara region, namely 76,130 people, and in the Kupang region, namely 63.32% of cases, shows that this problem is still a serious concern. The data also shows that 13.3% of people with hypertension do not take their medication regularly. This condition is caused by various factors, such as patient noncompliance with doctors' recommendations to take medication every day, delays in taking medication, boredom with long-term treatment, low awareness of the risks of hypertension, and lack of knowledge about the importance of drug therapy. This study aims to analyze the relationship between knowledge level and medication adherence among hypertensive patients at the Tarus Health Center in Kupang District. This is a quantitative study using an analytical observational design with a cross-sectional approach. Sample: The study included 100 respondents selected using purposive sampling. The measurement tool used was a questionnaire on hypertension knowledge and medication adherence. Data analysis was performed using the Spearman's Rank test. The study results showed a significant association between knowledge level and medication adherence in hypertensive patients with a p-value of 0.000 ( $p < 0.05$ ). There is an association between knowledge level and medication adherence in hypertensive patients.

Keywords: hypertension; knowledge level; medication adherence

### **INTRODUCTION**

Hypertension is a condition in which a person has high blood pressure or higher than normal, with a systolic value  $>140$  mmHg and a diastolic value  $>90$  mmHg. High blood pressure is an underdiagnosed disease, and its incidence continues to increase (Setiyana, 2021). A major problem that arises in hypertensive patients is non-compliance in taking antihypertensive medication. Most hypertensive patients do not take their medication regularly and stop treatment when their blood pressure returns to normal (Sari & Helmi, 2022). If high blood pressure is not diagnosed and treated properly, it can lead to kidney failure, heart failure, stroke, and even death. (Setiyana, 2021)

According to *the World Health Organization* (2018), the prevalence of hypertension worldwide is 26.4% or 972 million people suffer from high blood pressure, a figure that will increase to 29.2% by 2021. WHO (2018) estimates that 9.4 million people die each year from hypertension. In developed countries, 333 million cases of hypertension were found among 972 million people with high blood pressure, and another 639 million cases were found in developing countries, including Indonesia (Casmuti & Fibriana, 2023). The results of the 2018 basic health research show that the prevalence of high blood pressure among people over the age of 18 is 34.11%. An increase in the prevalence of hypertension has also occurred in all provinces in Indonesia. South Kalimantan Province has the highest incidence rate of 44.13%, followed by East Java at 39.3%. West Sumatra at 25.16%, North Maluku at 24.65%, and Papua at 22.2% have the lowest incidence rates (Longa *et al.*, 2023).

Based on Riskesdas data (2018), high blood pressure in the East Nusa Tenggara region was 76,130 (7.2%), and in the Kupang region it was 63,327 (15.74%). High blood pressure occurs in people aged 3-44 years (31.6%), 45-54 years (45.3%), and 55-64 years (55.2%). From the prevalence of high blood pressure of 34.1%, it is known that 8.8% of people with high blood pressure and 13.3% of people with high blood pressure do not take medication, and 32.3% of the reasons are: patients are in

good health (59.8%) and usually take medication that is not finished. Not regularly visiting the health center (31.3%), using traditional medicine (14.5%), and other treatments (12.5%). Forgetting to take medication (11.5%), inability to afford medication (8.1%), medication side effects (4.5%), and blood-thinning medication available at the health center (2%) (Rindu *et al*, 2022).

Based on preliminary data collected at the Tarus Community Health Center in Kupang Regency on May 31, 2024, there were 657 people with hypertension, comprising 209 men and 448 women. Based on brief interviews conducted by researchers at the Tarus Community Health Center in Kupang Regency with 12 people with hypertension, if high blood pressure is not diagnosed and treated properly, it can lead to kidney failure, heart failure, stroke, and even death. Medication adherence is the behavior of patients in taking the recommended medication and dosage. There are several factors that influence patients' failure to meet the minimum requirements for antihypertensive medication at the Tarus Community Health Center, such as patients not following the doctor's advice to take medication every day, often taking medication after the prescribed time, boredom in taking medication, lack of awareness of the risks and consequences of hypertension, and lack of knowledge about treatment.

High blood pressure is an undiagnosed disease known as *a silent killer* because it does not show symptoms, and many people experience high blood pressure without symptoms. To date, high blood pressure is a serious disease and problem worldwide. Lifestyle changes can cause high blood pressure to persist, such as a diet high in cholesterol and salt, a sedentary lifestyle, and possible genetic factors. In addition, patient non-compliance with treatment is listed as the most common disease in the world (Juniarti *et al.*, 2023). Failure to manage patients with high blood pressure has many causes. One factor contributing to the effectiveness of high blood pressure treatment is patient satisfaction and specific actions to control blood pressure, as well as careful use of blood thinners (Christiyani *et al.*, 2023) High blood pressure can lead to various problems. If high blood pressure continues to rise, it can cause diseases such as endocrine and metabolic disorders, vascular damage, stroke, heart failure, kidney failure, low blood pressure, etc. High blood pressure increases the risk of death if left untreated and unmanaged, and if high blood pressure is left untreated, the risk of death increases due to complications, and blood pressure continues to rise under treatment (Sudrajat *et al.*, 2023).

Compliance can be used as a parameter for the level of patient knowledge in following instructions from medical personnel, which includes knowledge about prescriptions, taking medication regularly and correctly, and changing lifestyle habits. Compliance can be used as a parameter for the level of patient knowledge in following instructions from medical personnel, which includes understanding prescriptions, using medication correctly, and changing lifestyle habits. The goal of treatment for patients with high blood pressure is to improve their quality of life, but many of them stop treatment when they are not feeling well, so when treating high blood pressure, it is important for patients to comply with treatment (Rahayu *et al.*, 2021). Based on the background description above, the author is interested in conducting research with the title "The Relationship Between Knowledge Based on the background description above, the purpose of this study is to analyze the relationship between the level of knowledge and medication adherence in patients with hypertension who are treated at the Tarus Community Health Center, Kupang Regency.

## **METHOD**

This study is a quantitative study with an analytical observational approach using a cross-sectional design. The study was conducted at the Tarus Community Health Center in Kupang Regency from March 19-5, 2025. The population in this study consisted of 657 patients with hypertension. Sampling in this study was based on the following inclusion criteria: patients with hypertension, patients receiving antihypertensive drug therapy, patients willing to be respondents, and patients with systolic blood pressure >180 mmHg and diastolic blood pressure >110 mmHg. The sample in this study consisted of 100 respondents selected using *purposive sampling*. The measurement tools used were

questionnaires on the level of knowledge about hypertension and medication adherence. These questionnaires had been tested for validity with an r-table value (0.445) and rehabilitation showing a value of (0.748). Univariate analysis was used to obtain an overview of each independent variable, including knowledge level, and the dependent variable, which was medication adherence. Bivariate analysis used the *Spearman's rank correlation test* (Notoatmodjo, S. 2012).

## RESULT

Table 1.  
Distribution of Respondent Characteristics (n= 100)

Gender	f	%
Male	36	36
Female	64	64
Age		
Early adulthood	40	40
Middle adulthood	38	38
Elderly	22	22
Education		
No schooling	15	15
Elementary	20	20
Junior High School	19	19
High School	27	27
University	19	19
Occupation		
Not working	65	65
Farmer	17	17
Civil Servant	5	5
Self-employed	9	9
Retired	4	4

Table 2.  
Distribution of Respondent Characteristics (n= 100)

Level of Knowledge	f	%
Good	2	2
Fair	44	44
Not enough	54	54

Table 3.  
Analysis of Respondent Distribution Based on Medication Adherence (n= 100)

Medication Adherence	f	%
Compliant	16	16
Non-compliant	84	84

Table 4.  
Analysis of the Relationship between Knowledge Level and Medication Adherence among Hypertension Patients

		Tingkat Pengetahuan	Kepatuhan Minum Obat
Spearman's rho	Tingkat Pengetahuan	Correlation Coefficient	1.000
		Sig. (2-tailed)	.000
		N	100
	Kepatuhan Minum Obat	Correlation Coefficient	.502**
		Sig. (2-tailed)	.000
		N	100

## DISCUSSION

Based on the distribution of respondent characteristics (n=100), the majority of respondents were female, namely 64 people (64%), while 36 people (36%) were male. In terms of age, the largest number of respondents were in the early adult category, namely 40 people (40%), followed by middle adults with 38 people (38%), and the elderly with 22 people (22%). In terms of education, most respondents had a high school education, namely 27 people (27%), followed by 20 people (20%) with a primary school education, 19 people (19%) with a junior high school education, 19 people (19%) with a college education, and 15 people (15%) who did not attend school. Based on occupation, the majority of respondents were unemployed, namely 65 people (65%), followed by farmers, 17 people (17%), entrepreneurs, 9 people (9%), civil servants, 5 people (5%), and retirees, 4 people (4%).

The results of the bivariate analysis showed that the respondents' level of knowledge about hypertension was mostly in the poor category, namely 54 people (54%), 44 people (44%) in the adequate category, and only 2 people (2%) had good knowledge. Meanwhile, based on compliance with antihypertensive medication, most respondents were in the non-compliant category, namely 84 people (84%), while only 16 people (16%) were compliant. The results of the Spearman Rank correlation test showed a significant relationship between the level of knowledge and medication adherence in hypertensive patients at the Tarus Community Health Center, Kupang Regency, as illustrated in Figure 1. This shows that the better the patients' knowledge about hypertension, the higher their adherence to treatment therapy.

### Identifying the Level of Knowledge Among Hypertension Patients

Table 2 shows the distribution of respondents based on their level of knowledge about hypertension, with the majority (54 respondents, or 54%) having a low level of knowledge. This study is in line with research conducted by Jullanar et al. (2024), which shows that there is a significant relationship between the level of knowledge and medication adherence in patients with hypertension. Research by Medika et al (2024) states that knowledge helps a person's healthy behavior. Therefore, the more knowledge a person has, the greater the possibility of achieving the goal of successful treatment for patients with high blood pressure. This study is also in line with research conducted by (Juniarti et al., 2023), which shows that there is a significant relationship between knowledge level and medication adherence in patients with hypertension. This study states that a good level of knowledge related to antihypertensive medication adherence will also shape good behavior. The better a person's knowledge, the greater the impact on the individual's cognitive potential to maintain their health. This becomes a direction for individuals with good knowledge to seek treatment so that the quality of life of patients will be better.

The researchers assume that the lack of knowledge among patients in this study is due to patients never or rarely being exposed to information about hypertension, and that the level of knowledge can influence patients in carrying out hypertension treatment. Therefore, researchers believe that it is important to provide information about hypertension treatment to increase interest in taking medication and to conduct regular check-ups at health facilities to avoid complications due to uncontrolled blood pressure.

### Identifying ts of Medication Adherence in Hypertensive Patients

Table 3 shows the distribution of respondents based on medication adherence among hypertensive patients, with the majority being non-adherent (84 respondents, or 84%). This study is in line with research conducted by (Putri et al., 2024) which found a relationship between medication adherence and blood pressure in hypertensive patients, where patients who adhere to medication tend to have controlled or stable blood pressure. Sahadewa et al. (2019) stated in their study that medication adherence among hypertensive patients is crucial because hypertension is an incurable disease that must be constantly monitored or controlled to prevent complications that could lead to death. This study is also in line with research conducted by (Aditya et al., 2024), which found a significant

relationship between medication adherence and blood pressure levels in hypertensive patients. This study states that medication adherence for people with high blood pressure is very important because taking antihypertensive drugs regularly can help control blood pressure, thereby reducing the risk of organ damage, such as to the heart, kidneys, and brain, in the long term. The researchers assume that the lack of medication adherence in hypertensive patients is due to a lack of awareness of the risks and consequences of hypertension, as well as boredom in taking medication. Therefore, the researchers argue that it is important to provide education on treatment adherence to enable patients to achieve effective hypertension treatment and improve their quality of life.

### **Analyzing the Relationship Between Knowledge Level and Medication Adherence in Hypertensive Patients**

Based on table 4, the results of the statistical test using the Spearman rank test obtained a p-value of  $0.000 < 0.05$ , which means that there is a correlation between the level of knowledge and medication adherence in hypertensive patients. Research by Christiyani et al(2023) , states that knowledge is one of the factors that influence a person's compliance, so that a person's level of knowledge about their hypertension affects their compliance with antihypertensive medication. Good knowledge about hypertension encourages patients to seek treatment and motivates them to adhere to their treatment program. This shows that knowledge is important in supporting healthmaintaining behaviors (Longa et al., 2023). This study is in line with research conducted by (Indriana & Swandari, 2020) on the relationship between knowledge levels and medication adherence in hypertensive patients at Cilacap Hospital. There is a significant relationship between knowledge levels and adherence to antihypertensive medication. Usually, someone who is knowledgeable about their illness will be more compliant in taking medication because they understand the risks that may occur if they do not take their medication regularly. Good patient knowledge about hypertension will affect patient compliance in taking medication. Based on the above description, the researcher assumes that there is a positive correlation between knowledge level and medication adherence in hypertensive patients. Hypertensive patients with a good level of knowledge tend to be more capable of adhering to the medication recommended by health workers.

### **CONCLUSION**

Most of the knowledge levels of hypertensive patients at the Tarus Community Health Center were in the low category, with 54 people (54%). Most of the medication adherence among hypertensive patients at the Tarus Community Health Center was in the non-adherent category, with 84 people (84%). There is a significant relationship between the level of knowledge and medication adherence among hypertensive patients at the Tarus Community Health Center, with a P value of  $0.000 < 0.05$ , which means that there is a significant relationship.

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