THE RELATIONSHIP OF KNOWLEDGE ABOUT HYPERTENSION WITH ADHERENCE TO TAKING MEDICATION IN THE ELDERLY

Rini Amelia * | Hendri Hadiyanto | Tri Utami | Lutiyah

a,b,c Undergraduate Nursing Study Program, Faculty of Health, Universitas Muhammadiyah Sukabumi
*Corresponding Author: ameliarini160320@gmail.com

ARTICLE INFORMATION	**ABSTRACT**
	This study aims to analyze the relationship between knowledge about hypertension and medication adherence among elderly patients at Nanggeleng Health Center in Sukabumi City. This observational analytic study utilized a cross-sectional design involving 74 elderly individuals diagnosed with hypertension. Data were collected using a questionnaire covering demographic information, knowledge about hypertension, and medication adherence assessed using MMAS-8. The analysis, conducted using a chi-square test, revealed a significant relationship (p-value 0.000 < 0.05) between knowledge about hypertension and medication adherence. The majority of respondents 73,0%) demonstrated good knowledge, while 70,3% exhibited high medication adherence. Education level, particularly high school, which accounted for 40.5% of respondents, significantly influenced knowledge and adherence. Family support was also identified as a critical factor in ensuring medication adherence. These findings underscore the importance of health education in enhancing the knowledge of elderly patients about hypertension, thereby promoting adherence to treatment. The role of nurses as health educators is crucial in this process. This study provides valuable insights into factors influencing the successful management of hypertension among the elderly and recommends enhancing educational programs involving families to encourage adherence to treatment.

Introduction

The Relationship of Knowledge About Hypertension with Adherence to Taking Medication in the Elderly Hypertension is a disease characterized by high blood pressure. A person is said to have hypertension if they have a systolic blood pressure > 140 mmHg and or diastolic blood pressure > 90 mmHg in repeated examinations. Hypertension based on its cause is classified into primary or often called essential and secondary hypertension (Thomas, J., Stonebrook, E., Klamer, B., Patel, H. P., & Kallash 2021).

If hypertension is left untreated, it can cause various serious complications such as stroke, heart attack, kidney failure, and the most fatal is death due to late or ineffective treatment (Telaumbanua, A. C., & Rahayu 2021). Living a healthy lifestyle and regularly taking antihypertensive drugs are considered effective steps to overcome this disease. The success of treatment is also influenced by various factors, one of which is compliance in taking medication (Hanum, S., Puetri, N. R., Marlinda, M., & Yasir 2019).

The world health organization WHO states that the elderly population in 2020 will reach 11.34% or 28.8 million people. Based on data obtained from the health profile of the city of Sukabumi in 2022 from 24,970 people with hypertension, 22,090 of them (89.5%) have received health services in the form of health checks, treatment and counseling and education. The incidence of hypertension in Indonesia reaches 36%. From the Indonesian Basic Health Research,

the prevalence of hypertension was 34.1% (Kemenkes RI, 2023). According to WHO, the incidence of hypertension in the world will increase every year and reach 29.2% by 2025. (Soesanto, E., & Marzeli 2020), in Indonesia the number of elderly people increased to 20,547,541 in 2009 this number is the fourth largest after China, India and Japan.

The role of nurses as educators is very important in helping patients improve their health by providing knowledge about the medical care and actions received. This allows patients or families to understand relevant information to improve adherence to hypertension treatment (Djibu, E., Afiani, N., & Zahra 2021). Apart from being responsible for service, nurses must also act as conveyors of health information, so as to encourage increased patient compliance in taking medication.

Based on preliminary studies conducted at the Nanggeleng Health Center, Sukabumi City on November 08, 2024 using the observation method with elderly program holders affected by hypertension, totaling 721 people. With 22 elderly people regarding questions about the level of knowledge and compliance with taking medication in the elderly suffering from hypertension, it was found that some elderly people said they did not know what hypertension was and how to comply with taking medication.

Compliance with taking medication and routinely checking the disease requires family support. Family support affects adherence to taking medication for people with hypertension. Incomplete patient treatment is caused by the role of family members who do not fully accompany the patient, as a result of which the hypertension suffered can recur. Treatment compliance will increase when the patient gets help from the family. Patients who do not have family or no support from the family will affect early treatment termination and unsatisfactory results.

Knowledge is very important in improving complication prevention behavior in hypertensive patients. A person's behavior to avoid complications of hypertension due to lifestyle changes, consuming foods rich in fat and cholesterol, smoking and excessive stress can be influenced by their lack of awareness about complications of hypertension (Kardiyudiani, N. K., Wulandari, A. N., & Susanti 2019). In this case knowledge has an important role to change one's behavior towards a better one. The formation of a new behavior in the elderly starts from cognitive knowledge, which means being able to know in advance about the material (KK 2022).

In connection with these problems, the researcher is interested in conducting research on "The Relationship between Knowledge of Hypertension and Adherence to Taking Medication in the Elderly". The high rate of hypertension at the Nanggeleng Health Center in Sukabumi City and the absence of discussion on this title is one of the reasons this research was carried out. The purpose of this study is to determine whether there is a relationship between knowledge about hypertension and compliance with taking medication in the elderly.

Methods

This research is a type of analytical observational research with cross sectional design (Masturoh, I., & Anggita 2018). The population in this study were all elderly patients diagnosed with hypertension from the age of 60 years and over at the Nanggeleng Health Center in Sukabumi City with a total of 91 patients, in this study sampling using the Slovin formula (Nursalam, 2003) with a set sample size of 74 patients. In the research preparation stage, researchers applied for permission from the Sukabumi City Health Office, the National and Political Unity Agency, and the Nanggeleng Health Center to conduct preliminary surveys and research, and compile research instruments in the form of questionnaires. At the implementation stage, researchers explained the purpose of the study to respondents, asked for informed consent signatures, and then circulated questionnaires for completion. After the questionnaires were collected, the data were

analyzed using SPSS 2020 with the stages of editing, data entry, and quantitative data processing. The research instruments consisted of questionnaires measuring demographic data, knowledge about hypertension, and medication adherence using MMAS-8. Reliability tests were conducted to ensure the consistency of the research instruments. Data analysis was conducted through univariate analysis to describe the characteristics of the research variables and bivariate analysis using the chi-square test to test the relationship between variables. This study also paid attention to research ethics, such as informed consent, anonymity, confidentiality, kindness, respect for human dignity, and justice to protect the rights and privacy of respondents.

Results

This chapter describes the results of the research conducted on the relationship between knowledge about hypertension and compliance with taking medication in the elderly at the Nanggeleng Health Center, Sukabumi City with a sample of 74 respondents and lasted until the end of the data collection time. The results of the study will describe the results of the description of the characteristics of respondents, unvariate analysis which includes variables of the relationship between knowledge about hypertension and adherence to taking medication, then the results of bivariate analysis of variables, and to test the hypothesis in this study using chi-square.

1. Characteristics of Research Respondents

The data analyzed in this study were the characteristics of respondents including age, gender, education level and duration of hypertension in the elderly at the Nanggeleng Health Center, Sukabumi City which can be explained in the following table:

a. Age

Table 1. Frequency Distribution of Respondent Characteristics by Age

Age	Frequency (people)	Percentage (%)
60-70 Years	56	75,7 %
71-80 Years	16	21,6 %
> 80 Years	2	2,7 %
Total	74	100%

Based on table 1 shows that the majority of respondents' age is in the age of more than 60-70 years, namely 56 people (%).

b. Gender

Table 2. Frequency Distribution of Respondent Characteristics based on Gender

Gender	Frequency (people)	Percentage (%)
Male	18	24,3 %
Female	56	75,7 %
Total	74	100 %

Based on table 2 shows that for the gender variable more are female, namely 56 people (75.7%).

c. Education Level

Table 3. Frequency Distribution of Respondent Characteristics based on Education Level

Education	Frequency (people)	Percentage (%)
Elementary	15	20,3 %
Junior High	23	31,1 %

Education	Frequency (people)	Percentage (%)
High School	30	40,5 %
College	6	8,1 %
Total	74	100%

Based on table 3, it shows that for the education variable, more people have a high school education, namely 30 people (40.5%).

d.   Duration of Hypertension

Table 4. Frequency Distribution of Respondent Characteristics based on Duration of Hypertension

Duration of Hypertension	Frequency (people)	Percentage (%)
>5	40	54,1 %
<5	34	45,9 %
Total	74	100%

Based on table 4 shows that for the variable length of suffering from hypertension, namely >5 as many as 40 people (54.1%).

2.   Hypertension Knowledge

Table 5. Distribution of Knowledge about Hypertension in the Elderly at Puskesmas Nanggeleng Health Center, Sukabumi City

Hypertension Knowledge	Frequency (people)	Percentage (%)
Good	54	73,0%
Fair	20	27,0%
Less	0	0%
Total	74	100 %

Based on table 5 shows Knowledge of Hypertension in the Elderly with a total sample of 74 people, the majority of the elderly knowledge category about hypertension as many as 54 people (73%).

3.   Adherence to Taking Medication

Table 6. Distribution of Adherence to Taking Medication in the Elderly at the Nanggeleng Health Center, Sukabumi City

Medication Adherence	Frequency (people)	Percentage (%)
High	52	70,3%
Medium	22	29,7%
Low	0	0%
Total	74	100 %

Based on table 6, it shows that compliance with taking medication in the elderly with a total sample of 74 people, the majority of adherence to taking medication was 52 people (70.3%).

4.   Relationship between Hypertension Knowledge and Adherence to Taking Medication in the Elderly

Table 7. Chi Square Test Results of the Relationship between Knowledge of Hypertension with Adherence to Taking Medication in the Elderly at the Nanggeleng Health Center, Sukabumi City.

Hypertension Knowledge	Medication Adherence						Total		P Value
	High		Medium		Low				
	F	%	F	%	F	%	F	%	
Good	47	87,0 %	7	13,0 %	0	0 %	54	73,0 %	0,000

Fair	5	25,0 %	15	75,0 %	0	0 %	20	27,0 %
Less	0	0 %	0	0 %	0	0 %	0	,0 %
Total	52	70,3 %	22	29,7 %	0	0 %	74	100%

Based on Table 7 above, the results of statistical tests with chi-square P value can be concluded that Ha is accepted, where the resulting p value is 0.000 <0.05, which can be concluded that there is a relationship between knowledge about hypertension and compliance with taking medication in the elderly at the Nanggeleng Health Center, Sukabumi City.

Discussion
1. Knowledge about Hypertension

Based on the results of research on elderly knowledge about hypertension at the Nanggeleng Health Center, Sukabumi City, it was found that the majority of respondents (73.0%) had a good level of knowledge about hypertension. The researcher concluded that this good level of knowledge was closely related to the characteristics of the respondents' latest education, which was mostly high school graduates. Education plays a very important role in improving patients' understanding of hypertension. Adequate and quality education helps patients better understand their health conditions, make the right decisions regarding lifestyle, medication, and a healthy diet, so as to control blood pressure. With better education, patients can more easily take measures to prevent and manage hypertension, and avoid complications that may occur. The higher a person's level of education, the broader their knowledge, so they are better able to determine a healthy lifestyle and diet, which can reduce the risk of developing hypertension (Darmawan and Sriwahyuni, 2021).

This research is also reinforced by Esti (2021), who states that education level affects a person's ability to implement healthy living behaviors, including in preventing hypertension. The higher the level of education, the better a person's intellectual ability to absorb information and form a positive mindset towards the prevention and management of hypertension. Based on the study, patients with good knowledge generally have blood pressure in the grade 1 category, while patients with grade 2 hypertension mostly have a sufficient level of knowledge. Adequate knowledge about hypertension plays a key role in preventing and managing the condition. By understanding the risk factors, symptoms, and treatment of hypertension, patients can take steps to minimize risks, better manage the disease, and anticipate side effects that may arise, so that quality of life is maintained (Maulana and Pahria, 2021).

Most hypertensive patients show higher awareness of their condition because they often get health promotion information from the health care facilities they visit. In addition, regular blood pressure checks every month also contribute to increasing patient understanding. This supports the patients' high level of knowledge about hypertension, as they have understood the information provided during the study (Rahayu, Erna Kadrianti, and Hasanuddin, 2022). In this study, the majority of respondents, as many as 30 people (40.5%), had a high school education. A higher level of education is thought to be one of the main factors supporting good knowledge, because education provides access to broader and deeper health information, so as to increase awareness of the importance of maintaining health, and preventing and recurrence of hypertension.

2. Medication Adherence

Medication adherence is essential to keep blood pressure under control, while non-adherence can be a major factor in treatment failure. This non-adherence can cause blood pressure to remain high, which risks serious complications such as heart disease, kidney failure, and stroke. Thus, non-adherence in hypertension therapy must be addressed to improve blood

pressure control (Fauziah, 2019). Research shows that although respondents know the rules for taking medication, they do not fully understand the health conditions of their bodies.

Based on the results of this study, it was found that compliance with taking medication in the elderly affected by hypertension with a total sample of 74 people, the majority of the high category was 52 people (70.3%). The results showed that the majority of respondents (70.3%) had a high level of compliance in taking hypertension medication. Researchers argue that this high compliance shows that respondents have carried out the elderly program well. Judging from the characteristics of education, most of the respondents had the latest high school education, as many as 30 people (40.5%), which was the highest number compared to other education levels. Education plays an important role in influencing hypertension patients' compliance in taking medication. education level also affects patients' understanding of their disease and treatment. Patients with higher education are better able to understand the importance of treatment and the impact of non-adherence. Darmawan and Sriwahyuni (2021) stated that patients with higher education tend to be more disciplined in following treatment.

3. Relationship between Knowledge about Hypertension and Adherence to Taking Medication

Based on the results of this study, the results of statistical tests with chi-square, the P value can be concluded that Ha is accepted, where the resulting p value is 0.000 <0.05, where it can be concluded that there is a relationship between knowledge about hypertension and compliance with taking medication in the elderly at the Nanggeleng Health Center, Sukabumi City. This study is supported by Rahayu et al. (2021), which showed a significant relationship between the level of knowledge and compliance with taking hypertension medication at the Nanggeleng Health Center, Sukabumi City. In addition, these results are in line with the research of Indriana et al. (2020), which also found a significant relationship between knowledge and compliance with taking medication.

This study revealed that people who have good knowledge about the disease they are experiencing are more likely to comply with the recommended treatment. This happens because they understand the risks that can arise if they do not take medication regularly as directed. A person's compliance is not only influenced by knowledge, but also influenced by various other factors. According to Edi (2015), factors that can affect patient compliance include socio-demographic, socio-economic, patient characteristics, and psycho-social factors.

Conclusion

Based on the results of research from 74 respondents, the conclusions obtained are as follows:

1. The results of research on elderly knowledge about hypertension at the Nanggeleng Health Center, Sukabumi City, showed that the majority of respondents (73.0%) had a good level of knowledge about hypertension.
2. In this study, it was found that medication compliance in the elderly affected by hypertension with a total sample of 74 people, the majority of the high category as many as 52 people (70.3%).
3. Based on the results of this study, the results of statistical tests with chi-square P value can be concluded that Ha is accepted, where the resulting p value is 0.000 <0.05, where it can be concluded that there is a relationship between knowledge about hypertension and compliance with taking medication in the elderly at the Nanggeleng Health Center, Sukabumi City.

References

Djibu, E., Afiani, N., & Zahra, F. (2021). Pengaruh Peran Perawat Sebagai EdukatorTerhadap Kepatuhan Minum Obat Pada Pasien Hipertensi. *Media Husada Journal of Nursing Science*, *9*(3), 215-217.

Hanum, S., Puetri, N. R., Marlinda, M., & Yasir, Y. (2019). Hubungan antara pengetahuan, motivasi, dan dukungan keluarga dengan kepatuhan minum obat pada penderita hipertensi di Puskesmas Peukan Bada Kabupaten Aceh Besar. *Jurnal Kesehatan Terpadu (Integrated Health Journal)*, *10*(1), 30-35.

Kardiyudiani, N. K., Wulandari, A. N., & Susanti, B. A. (2019). The influence of self-help group therapy towards quality of life of cancer patients in palliative care. *International Journal of Community Medicine and Public Health*, *6*(10),4193.

Kemenkes RI, K. K. R. I. (2023). *Profil Kesehatan Indonesia Tahun 2022*. In Kementerian Kesehatan Republik Indonesia. Jakarta

KK, I. F. J. (2022). Penyuluhan Pengendalian Hipertensi dan Kepatuhan Konsumsi Obat Anti Hipertensi. *Indonesian Journal Of Community Service*, *2*(4), 443-451.

Massa, K., & Manafe, L. A. (2022). *Kepatuhan minum obat hipertensi pada lansia.Sam ratulangi journal of public health, 2 (2), 046.*

Masturoh, I., & Anggita, T. N.(2018) Metodologi Penelitian Kesehatan. *Bahan Ajaran Rekam Medis dan Informasi Kesehatan (RMIK). Pusat Pendidikan Sumber Daya Manusia Kesehatan Badan Pengembangan dan Pemberdayaan Sumber Daya Manusia Kesehatan, Kementrian Kesehatan Indonesia.*

Nursalam (2003). *Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan Pedoman Skripsi, Tesis dan Instrumen Penelitian Keperawatan*. Jakarta : Salemba Medika.

Soesanto, E., & Marzeli, R. (2020). Persepsi lansia hipertensi dan perilaku kesehatannya. *Jurnal Keperawatan Dan Kesehatan Masyarakat CendekiaUtama*, *9*(3), 244-251.

Telaumbanua, A. C., & Rahayu, Y. (2021). Penyuluhan dan edukasi tentang penyakit hipertensi. *Jurnal Abdimas Saintika*, *3*(1), 119.

Thomas, J., Stonebrook, E., Klamer, B., Patel, H. P., & Kallash, M. (2021). Challenges of diagnosing pediatric hypertension using ambulatory blood pressure monitoring. *Pediatric Nephrology*, *36*, 373-378.