RELATIONSHIP BETWEEN SELF-EFFICACY AND MEDICATION ADHERENCE IN HYPERTENSIVE PATIENTS AT SIMPANG IV SIPIN HEALTH CENTER

Agusriani[1,2]*, Sofiyetti[1,2], Coriance Avelina Sipayung[1,2]

[1]Department of Pharmacy, Politeknik Kesehatan Kementerian Kesehatan, Indonesia
[2]PUI-PK, Politeknik Kesehatan Kementerian Kesehatan, Indonesia
*Corresponding author: agusriani@poltekkesjambi.ac.id

ABSTRACT

Background: Hypertension is a condition where there is an increase in systolic blood pressure >140 mmHg and diastolic pressure >90 mmHg. Hypertension generally makes sufferers think they have a low life expectancy and decide to continue living side by side with hypertension. To increase life expectancy, hypertension sufferers needed a high self-efficacy. Patients with high levels of self-efficacy will have twice the chance of adherence to taking medication compared to patients with low self-efficacy. This study aims to determine the level of self-efficacy and medication adherence along with the relationship between self-efficacy and medication adherence in hypertensive patients at Simpang IV Sipin Health Center.
Method: The design of this research is observational analytic with a cross-sectional approach. Sample selection used purposive sampling technique with a total 80 respondents who suffered in hypertension. The research instruments were Medication Adherence Self Efficacy Scale-Revision (MASES-R) questionnaire to measure the level of self-efficacy and Morisky Medication Adherence Scale-8 (MMAS-8) questionnaire to measure the level of medication adherence. Data analysis used the Kendall's tau b statistical test to determine the relationship between the two variables.
Result: The results showed that the number of respondents with a low level of self-efficacy was 41 people, a low level of medication adherence was 30 people, and there was a relationship between self-efficacy and medication adherence in hypertensive patients at Simpang IV Sipin Health Center where P Value = 0.000 < 0, 05.
Conclusion: From the results, it can be concluded that the level of self-efficacy and compliance with taking hypertension medication at Simpang IV Sipin Health Center is at a low level and there is a relationship between self-efficacy and medication adherence.

Keywords: Hypertension; Medication Adherence; Self Efficacy

INTRODUCTION

Hypertension generally creates thoughts among sufferers that those who have this disease have a low life expectancy and choose to continue living side by side with hypertension even though hypertension treatment aims to maintain the sufferer's quality of life. In an effort to increase life expectancy, sufferers need high self-efficacy (Mulyana & Irawan, 2019).

Self-efficacy is the confidence or belief that a person has in carrying out an activity and believes himself to continue doing it even though there are obstacles in achieving a goal (Kauric-Klein et al., 2017). A hypertensive patient who has high self-efficacy has the opportunity to show that they are twice as good at medication adherence compared to patients with a low level of self-efficacy (Novitasari, 2017).

Compliance with treatment is an important thing that greatly influences the continued health of hypertensive patients. Through patient adherence with treatment, it can be seen whether the hypertension therapy carried out has an effective output or not. Apart from that, compliance is also a measure of whether or not the patient's behavior is good in controlling hypertension. Therefore, patient non-compliance with hypertension treatment is the main factor in not achieving the expected therapy (Annisa & Ansar, 2013)

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One of factor in medication adherence is related to the patient themself, because they think that undergoing treatment can cause various long-term effects such as disturbing side effects and dependence. All of this can affect patient adherence with treatment (Sari, 2019). The patient's thoughts regarding the disease he is suffering from and the treatment process accompanied by the patient's beliefs about the treatment he is carrying out can be a factor in health behavior as the patient adherence to the treatment process (Martin et al., 2018).

According to data from the 2022 Jambi Province Health Profile, hypertension is ranked second among the 10 most common diseases in Jambi Province after acute ISPA with a percentage of 25.48%. This shows an increase in percentage from 2020, as big as 23.63%. This high percentage shows that Jambi Province is one of the provinces that has experienced an increase in the prevalence of hypertension cases in recent years (Jambi Provincial Health Office, 2022).

The number of hypertension sufferers aged over 15 in Jambi City in 2022 was 32,836 (Jambi Provincial Health Office, 2022). This shows an increase from the previous year, namely 25,966. If we look at the number of hypertension cases in Jambi City in 2021, Simpang IV Sipin Health Center is ranked highest of all health centers in Jambi City with a total of 5511 cases. In 2022, starting from January to March, the number of hypertension cases in Simpang Health Center IV Sipin as many as 589 cases (Kusumadayanti et al., 2023).

Based on previous research conducted by (Khoirunnisa, 2022) regarding the description of self-efficacy in hypertension sufferers at one of the community health centers in Karanganyar district, the results showed that of the 45 respondents, 24 respondents had a low level of self-efficacy with a percentage of 53.3%, and 21 respondents had a high level of self-efficacy with a percentage of 46.7 %. Then according to research conducted

(Febyanti, 2022) regarding the relationship between motivation and medication adherence in hypertension sufferers in Jember district, said that there was a significant relationship between motivation and medication adherence in hypertension sufferers.

Similar research has never been carried out at Simpang IV Sipin Health Center. It is hoped that this research can provide information about the level of self-efficacy and medication adherence also determine the relationship between self-efficacy and medication adherence in hypertensive patients at Simpang IV Sipin Health Center.

METHODS

In this research, the type of method used is a quantitative method. The design of this research is observational analytic with a cross sectional design approach, where only one measurement is carried out on respondents (Nursalam, 2020).

The population in this research was hypertension patients at Simpang IV Sipin Health Center with a total of 389 people. The sampling technique in this research uses a purposive sampling technique, namely the technique of determining the sample by conducting an assessment according to the criteria that have been determined by the research (Nursalam, 2020). The criteria in this research include:

A. Inclusion Criteria:
1. Hypertension sufferers who are willing to become respondents
2. Hypertension sufferers aged ≥18 years
3. Hypertension sufferers undergoing a hypertension treatment program
4. Hypertension sufferers who took hypertension medication at the research site

B. Exclusion Criteria
1. Hypertension sufferers who have difficulty communicating or have

hearing problems
2. Hypertension sufferers who suffer from complications

Determination of sample size can be calculated using the Slovin formula:

$$n = \frac{N}{1+N\,(e)2}$$

$$n = \frac{389}{1+389\,(0,10)(0,10)}$$

$$n = \frac{389}{4,89}$$

n = 79.55

n = 80

Information:

N: population size

n: number of samples

e: significance level (0.10)

Based on calculations using the formula above, the total sample in this study was 80 respondents.

The research was conducted from 27 May 2024 to 11 June 2024 at Simpang IV Sipin Health Center. The data used in this research is primary data namely the Medication Adherence Self Efficacy Scale-Revision (MASES-R) questionnaire as a measuring tool for the level of self-efficacy and the Morisky Medication Adherence Scale-8 (MMAS-8) questionnaire to measure the level of adherence to taking medication which was carried out by interview.

Validity and Reliability

Research regarding the validity and reliability test of the MASES-R questionnaire has been carried out by (Ivana, 2020) with research entitled "Validity and Reliability of the Indonesian Version of the Medication Adherence Self-Efficacy Scale-Revised (MASES-R) Questionnaire in Hypertension Patients". This research was conducted at RSD dr. Soebandi Jember Regency with a sample size of 150 respondents. The tests carried out were in the form of validity tests using the exploratory factor analysis method (KMO value = 0.861; Bartlett's test p = 0.000) and reliability tests with a Cronbach alpha value of 0.898. This shows that the Indonesian version of the MASES-R questionnaire was proven to be valid and reliable.

The MMAS-8 questionnaire is patented for use because it has been validated by WHO. The psychometric properties results show that the Indonesian version of MMAS-8 has validity and reliability with internal consistency reliability results assessed using Cronbach's alpha of 0.824 (Riani et al., 2017). This shows that the Indonesian version of the MMAS-8 questionnaire is declared valid and reliable.

Data processing

According to (Surahman & Rachmat, 2016) there are 4 steps carried out in data processing, including:
1. Editing
   Editingis an activity to check the list of questions in the collected questionnaires.
2. Coding
   Activities to change questionnaire data from letters into numbers or numbers.
3. Processing
   This step is carried out to enter data into the computer using the numeric code from the results of the questionnaire answers.
4. Cleaning
   The final step is to double-check the data that has been transferred to the computer.

Data processing the level of self-efficacy and medication adherence is based on answers to questions given to respondents. The instrument used was the MASES-R questionnaire which contained 13 questions about self-efficacy and MMAS-8 questionnaire that contained 8 questions regarding medication adherence. The assessment conditions are as follows:

MASES-R Questionnaire:
1. Very confident answers are given a score of 4
2. Answers that are quite confident are given a score of 3

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3. A slightly confident answer is given a score of 2
4. Answers that are not sure at all are given a value of 1

The results of measuring self-efficacy using the MASES-R questionnaire are categorized as follows (Fernandez et al., 2008):
1. Low, if the scoring results are <mean
2. High, if the scoring results are ≥ mean

MMAS-8 Questionnaire:

Wrong answers are given a value of 0

The correct answer is given a value of 1

The results of measuring medication adherence using the MMAS-8 questionnaire are categorized as follows (Morisky et al., 2008):
1. Low, if the total score is <6
2. Moderate, if the total score is 6-7
3. High, if the total score is 8

Data analysis

Data analysis carried out in this research was in the form of univariate analysis and bivariate analysis.

1. Univariate Analysis

Univariate analysis is a descriptive explanation and analysis of the frequency distribution of each variable (Nursalam, 2020). Univariate data in this research consisted of age, gender, level of self-efficacy and adherence to taking medication.

2. Bivariate Analysis

Bivariate analysis was carried out to determine the relationship between self-efficacy and medication adherence in hypertensive patients using statistical tests via the SPSS application. This research uses Kendall's tau-b test to assess the relationship of two variables with an ordinal scale and the strength (correlation coefficient) between variables in correlation analysis. The interpretation of bivariate analysis is that when the p-value in the Sig column (2-tailed) < alpha value (0.05), then H0 is rejected so that it can be concluded that there is a significant relationship between the variables studied. However, when the p-value in the Sig column (2-tailed) > alpha value 0.05, then H0 is accepted, which means there is no significant relationship between the two variables being tested (Donsu, 2016).

RESULTS AND DISCUSSION

Univariate Analysis Results

Based on table 1, it shows that of the total 80 respondents in this research, 38 people (47.5%) were categorized as adult and 42 people (52.5%) were categorized as elderly. This shows that the majority of respondents in this research were elderly.

Table 1. Frequency Distribution of Respondents Based on Age

	n	(%)
Adult (19-59 year old)	38	47.5
Elderly (< 60 years old)	42	52.5
Total	80	100

The results obtained are in line with research which states that those aged >60 years have a 4,76 times higher risk of developing hypertension compared to those aged <60 years (Sugiharto et al., 2018).

This incident is caused by changes in the structure and function of the peripheral blood vessel system which works as a responsibility for changes in blood pressure in the elderly, whereas in hypertensive sufferers whose at younger age occurs due to unhealthy lifestyles, genetic factors, obesity, and lack of exercise (Aristotle, 2018). From the results of observations, researchers often find that the majority of hypertension patients who come for treatment are elderly people who say they have suffered from hypertension for a long time. This makes sufferers routinely undergo treatment in order to control their disease and avoid the uncomfortable symptoms that arise due to hypertension.

Table 2. Frequency Distribution of Respondents Based on Gender

Gender	n	%
Female	54	67.5
Male	26	32.5
Total	80	100

From the table 2, it can be seen that there were 54 female respondents (67.5%) and 26 male respondents (32.5%). These results are

in line with research (Listiana et al., 2020) which states that the number of female respondents is greater than male respondents. This happens because women experience menopause, where hormonal changes occur so that the hormones estrogen and androgen decrease in ratio which causes increased release of renin, resulting in high blood pressure (Sundari & Bangsawan, 2015).

Table 3. Frequency Distribution Based on Self-Efficacy Level

Self Efficacy	n	%
Low	41	51.3
High	39	48.8
Total	80	100

From the table above, data is obtained that respondents who have a low level of self-efficacy are 41 people (51.3%) and respondents with a high level of self-efficacy are 39 people (48.8%). These results are in line with research conducted by (Khoirunnisa, 2022) which shows that the number of hypertensive patients who have low self-efficacy dominates compared to patients who have high levels of self-efficacy.

Low levels of self-efficacy indicate that sufferers do not have a better understanding of how to undergo the healing process because self-confidence represents an important thing for improving the patient's health status. Meanwhile, a high level of self-efficacy allows sufferers to assess that they are worthy of receiving the best results according to what is expected (Putri & Fakhruddiana, 2019).

From the results of observations during the research, many respondents felt hesitant about undergoing hypertension treatment. This is largely based on respondents' lack of belief in taking hypertension medication for life, only taking hypertension medication if they experience symptoms when their blood pressure rises, stopping taking hypertension medication when they feel healthy, and not being able to make taking hypertension medication a daily routine. Based on research results, it was revealed that the level of self-efficacy possessed by hypertensive patients at

the Simpang IV Sipin Community Health Center was at a low level in their efforts to control their blood pressure and remain stable.

Table 4. Frequency Distribution Based on Level of Medication Adherence

Medication Adherence	n	%
Low	30	37.5
Moderate	24	30.0
High	26	32.5
Total	80	100

Based on data from table 4, out of a total of 80 respondents, 30 people (37.5%) had a low level of medication adherence, 24 people (30%) had a moderate level of medication adherence, and 26 people (32.5%) had high level of medication adherence. This is in line with research conducted by (Rizal, 2022) which shows the low number of hypertensive patients who have a high level of medication adherence.

According to (Nurmalita et al., 2019), non-adherence with hypertension treatment can be the biggest factor in failure of hypertension therapy. Taking hypertension medication is one way to control blood pressure. When the level of adherence with taking medication is low, it means that blood pressure will become increasingly uncontrolled, which can cause complications in other body organs. Therefore, adherence in treating hypertension is an important thing that sufferers must have.

Based on the results of observations made at the research site, many respondents stated that they had difficulty remembering to take hypertension medication, were irregular in taking medication, then only took medication if they felt symptoms when their blood pressure rises and stopped when they felt healthy, and stop taking medication if they feel the side effects from taking hypertension medication without informing or consulting with the doctor. Many people even say that they feel afraid because they have to take hypertension medication for the rest of their lives and refuse to make taking hypertension medication part of their daily routine.

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Bivariate Analysis Results

Self Efficacy	Medication Adherence			Total	p-value	Correlation coeficient
	Low	Moderate	High			
Low	30	8	3	41	0.000	0.709
High	0	16	23	39		
Total	30	24	26	80		

Based on the crosstab results in table 5, it can be described that of the total respondents of 80 people, 30 people had low self-efficacy with a low level of medication adherence, 8 people had low self-efficacy with a moderate level of medication adherence, 3 people had low self-efficacy with a high level of medication adherence. Then, at a high level of self-efficacy, there were no respondents who had a low level of medication adherence, 16 people had high self-efficacy with a moderate level of medication adherence, and 23 people had high self-efficacy with a high level of medication adherence.

The bivariate analysis test in the table 5 was carried out using the Kendall's tau b statistical test and obtained a significance value of p-value = 0.000. This means that the P value is < alpha 0.05, so it can be decided that H_0 is rejected and H_a is accepted, which means there is a relationship between self-efficacy and adherence to taking medication in hypertensive patients at Simpang IV Sipin Health Center. The correlation coefficient value from this research was 0.709 so it can be interpreted that there is a strong relationship between self-efficacy and medication adherence and leads to a positive relationship. This means that apart from having a strong relationship between each other, both of them are also moving in a positive direction where the higher the level of self-efficacy they have, the higher their adherence to taking medication.

The results of this research are in line with research conducted by (Kawulusan et al., 2019) and obtained the results using the Fisher's exact statistical test, obtained a P value = 0.000<0.05. Therefore, H_0 is rejected, which means there is a significant relationship between self-efficacy and the level of treatment compliance in hypertensive patients.

This is in accordance with theory (Bandura, 1982) which states that self-efficacy has a relationship in changing a person's behavior. Confidence or self-efficacy is one of the factors that can influence patient adherence in treating hypertension by regularly taking hypertension medication. If hypertension treatment is not carried out regularly or even stopped, then control of blood pressure will become increasingly uncontrolled, especially as it can cause a decrease in the function of other body organs or complications. Therefore, in order to remain adherence with treatment, hypertension sufferers need to have self-efficacy.

In treating hypertension, self-efficacy is needed because hypertension is a disease that requires lifelong treatment, so if a hypertensive patient has a low level of self-efficacy, it can influence the treatment they are undergoing, as well as thinking about the failure of the treatment which can hinder healing. As a result of a low level of self-efficacy, hypertension sufferers stop taking antihypertensive drugs because they think that hypertension is a disease that cannot be cured, so they choose to live side by side with hypertension and only take antihypertensive drugs when they feel complaints about the impact of their disease (Kauric-Klein et al., 2017).

The results of this study prove that there is a relationship between self-efficacy and medication adherence in hypertensive patients at Simpang IV Sipin Health Center. Apart from that, from interviews and filling out questionnaires, respondents explained that when you have the desire to be healthy even though you suffer from hypertension, you need to believe in yourself that the sufferer is able to control their disease by remaining compliant in undergoing hypertension treatment.

CONCLUSION

Based on the results of research conducted with a total of 80 respondents, it can be concluded that the level of self-efficacy and level of medication adherence in hypertensive patients at Simpang IV Sipin Health Center is at a low level with the number of respondents being 41 people (51.3%) and 30 people (37.5%). The results of the Kendall's tau b statistical test found that there was a significant relationship between self-efficacy and medication adherence in hypertensive patients at the Simpang IV Sipin Health Center also the two variables had a strong relationship and pointed in a positive direction.

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REFERENCES

Annisa, AFN, & Ansar, J. (2013). Factors Associated with Compliance with Hypertension Treatment in the Elderly at the Pattingalloang Health Center, Makasar City. 1–11.

Aristotle. (2018). Correlation of Age and Gender with Hypertension in the Emergency Center Unit of the Siti Khadijah Islamic Hospital, Palembang, 2017. 9–16.

Bandura, A. (1982). Self-efficacy mechanisms in human agency. American Psychologist, 37(2), 122–147. https://doi.org/10.1037/0003-066X.37.2.122

Jambi Provincial Health Office. (2022). Jambi Province Health Profile. Journal of Chemical Information and Modeling, 192.

Donsu, J. D. T. (2016). Nursing Research Methodology. Yogyakarta; New Library Press.

Febyanti, AV (2022). The Relationship between Motivation and Compliance with Medication in Hypertension Patients at the Sumbersari Community Health Center.

Fernandez, S., Chaplin, W., Schoenthaler, A.M., & Ogedegbe, G. (2008). Revision and Validation of the Medication Adherence Self-Efficacy Scale (MASES) in Hypertensive African Americans. Journal of Behavioral Medicine, 31(6), 453–462.

Ivana, F.N. (2020). Validity and Reliability of the Indonesian Version of the Medication Adherence Self-Efficacy Scale Revised (Mases-R) Questionnaire in Hypertension Patients. i–64.

Kauric-Klein, Z., Peters, R. M., & Yarandi, H. N. (2017). Self-Efficacy and Blood Pressure Self-Care Behaviors in Patients on Chronic Hemodialysis. Western Journal of Nursing Research, 39(7), 886–905. https://doi.org/10.1177/0193945916661322

Kawulusan, KB, Katuuk, ME, & Bataha, YB (2019). The Relationship between Self-Efficacy and Compliance with Taking Hypertension Medication at the Ranotana Weru Community Health Center, Manado City. Journal of Nursing, 7(1), 1–9. https://doi.org/10.35790/jkp.v7i1.24340

Khoirunnisa, R. (2022). Description of Self Efficacy in Sufferers. Nursing Science Study Program, Faculty of Health Sciences, Muhammadiyah University, Surakarta.

Kusumadayanti, HY, Hamim, N., & Sunanto. (2023). The relationship between family support and blood pressure control behavior in hypertension sufferers at the Kanigaran Community Health Center, Probilinggo City. Journal of Health

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Sciences: Mandiraa Cendikia, 2(10), 514–523.

Listiana, D., Effendi, S., & Saputra, YE (2020). Factors Associated with Compliance of Hypertension Sufferers in Undergoing Treatment at Karang Dapo Community Health Center, Muratara Regency. Journal of Public Health, 8(1), 11–22. https://doi.org/10.37676/jnph.v8i1.1005

Martin, L.R., Feig, C., Maksoudian, C.R., Wysong, K., & Faasse, K. (2018). A perspective on nonadherence to drug therapy: Psychological barriers and strategies to overcome nonadherence. Patient Preference and Adherence, 12, 1527–1535. https://doi.org/10.2147/PPA.S155971

Morisky, D. E., Ang, A., Krousel-Wood, M., & Ward, H. J. (2008). Predictive Validity Of A Medication Adherence Measure In An Outpatient Setting. The Journal of Clinical Hypertension, 10, 348–354. https://doi.org/doi:10.1111/j. 1751-7176.2008.07572.x

Mulyana, H., & Irawan, E. (2019). Description of the Self-Efficacy of Hypertension Sufferers in One of the Community Health Centers in the City of Bandung. Indonesian Community Health Journal, 15(1). https://doi.org/10.37058/jkki.v15i1.988

Novitasari, R. (2017). The Relationship between Self-Efficacy and Patient Compliance at the Patrang Community Health Center, Jember Regency. In Digital Repository, University of Jember.

Nurmalita, V., Annisaa, E., Pramono, D., & Sunarsih, ES (2019). Relationship between Adherence to Taking Antihypertensive Medication and Quality of Life in Hypertensive Patients. 8(4), 1366–1374.

Nursalam. (2020). Concepts & Application of Research Methodology (Ed. 5). Salemba Medika.

Putri, FAR, & Fakhruddiana, F. (2019). Self-Efficacy. JPK (Journal of Special Education), 14(1), 1–8. https://doi.org/10.21831/jpk.v14i1.25161

Riani, DA, Ikawati, Z., & Kristina, SA (2017). Validation of the Indonesian Version of the 8-Item Morisky Medication Adherence Scale in Adult Hypertension Patients at Community Health Centers in Sleman Regency and Yogyakarta City Defilia Anogra Riani, Prof. Zullies Ikawati., Ph.D., Apt.;Dr. Susi Ari Kristina, S. Farm., M. Kes., Apt. UGM Repository, xiii–xiv.

Rizal. (2022). Relationship between levels of compliance with the use of antihypertensive drugs in primary and advanced health facilities. Journal of Science and Health, 6(1),37–45. https://doi.org/10.57214/jusika.v6i1.94

Sari, CY (2019). Factors that Influence the Recovery of TB Sufferers in the Medan City Health Service Work Area 2017. 2(1), 6–12.

Sugiharto, A., Hadisaputro, S., Adi, S., & Chasani, S. (2018). Risk Factors for Grade II Hypertension in Communities in Karanganyar Regency. 26.

Sundari, L., & Bangsawan, M. (2015). Factors Associated with the Incident of Hypertension.

Surahman, & Rachmat, M. (2016). Research Methodology (1st Editio). PPSDM Agency.