
The Relationship of Compliance With Medication on Blood Pressure Stability in Hypertension Patients at Cinere District Health Center 2023

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ABSTRACT

Several reasons for hypertension sufferers who do not comply with taking medication will slow down healing time and worsen the patient's condition and can even cause death. This study aims to determine the characteristics of hypertensive patients at the Cinere Community Health Center, the results of antihypertensive therapy at the Cinere Community Health Center and to determine the relationship between adherence to medication use and the success of therapy at the Cinere Community Health Center. This research uses a correlational analytical research design. Based on the discussion above, it can be concluded that the characteristics of hypertensive patients at the Cinere Community Health Center are the majority aged 45-65 years, female with the highest education level being elementary school and having suffered for > 1 year. The majority of medication adherence among hypertensive patients at the Cinere Community Health Center is still relatively low. The success of therapy in hypertensive patients at the Cinere Community Health Center resulted in a reduction in blood pressure of 31 people and in patients who did not reduce blood pressure there were 71 people. There is a relationship between adherence to taking medication and blood pressure stability in hypertensive patients at the Cinere Community Health Center.

Keywords: *Compliance, Blood Pressure Stability, Hypertension*

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INTRODUCTION

Hypertension is the most common disease suffered by Indonesian people which can be caused by lifestyle, food consumption and bad habits (smoking). Hypertension is a condition where the blood vessels have high blood pressure (systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg) (WHO, 2013).

According to Basic Health Research (Riskesmas), which is one of the national scale research based on communication carried out by the Indonesian Ministry of Health's Research and Development Agency in 2018, the prevalence of hypertension based on measurements aged ≥ 18 years was

34.1%. The estimated number of cases of hypertension in Indonesia is 63,309,602 people, while the death rate caused by hypertension in Indonesia is 427,218 deaths (Riskesmas, 2018).

According to the 2021 Puskesmas Management Information System (SIMPUS) from 38 Puskesmas in Depok City, the pattern of the ten (10) most common diseases in outpatients of all age groups at Puskesmas, hypertension is at the top with a total of 100,863 visits or 12.46% of sufferers or 12.46% with the number of female sufferers being 67,512 cases and 33,351 male cases.

Based on the Depok City Health Profile in 2021, the prevalence of hypertension was

100,863, while based on Depok Health Profile data at the Cinere Community Health Center in 2021 there were 9,249 cases of hypertension. The prevalence of hypertension is very high, especially in the female population with 4,668 sufferers, while for men there are 4,581 sufferers. Non-adherence to treatment is one of the greatest public health problems and is considered a major cause of hypertension. Lack of adherence to antihypertensive medications is the main reason for poor hypertension control (Aulyah, 2021).

Hypertension caused by behavior and lifestyle, for example cigarette smoke which contains toxic chemicals (nicotine), alcohol consumption, a healthy diet and avoiding foods that contain too much salt and fat can be controlled by hypertension sufferers to stabilize blood pressure. Increasing physical activity, for example aerobic exercise, can help lower blood pressure even if you don't lose weight (Ministry of Health, 2013).. According to Nadya (2020), data on adherence to taking hypertension medication with the stability of blood pressure in hypertensive patients carried out at the Adiwerna Community Health Center in 2020 had a low level of compliance, namely 60.5%. Low levels of compliance lead to low levels of therapeutic success (56.6%). This clearly proves that adherence to medication can influence the success of treatment in hypertensive patients. Patient non-compliance in taking medication will cause unstable blood pressure control, thereby hampering the patient's recovery.

According to Riskesdas in 2018, the reasons why hypertension sufferers do not take medication include: sufferers feel healthy (59.8%), do not regularly visit Health Service Facilities (Fanyankes) (31.35%), take traditional medicine (14.5%).), using other therapies (12.5%), forgetting to take medication (11.5%), having a low economic level (8.1%), worried about side effects (4.5%), medication not available in Health Service Facilities (2%). (Riskesdas, 2018).

Based on this, there are several reasons why hypertension sufferers do not comply with taking medication, which will slow down healing time and worsen the patient's condition and can even cause death. This is supported by previous research conducted by Nugraha (2019). Compliance with treatment for hypertension sufferers is important because hypertension is a disease that cannot be cured but must always be controlled or controlled so that complications do not occur which can lead to death (Nugraha, 2019).

Hypertension sufferers' non-compliance with treatment is often caused by behavioral factors and factors related to treatment (Harijanto et al., 2015). One of the Community Health Centers in Depok City, Cinere District. According to the results of interview observations conducted in November 2022, at the Cinere Community Health Center, cases of hypertension were the most frequently encountered disease. According to the respondent who is one of the staff at the Cinere Community Health Center, This made researchers interested in taking up research on "The Relationship between Medication Adherence and Blood Pressure Stability in Hypertension Patients at the Cinere Community Health Center".

METHODS

This research uses a correlational analytical research design. The design used is a retrospective cohort study, namely a research design in the form of observations of events that have occurred with the aim of looking for factors related to the cause. In this study, the variable that is linked is adherence to taking medication to the stability of blood pressure in hypertensive patients.

RESULTS AND DISCUSSION

Characteristics of Research Respondents

This research was attended by 102 respondents consisting of men and women. Research respondents were selected according to predetermined inclusion and exclusion criteria. Patients suffering from hypertension in the Cinere Community Health Center work area are dominated by

women so that more respondents who took part in the research were women than men. The respondents in this study were mostly patients with hypertension aged over 46 years. This is because the incidence of hypertension in hypertensive patients in the Cinere Community Health Center working area occurs mostly in older people aged >46 years.

Patient Medication Compliance at the Cinere Community Health Center in the Cinere Community Health Center Working Area

Medication adherence is a term defined as patient behavior related to patient medication (taking medication, following the recommended diet, changing lifestyle, or visiting health facilities) (Dwajani S, 2018). Compliance with taking medication is one of the main determinants of the success of treatment. Compliance with taking antihypertensive medication is an independent variable in this study.

In this study, the most people who experienced hypertension were patients aged 46-65 years, because at that age the risk factors for developing hypertension are quite high. The older a person is, the more influence it will have on the body's physiology (Sylvestris, 2017). This is in line with research conducted by Effendi, et al in 2018 that in the elderly age group there was an increase of 50% in systolic and 66.6% in diastolic. As a person ages, there will be changes in physical and psychological (mental) aspects. In research conducted by Pramana, et al (2019), those aged >46 years had lower adherence to taking medication compared to those aged <46 years. This can occur because elderly patients suffer from hypertension for a long time, resulting in boredom from taking medication or forgetting to take the medication. This study shows that the majority of hypertensive patients at the Cinere Community Health Center are aged 46-65 years, where the initial phase of menopause occurs which results in an increase in blood pressure in patients.

Data in table 4.1.2 based on gender shows that the majority of respondents who experience hypertension are female with a total of 72 respondents. This is in accordance with research conducted by Pramana, et al (2019) that women have lower medication adherence than men. The same research conducted by Rasajati, et al (2015) showed that 50.7% of women were non-compliant with treatment, while 38.1% of men were non-compliant with treatment. According to Noorhidayah (2016), adults aged 45-65 years physiologically experience degeneration in hormones and organs. In women, as they get older, the hormone estrogen decreases because they are unable to produce High Density Lipoprotein (HDL) in large quantities, so they are at risk of developing arteriosclerosis due to increasing Low Density Lipoprotein (LDL). Apart from that, stress and psychosocial factors that often occur in women can also influence blood pressure (Effendi et al., 2018).

The research results show that the majority of respondents had a low level of education, 62 respondents (60.8%) and only 2 respondents had a tertiary education level (2%). This explains that a low level of education is one of the factors that can influence a person's risk of developing diseases such as hypertension. This is in accordance with research conducted by Pramana, et al in 2019 that patients with a final education level of less than 9 years tend to have low medication adherence. A person's education can provide an assessment of a person's knowledge and understanding in managing disease and therapy (Pramana et al., 2019). According to research conducted by Arindari (2017), patients with higher education will have more information about compliance than those with low education. So in this case it can be concluded that a high level of education can influence patient compliance behavior at the Cinere Community Health Center.

The results of research on medication adherence on the length of time patients suffer from hypertension show that the

majority of patients at the Cinere Community Health Center have a history of suffering >1 year. This happens because people who have suffered from hypertension for a long time, sometimes when their blood pressure is stable, do not maintain their lifestyle, such as not maintaining their diet and compliance with taking medication, which makes their blood pressure become unstable and rise again. This is in accordance with Noorhidayah's (2016) research that the majority of patients suffer from hypertension for >1 year, namely for 1-3 years. So in this case it can be concluded that hypertensive patients at the Cinere Health Center who have suffered from hypertension for ≤ 1 year are more compliant than those who have suffered for > 1 year.

The results of the study showed that the level of medication adherence among hypertensive patients at the Cinere Community Health Center was still low. This is because patients sometimes forget to take medication due to various activities carried out by the patient. The most common causes of respondents' non-compliance in taking antihypertensive medication were forgetting to take medication, deliberately not taking medication, and forgetting to bring medication when traveling. This is in accordance with research by Harijanto, et al (2015) which states that the cause of non-compliance in taking antihypertensive drugs in the pre-intervention survey results is that patients often forget to take antihypertensive drugs, do not regularly check with the doctor and stop taking medication when symptoms have improved. In research conducted by Krousel-wood et al, (2015) stated that several things that cause low compliance with taking medication from patients are forgetting to take medication, depression, lack of patient knowledge about the disease and its therapy, alternative medicine, beliefs, alternative medicine, and side effects. drug. Many of the reasons for low medication compliance in patients with hypertension are because they forget due to being busy at work, no one reminds them to take their medication, they get bored with taking

medication, they forget to bring their medication when traveling.

Based on the results of this study, regarding the success of patient therapy as seen from blood pressure values, 43 respondents (56.6%) were not successful in achieving the benefits of therapy as seen from the presence or absence of a decrease in blood pressure. This happens because the success of therapy is influenced by patient compliance in taking medication. Patients who are not compliant in taking medication will cause their blood pressure to become unstable, which can hinder the patient's recovery. Types of non-adherence to drug therapy include failure to fill prescriptions, missed doses, errors in the timing of drug administration, and premature discontinuation of drugs. Non-compliance will result in underuse of a drug. Thus, the patient will lose the benefits of therapy and possibly cause the condition to gradually continue to worsen.

This is reinforced by Cahyani (2016) who states that achieving therapy targets will not be optimal without self-awareness of the importance of discipline in taking long-term medication, it can even cause therapy failure, and can also cause very detrimental complications. So in this case it can be concluded that the low success of therapy in hypertensive patients is caused by patient compliance in taking medication which is still relatively low.

The research results in table 4.7 show that the majority of patients forgot to take their medication, 79 people (77%) and 24 patients (23%) who deliberately stopped taking their medication. This happens because adherence to taking medication is not only measured based on forgetting to take medication, but there are several other factors such as feeling that the condition is improving and feeling uncomfortable if you have to take medication every day because the patient has a busy job, no one reminds you to take medication, boredom. (Decitia Nisa, 2018)

Based on the results of the Chi-square test, it shows that the largest percentage is in patients who have low compliance and are

unsuccessful in lowering their blood pressure. The success of hypertension treatment is influenced by many factors, one of which is compliance with taking medication. Antihypertensive drugs have been proven to be able to control the blood pressure of patients so that blood pressure is stable and there is a relationship between compliance with taking antihypertensive drugs and systolic and diastolic blood pressure remaining within normal limits (Anwar & Masnina, 2019). Stable blood pressure will reduce the incidence of more serious complications so that the quality of life of sufferers will be good.

In this study there was a relationship between adherence to taking medication and blood pressure stability in hypertensive patients seen from the results of the Chi Square test which obtained Pvalue; 0.000 as required by the Chi Square test, pvalue < 0.05, so it can be concluded that in this study there is a relationship between adherence to taking medication and blood pressure stability in hypertensive patients at the Cinere Community Health Center. However, the Cinere Community Health Center still has a low level of compliance which causes patient blood pressure to become unstable, thus affecting the success of therapy in hypertensive patients. This was confirmed by Effendi, et al (2018), who found that there was a relationship between the level of adherence to taking medication and systolic and diastolic blood pressure in the chronic disease management program group (Prolanis) at the Qita Clinic with sufficient strength of the relationship. Compliance is an important factor in the success of the patient's therapy. Patient compliance and understanding of hypertension therapy has an influence on blood pressure and prevents complications from hypertension (Lestari et al, 2019).

CONCLUSIONS

Based on the results of the research that has been carried out, it can be concluded as follows Characteristics of hypertensive patients at the Cinere Community Health Center, the majority of whom are 45-65 years

old, female, with the highest education level being elementary school and have been suffering for > 1 year. The majority of medication compliance among hypertensive patients at the Cinere Community Health Center is still relatively low at 47 people (46%), followed by moderate compliance at 38 people (37%) and high compliance at 17 people (16%).

The success of therapy in hypertensive patients at the Cinere Community Health Center resulted in a successful reduction in blood pressure in 31 people (30% and in patients who did not reduce blood pressure in 71 people (69%). Based on the results of the Chi Square test, Pvalue = 0.000, it can be concluded that there is a relationship between adherence to taking medication and blood pressure stability in hypertensive patients at the Cinere Community Health Center.

REFERENCES

- Badan Penelitian dan Pengembangan Kesehatan. (2018). *'Riset Kesehatan Dasar'*. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Dwajani S. 2018. "Medication Adherence: How Important It Is?" *Journal of Medical Science*, no. August. https://www.researchgate.net/publication/326733808_Medication_Adherence_How_important_it_is.
- Edi, I Gede Made Saskara. 2020. "Faktor-Faktor Yang Mempengaruhi Kepatuhan Pasien Pada Pengobatan." *Jurnal Ilmiah Medicamento* 1 (1): 1–8. <https://doi.org/10.36733/medicamento.v1i1.719>.
- Eka Martogi, E. (2021). *HUBUNGAN TEKANAN DARAH DAN TINGKAT STRESS PADA DEWASA MUDA*. *Jurnal Medika Utama*, 3(01 Oktober), 1581-1589
- Fachry, Ade Wildan. 2020. "Hubungan Antara Tingkat Pengetahuan Diet Hipertensi Dengan Derajat Hipertensi Pada Lansia Penderita Hipertensi Di Wilayah Kerja

Puskesmas Junrejo Tahun 2020.” SKRIPSI Universitas Islam Negeri Maulana Malik Ibrahim.

Fujita, Toshiro. 2014. “*Mechanism of Salt-Sensitive Hypertension: Focus on Adrenal and Sympathetic Nervous Systems.*” *Journal of the American Society of Nephrology* 25 (6): 1148–55. <https://doi.org/10.1681/ASN.2013121258>.

Husain, Kazim, Rais A Ansari, dan Leon Ferder. 2014. “*Alcohol-Induced Hypertension: Mechanism and Prevention.*” *World Journal of Cardiology* 6 (5): 245. <https://doi.org/10.4330/wjc.v6.i5.245>.

Jiang, Shu Zhong, Wen Lu, Xue Feng Zong, Hong Yun Ruan, dan Yi Liu. 2016. “*Obesity and Hypertension.*” *Experimental and Therapeutic Medicine* 12 (4): 2395–99. <https://doi.org/10.3892/etm.2016.3667>.

Kementerian Kesehatan RI. 2018. *Hasil Riset Kesehatan Dasar (Riskesdas) 2018*. Jakarta: Badan Penelitian dan Pengembangan Kesehatan.

Nuraini, Bianti. 2015. “*Risk Factors of Hypertension.*” *J Majority* 4 (5): 10–19. Nurarif, A.H & Kusuma, H. (2016). *Asuhan Keperawatan Praktis*. Edisi Revisi Jilid 2. Yogyakarta: Mediacion Jogja

Olin BR, Pharm D. *Hypertension : The Silent Killer : Updated JNC-8 Guideline Recommendations*. 2018;

Seravalle, Gino, dan Grassi, Guido. 2017. “*Obesity and Hypertension.*” *Pharmacological Research* 122: 1–7. <https://doi.org/10.1016/j.phrs.2017.05.013>

Siyoto, Sandu dan Sodik, M. Ali. 2015. *Dasar Metodologi Penelitian*. Yogyakarta: Literasi Media Publishing.

Sylvestris, Alfa. 2017. “*Hipertensi Dan Retinopati Hipertensi.*” *Saintika Medika* 10 (1): 1. <https://doi.org/10.22219/sm.v10i1.4142>.