The Relationship Between Medication Compliance And The Incidence Of Hypertension Crisis In RSUD. Haji Makassar

I Kade Wijaya¹, Risna¹, Muh. Zukri Malik¹, Musmulyadi²,Muh Taslim¹

S1 Nursing Study Program, STIKES Panakkukang, Indonesia¹
D3 Nursing Study Program, STIKES Panakkukang, Indonesia²

Article Info

ABSTRACT

A hypertension crisis is an acute complication characterized by a severe increase in blood pressure, generally occurring ≥ 180/120 mmHg. Risk factors for hypertension generally occur due to a history of disease in the family, and age factors as factors that cannot be modified. An unhealthy lifestyle, including consuming alcohol, uncontrolled hypertension, or compliance to taking antihypertension drugs, is a modifiable factor but is often the cause of chronic hypertension to lead to a *hypertension crisis.* The purpose of this study is to determine the relationship between medication compliance to the incidence of hypertension crisis in hospitals. Makassar Hajj. This study used a *cross-sectional* research design with a total sampling technique of 34 respondents. This research was carried out in the treatment room of RSUD Haji Makassar. From the results of the study, it can be concluded that compliance to taking medication is associated with the incidence of emergency hypertension with a value of p = 0.008, OR = 112; the more obedient to taking antihypertension drugs, the less likely people with hypertension are to experience hypertension emergencies.

Keywords: compliance to taking medication; Hypertension Crisis

INTRODUCTION

The increasing flow of globalization in all fields with technological developments and industrialization has made many changes to people's behavior and lifestyle. Changes in lifestyle, socioeconomic, and industrialization can spur an increase in diseases such as hypertension. Hypertension is a major cause of heart failure, stroke, and kidney failure. Referred to as a "silent killer" because hypertension people do not show symptoms (Abu-el-noor et al., 2020; Sundari et al., 2019). Uncontrolled hypertension will develop into hypertension crises which are classified among others as emergency hypertension and urgent hypertension. Hypertension crisis is an acute complication characterized by a severe increase in blood pressure, generally occurring ≥ 180/120 mmHg (Pujiastuti, 2022; Kabibah,2022).

The incidence of hypertension will continue to increase sharply, predicted by 2025 as many as 29% or 1.6 billion adults worldwide who experience hypertension. This hypertension disease ranks 3rd as one of the highest killers in Indonesia after stroke and tuberculosis (Prasetya &; Chanif, 2020). Based on data from the South Sulawesi Provincial Health Office in 2019, according to district / city data, the highest prevalence of hypertension was found in Makassar City as many as 290,247 cases (Susanti et al., 2022). Of the hypertension population, it is estimated that 70% suffer from mild HT, 20% moderate HT and 10% severe HT. In each type of HT can arise hypertension crisis where diastolic blood pressure, is greatly increased to 120 – 130 mmHg which is a medical emergency and requires fast and precise management to save the patient's life. The incidence of hypertension crisis according to reports from the results of research decades ago in developed countries ranges from 4-7% of the HT population with a mortality rate in 1 year reaching more than 79%. Meanwhile, the prevalence of hypertension crisis in Makassar City is 8% or there are 8 cases per 100 population (H.Despita et al., 2021). Available data report that the impact of hypertension crises usually results poorly. The study of 315 patients with hypertension crisis showed only 40% of the patients were still alive after 33 months. The leading causes of death were kidney failure (39.7%), stroke (23.8%), myocardial infarction (11.1%), and heart failure (10.3%). In another study in 1 year of study, mortality in untreated emergency hypertension patients was 79%, while the *5-year survival rate* in treated cases was 74%. This study shows that effective management of hypertension crisis can improve prognosis in patients (Abdul Majid et al., 2018;Moon et al., 2018).

Action that must be taken to overcome the hypertension crisis is to lower blood pressure quickly, certain doses of anti-hypertension (parenteral) can be done to overcome it. If the target organ is not affected, the process of lowering blood pressure in hypertension crisis can be lowered in 24-48 hours (Prasetya &; Chanif, 2020).Risk factors for hypertension generally occur due to a history of disease in the family and age factors as factors that cannot be modified. The unhealthy lifestyle including the habit of consuming alcohol, uncontrolled hypertension or compliance to taking antihypertension drugs is a modifiable factor but is often the cause of chronic hypertension to lead to a *hypertension crisis* (Mahendra, 2019;Uchmanowicz et al., 2019).

Research conducted by Haerunisa (2018), showed a relationship between compliance to taking antihypertension drugs with hypertension status in hypertension

patients obtained Chi-Square test results with a value of p = 0.000 (p < 0.05) which means there is a significant relationship between non-compliance to taking medication with increased blood pressure in hypertension patients. H1 is accepted and H0 is rejected (Artini et al., 2022). The Hajj Regional General Hospital is one of the hospitals in Makassar, based on the results of an initial survey obtained in 2021, it is known that the incidence of hypertension at the age of > 31 years is 582 or 66.67% while those aged < 31 years are 291 or 33.33%.

MATERIALS AND METHODS

The type of research used is an analytical survey, with a *Cross sectional study approach,* on the dependent variable is the incidence of hypertension crisis and the independent variable is compliance to taking antihypertension drugs. The sample of this study amounted to 34 respondents using total sampling with sample criteria, namely patients with hypertension crisis with blood pressure ≥180/120 mmHg and aged > 18 years. Patients who have a blood pressure of ≥ 180/120 mmHg accompanied by damage to target organs (hypertension *emergency*) or no organ damage (*hypertension urgency*) Samples with hypertension crisis that have complications (acute burns) are not taken as respondents. In measuring hypertension crisis using *a Spygmomanometer or sphygmomanometer*, while for medication compliance, researchers used the MMAS-8 questionnaire questionnaire (Morisky Medication Compliance Scale) containing Morisky et al questions, published the latest version in 2008, namely MMAS-8 with higher reliability of 0.83 and higher sensitivity and specificity (Adisti et al., 2021) . Morisky specifically created a scale to measure compliance to taking drugs.

RESULTS

Based on table 1. It is known that the highest number of respondents are women, namely 23 (67.6%), the highest level of education is primary school as many as 23 (67.6%), the most jobs are housewives 23 (67.6%), and the length of hypertension over 5 years as much as 27 (79.4%).

Table 1. Frequency distribution of respondent characteristics in the Treatment Room RSUD Haji Makassar

Variable	Frequency (f)	Percentage (%)
Gender		
Man	11	32.4
Woman	23	67.6
Education		

Primary school	23	67.6
Junior High School	5	14.7
High School Bachelor	4	11.8
	2	5.9
Work		
Farmer	4	11.8
Household affairs	23	67.6
Hunt for Buildings	1	2.9
Self employed	5	14.7
Teacher	1	2.9
Duration of Hypertension		
< 5 Years	7	20.6
≥ 5 Years	27	79.4
Total	**34**	**100.0**

Based on the table above, it was found that most respondents were not compliant with taking antihypertensive drugs, namely 19 respondents (55.9%). From bivariate analysis, *p value* = 0.008 (<0.05), which means that there is a relationship between drug adherence and the incidence of hypertensive crisis.

Table 2. Cross-Table of Quadratic Kai-Count Test of Drug Compliance with Hypertension Crisis in in the Treatment Room RSUD Haji Makassar

Drug Compliance	Hypertension Crisis				Total		P Value	OR
	HT Urgency		HT Emergency					
	n	%	n	%	n	%		
Obedient	10	29,4,	5	14,7	15	44,1	0.008*	112
Disobedient	11	32,4	8	23,5	19	55,9		
Total	21	61,8	13	38,2	34	100,0		

DISCUSSION

The results of research on hypertension crisis showed that most respondents were in the non-compliant category, namely as many as 19 respondents (55.9%). Based on the kai squared test, a *p value* = 0.008 (<0.05) was obtained, which means that there is a significant relationship between drug compliance and the incidence of hypertension crisis. This is supported by research by Hairunisa (2017) which shows that there is a relationship between medication compliance to blood pressure in patients with hypertension with a P value of 0.001.

Compliance is a form of behavior that arises due to interactions between health workers and patients so that patients understand the plan with all its consequences and agree to the plan and implement it (Ministry of Health R.I, 2011). Compliance to taking

drugs in Indonesia in patients who have hypertension for 1-5 years tend to be more compliant with the process of taking drugs, while patients who have experienced hypertension 6-10 years tend to have worse compliance to taking drugs due to factors of long suffering, work, saturation of taking drugs, lack of support from family (WHO, 2010). Types of non-compliance with drug therapy, including failure to redeem prescriptions, neglect of doses, errors in the timing of drug consumption, and premature discontinuation of drugs. Non-compliance will result in the use of a drug that is lacking. Thus, the patient loses the benefit of therapy and likely results in the condition gradually worsening. Non-compliance can also result in overuse of a drug. If the dose used is excessive or if the drug is taken more often than intended, there is an increased risk of adverse reactions. This problem can develop, for example a client finds out that he forgot one dose of medication and doubles the next dose to fill it (Siregar et al., 2021).

The World Health Organization estimates that 50% of patients suffering from chronic diseases in developed countries do not take prescribed medications. For older patients (those over 65 years of age), compliance is a very serious issue because this group has a greater burden of symptoms and disease history, leading to longer drug use and an increased likelihood of medication compliance. In the United States, non-compliance in elderly patients with chronic conditions is estimated to vary from 40 to 75% (Siregar et al., 2021).Antihypertension drugs are proven to control the blood pressure of patients suffering from hypertension within stable limits. Antihypertension drugs play a role in reducing the number of complications that can occur due to unstable blood pressure patients. One of the complications that can occur due to hypertension is stroke with the prevalence of patients who have a history of hypertension as much as 95% of patients (Anwar et al., 2019). Hypertension patients need to improve compliance to pharmacological and non-pharmacological therapies to achieve normal blood pressure. An unhealthy lifestyle, high sodium consumption and non-compliance with taking antihypertension drugs make blood pressure tend to increase. So that people with uncontrolled hypertension need to know what factors are the risk of uncontrolled hypertension events in order to reduce mortality, morbidity and will reduce the risk of complications (Siregar et al., 2021; Solichah et al., 2022).

This study can be seen that compliance in taking medication greatly affects a person in controlling his hypertension. The more obedient or routine a person is to hypertension drugs, the more aware that hypertension control is very beneficial for his health, with this

awareness will form a concern, especially for one's own health in controlling hypertension.

One factor that affects compliance is health education or education conducted by nurses, where it is important to provide feedback to patients after obtaining information about the diagnosis. The patient needs an explanation of his current condition, what causes it and and what they can do with such a condition. An explanation of the cause of the disease and how it is treated, can help increase the trust of patients, to conduct consultations and can further help improve compliance (Adisti et al., 2021;Astarina et.al.,2021). This study is in line with research conducted by Anwar and Masnina (2019) showing a relationship between compliance to taking antihypertension drugs with diastolic blood pressure in elderly people with hypertension. (p = 0.000), a significant relationship between compliance to taking antihypertension drugs in maintaining systolic blood pressure and diastolic blood pressure of elderly people with hypertension to remain within normal or controlled limits, as evidenced by the results of blood pressure checks conducted on 83 elderly respondents, where the results of blood pressure checks on respondents with high compliance and moderate compliance obtained systolic and diastolic blood pressure results tend to be more within normal limits, while the results of examinations carried out on respondents with low compliance showed that systolic and diastolic blood pressure results tended to increase more (Anwar et al., 2019).

Consumption of antihypertension drugs in maintaining the blood pressure of hypertension patients to remain within normal or controlled limits, as evidenced by the results of blood pressure checks conducted on 34 respondents, where from the results of blood pressure checks on respondents both in urgent and emergency crises tend to be more respondents with non-compliance with treatment. This is because in hypertension crisis respondents, especially those who have suffered > 5 years, feel bored if they always have to take antihypertension drugs.

CONCLUSIONS

Compliance to taking antihypertension drugs is associated with the incidence of emergency hypertension, the more obedient you are to take antihypertension drugs, the less likely people with hypertension are to experience hypertension emergencies. Compliance in taking antihypertension drugs is influenced by internal and external factors of hypertension patients.

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