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Use Of Anti Hypertension and Factors That Affect The Compliance Of Drinking Anti Hypertension In Hypertension Patients In Cisalak Pasar Depok Health Center

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ABSTRACT

Compliance with treatment is an important factor in the health of hypertensive patients. Compliance is a prerequisite for the effectiveness of hypertension therapy, whereas patient non-compliance with antihypertensive drugs is one of the main factors in failure of therapy. There are several factors that influence medication adherence and some basic principles of therapy that need to be considered to reach the target of therapy and reduce complications of hypertension. Hypertension sufferers in the Cisalak Pasar Community Health Center are quite numerous, they are generally elementary school and not schooled (74.2%). Kidney complications and a combination of heart and kidney are also quite large, which is 40%. This study aims to determine the pattern of antihypertensive administration and the relationship of age, education level, degree of hypertension, complications and type of therapy with the level of adherence to taking medication for hypertensive patients at the Cisalak Pasar Community Health Center. The research design used in this study was descriptive cross sectional. The subjects of the study were essential hypertension patients at the Cisalak Pasar Health Center, Depok who met the inclusion and exclusion criteria. The results of this study are that the pattern of anti hypertensive administration is in accordance with JNC 8, there is no relationship between age, education level, hypertension degree and the number of drugs taken with medication compliance, and there is a relationship between the presence or absence of complications with medication compliance.

INTRODUCTION

Lifestyle changes have led to changes in patterns of disease that were previously infective diseases into degenerative diseases, one of which is cardiovascular disease. Cardiovascular disease is a disease caused by disorders of the heart and blood vessels including hypertension[1]. Hypertension is defined as an increase in systolic blood pressure of 140 mmHg and / or a diastolic blood pressure of 90 mmHg or higher. Hypertension is a degenerative disease and is the most common cardiovascular disease[2]. Complications that occur in hypertension, can be a result of a continuous increase in blood pressure, with the consequence of changes in blood vessels and heart, or due to atherosclerosis which is compounded by the occurrence of hypertension.

Pharmacological therapy is given to second-degree hypertensive patients and first-degree hypertensive patients without other cardiovascular risk factors, who after 4 to 6 months have a healthy lifestyle without a decrease in blood pressure[3]. The goal of hypertension treatment is to reduce cardiovascular mortality and morbidity. There is a significant relationship between blood pressure and cardiovascular events. For individuals over 40 years of age each increase in blood pressure by 20/10 mmHg increases the risk of double cardiovascular events[4].

With the increasing prevalence of hypertension there has been much counseling and research to take preventive measures to prevent hypertension, but curative management in hypertensive patients also needs to be carefully controlled given the failure of therapy causes uncontrolled blood pressure leading to complications and death.[5] Compliance with treatment is an important factor in the continued health and well-being of hypertensive patients. Compliance is a prerequisite for the effectiveness of hypertension therapy, whereas patient non-compliance with antihypertensive drugs is one of the main factors in treatment failure.

Some studies regarding adherence to taking antihypertensive drugs were found to be low; Azril Hazwan and Gde Ngurah's research at Kintamani Health Center found that 70% of respondents had low compliance. Alfindra S and Shirly G's research also found that 95.8% of respondents adhered to taking low medication. There are several factors that influence medication adherence and the basic principles of pharmacological therapy that need to be considered to maintain compliance and minimize side effects[5]. The research of Sri Wahyuningsih et al., 2017 shows that there are quite a number of people with hypertension in the Cisalak Pasar Community Health Center, they are generally elementary school and not educated (74.2%). Kidney complications and a combination of heart and kidney are also quite large, at 40%. The level of education is one of the factors that influence adherence to taking patient medication, while the high rate of complications indicates failure of therapy[6].

MATERIALS AND METHODE

The research design used in this study was a descriptive cross-sectional.
The research subjects were essential hypertension patients at the Cisalak Pasar Health Center, Depok who match with the inclusion and exclusion criteria.

1. The inclusion criteria for this study are
    a. Aged ≥ 45 years
    b. Have medical record data needed in this study

   c. Willing to take blood for laboratory tests
   d. Willing to take an ECG check
   e. Willing to fill out a questionnaire and sign informed consent
2. The exclusion criteria for this study are
   a. Secondary hypertension
3. Sample size
   The sample size in this study was calculated using the different proportions of the Lemeshow formula where the significance level was 5%, the test strength was 5% and P1: 0.38 and P2: 0, 81, the total sample was 31 plus 10% of respondents dropped out and 35 respondents were taken
4. Sampling technique
   The sampling technique used is non probability sampling with consecutive sampling method

The data collection tool used in this study is a medical record, a questionnaire to find out the characteristics of respondents and compliance with medication, a tool for taking blood tests and examinations, an ECG device.

The researcher took care of the research permit from the Puskesmas and Posbindu Cisalak Pasar, Depok Health Office. The researcher also submitted a research protocol to the Health Research Ethics Commission UPN Veteran Jakarta for obtaining Ethical Clearance.

Data collection begins with filling in the attendance list, doing informed consent to the respondent about the objectives, benefits and research procedures. Respondents who were willing to participate signed an informed consent sheet. Respondents were then measured for blood pressure after a 10-minute break. After that the respondent was taken blood and underwent an EKG then the respondent rested and was given lunch. After lunch, the respondents filled out a questionnaire to find out the characteristics and assess the level of patient adherence.

Data is processed using a computerized system. Univariate analysis is used to describe the characteristics of respondents, the degree of hypertension, drug therapy and the presence or absence of complications due to hypertension. The relationship between each independent variable and the dependent variable is carried out the bivariate analysis with the chi square test while the alternative test is fisher exact test. Multivariate analysis using logistic regression tests.

RESULT AND DISCUSSION

A. Independent Variable Frequency Distribution

Independent variables of this study are age, education level, the degree of hypertension, drug therapy and complications. Of the 35 hypertensive patients, the distribution of respondents was based on age as follows;

Table 5. Distribution of Age-Based Respondents

Age	Frequency	Percentage
45 – 59th	11	31,4
≥ 60th	24	68,6
Total	35	100

Table 6. Distribution of Respondents by Education Level

Education Level	Frequency	Percentage
No School	4	11,4
Primary education	28	80
Advanced education	3	8,6
Total	35	100

Table 6 the highest level of education of respondents is primary education (elementary, junior high), which is 80%.

Table 7. Distribution of Respondents by Degree of Hypertension

Hypertension Level	Frequency	Percentage
Level 1	23	66,7
Level 2	12	34,3
Total	35	100

Table 7, the highest degree of hypertension is hypertension in grade 1 as much as 66,7%.

Table 8. Distribution of Respondents by Drug Therapy

Drug Therapy	Frequency	Percentage
Single Drug	21	60
Multiple Drugs	14	40
Total	35	100

Table 8, most hypertension therapy was single drug with 60% amlodipine or captopril.

Table 9. Distribution of Respondents Based on Complications

Complications	Frequency	Percentage
Yes	12	34,3
No	23	66,7
Total	35	100

Table 9, respondents who had experienced complications of kidney function disorders and / or left ventricle hypertrophy were 34.3%. Most of the respondents (66.7%) have not experienced these complications.

B. Dependent Variable Frequency Distribution

Table 10. Distribution of Respondents based on Compliance with Medication

Compliance with Medication	Frequency	Percentage
Less	19	54,3
Good	16	45,7
Total	35	100

Table 10, compliance with medication for respondents was generally poor (54.3%).

C. Bivariate Analysis

Table 11. Relationship Between Age and Compliance with Medication

Age	Compliance with Medication				Total		P
	Less		Good				
	n	%	n	%	n	%	
45-59yrs	4	36,4	7	63,6	11	100	0,150
≥ 60yrs	15	62,5	9	37,5	24	100	

Table 11, it can be seen that the majority of respondents aged 45 - 59 years have good adherence (63.6%) while the age of ≥ 60 years most have adherence to taking less medication (62.5%) If seen from the percentage of compliance with drinking the drug can be concluded that the more age increases the compliance of medication will also decrease. However, from the results of statistical tests obtained p value> 0.05, so it can be concluded that there is no relationship between age and compliance with taking medication.

Table 12. Relationship between Education Levels and Compliance with Medication

Education	Compliance with Medication				Total		P
	Less		Good				
	n	%	n	%	n	%	
No School	4	100%	0	0%	4	100%	
Basic Education	14	15%	14	15%	28	100%	
Advance Education	1	33,3%	2	66,7%	3	100%	

Table 12 shows that the majority of respondents with basic education levels (not school, elementary, junior high) have poor adherence to taking medication. However, if viewed from the percentage of medication compliance, it can be seen that the higher the level of education, the percentage of medication compliance will also increase (good). The results of statistical analysis have 4 cells with expected count of less than 5, so cell mergers must be done.

Table 13. Relationship between Degrees of Hypertension and Compliance with Medication

Hypertension level	Compliance with Medication				Total		P
	Less		Good				
	n	%	n	%	n	%	
Level 1	10	43,5%	13	56,5%	23	100	0,076
Level 2	9	75%	3	25%	12	100	

Table 13 shows that respondents with a degree of hypertension I had good adherence to taking medication while respondents with degree 2 hypertension mostly had compliance with taking less medication. From the results of statistical tests obtained p value> 0.05 so it can be concluded that there is no relationship between the degree of hypertension with compliance taking medication.

Table 14. Relationship of Complications with Compliance with Medication

Complication	Compliance with Medication				Total		P
	Less		Good				
	n	%	n	%	n	%	

Yes	10	83,3%	2	16,7%	12	100	0,013
No	9	39,1%	14	60,9%	23	100	

Table 14 shows that respondents who did not have complications mostly had good adherence to taking medication and respondents who had complications were mostly having poor adherence to taking medication. From the results of statistical tests obtained p value <0.05 so it can be concluded that there is a relationship between the presence or absence of complications with compliance with taking medication.

Table 15. Relationship to Drug Therapy with Compliance with Medication

Drug Therapy	Compliance with Medication				Total		P
	Less		Good				
	n	%	n	%	n	%	
Single Drug	9	42,9	12	57,1	21	100	0,096
Multiple Drug	10	71,4	4	28,6	14	100	

Table 15 shows that respondents with a single drug mostly had adherence to taking good medication and respondents with multiple drugs mostly had poor adherence to taking medication. From the results of statistical tests obtained p value <0.05 so it can be concluded that there is a relationship between the number of drugs taken with medication compliance.

D. Use of Anti-Hypersensitive Drugs

Handling hypertension usually refers to existing guidelines. One of the most recent guidelines that can be used as a reference for treating hypertension in Indonesia is according to JNC 8 published in 2014. JNC 8 provides 9 recommendations for treating hypertension.13 Pharmacological therapy is given to people with hypertension who have lower blood pressure after more than 6 months. live a healthy lifestyle, and in hypertension sufferers 2. There are several factors that influence medication adherence and some basic principles of pharmacological therapy that need to be considered to maintain compliance and minimize side effects.6

If possible, give single-dose drugs, give generic drugs (non-patents) if appropriate and reduce costs, give drugs to elderly patients (above 80 years old) such as those aged 55-80 years, taking into account comorbid factors, do not combine angiotensin converting enzyme inhibitor (ACE-i) with angiotensin II receptor blockers (ARBs), provide comprehensive education to patients regarding pharmacological therapy and regularly monitor drug side effects.6

The antihypertension used by respondents in this study was CCB (amlodipine), diuretic (HCT) and ACE-I (captopril) groups. This is in accordance with the first line of anti-hypertension according to JNC 8, namely the Diuretic group, ACE

Inhibitor, Calcium Channel Blocker and Angiotensin II Receptor Blocker. 13. Grade 1 hypertensive patients treated with generic, single drugs, there is no combination of ACE-I and ARB. If the target blood pressure is not reached within a month of therapy, raise the initial dose of the drug or add the second drug from the hypertension drug group.

Of the 35 respondents found 60% use of single antihypertensive and 40% combination. The combination antihypertensive administration will increase the likelihood of achieving the desired blood pressure and avoid complications. The antihypertensive combination given to respondents was amlodipine + captopril or amlodipine + HCT, patients who were given a combination drug were those who had blood pressure at ≥ 160 mmHg / 100mmHg.

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