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The Relationship of Characteristics of Hypertensive Patients to the Level of Adherence to Taking Hypertension Medication at the Pal Tiga Health Center, Pontianak

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KEYWORDS
Hypertension; Patient Characteristics; Medication Adherence

ABSTRACT
Background: One of the non-communicable diseases that is a serious health problem today is hypertension. It is often referred to as the silent killer because sufferers usually do not know they have hypertension before checking their blood pressure. Objective: To determine the relationship between patient characteristics (education, level of knowledge, and BPJS safety) and the level of adherence to hypertension medication at the Pal Tiga Pontianak Health Center. Method: This research uses a cross-sectional method. The sample in this study was 89 hypertension patients at the Pal Tiga Pontianak Health Center. The research instrument used in this study was in the form of a questionnaire filled out by the respondents. The questionnaires used were the Morisky Medication Adherence Scale (MMAS-8) and the Hypertension Knowledge-Level Scale (HK-LS). The correlation test used is a Spearman test. Result: the relationship between education, knowledge level, and BPJS participation on the level of adherence to hypertension medication of respondents, respectively p-value was obtained of 0.879; 0.189; and 0.802. Conclusion: There is no relationship between education, knowledge level, and BPJS participation in compliance with taking hypertension medication at the Pal Tiga Pontianak Health Center. this is done by interviewing patients with an MMSA compliance questionnaire abstract that does not need to be divided into.

1. Introduction

In 2016, about 71 percent of the world's causes of death were non-communicable diseases (NCDs) that killed 36 million people per year. About 80% of these deaths occur in middle- and low-income countries. As many as 73% of deaths are currently caused by non-communicable diseases,

35% of which are due to heart and vascular diseases, 12% by cancer, 6% by chronic respiratory diseases, 6% due to diabetes, and 15% are caused by other NCDs (Kemenkes, 2019). The epidemiological transition that is parallel to the demographic and technological transition that has occurred in Indonesia has resulted in a change in disease patterns, from initially infectious diseases now tend to non-communicable diseases (NCDs). This is due to socio-economic changes, environmental and changes in population structure, adoption of unhealthy lifestyles, such as smoking, lack of physical activity, consumption of foods high in fat and calories, and alcohol which is suspected to be a risk factor for NCDs. One of the most serious health problems today is hypertension, which is often referred to as the silent killer because sufferers often do not know they have hypertension before checking their blood pressure (Hartati & Yulendasari, 2021; Rahajeng & Sulistyowati, 2009).

Hypertension is a condition in which systolic blood pressure ≥ 140 mmHg and or diastolic blood pressure ≥ 90 mmHg. According to World Health Organization (WHO) data in 2015, around 1.13 billion people in the world have hypertension, meaning that 1 in 3 people in the world is diagnosed with hypertension. The number of people with hypertension is increasing every year, it is estimated that by 2025 there will be 1.5 billion people affected by hypertension, and it is estimated that every year 10.44 million people die from hypertension and its complications (WHO, 2015). The prevalence of hypertension according to WHO criteria is 25% in men (1 in 4 people) and 20% (1 in 5 people) in women. In Indonesia, the number of hypertension sufferers is estimated at 15 million people, but only 4% are controlled hypertension. Almost 50% of hypertensive people are unaware of themselves as sufferers so they tend to become severe hypertension because they do not know and do not avoid the risk factors. Based on Basic Health Research in 2018, the prevalence of hypertension in Indonesia is 34.11% of the total adult population. West Kalimantan Province is recorded to have a prevalence rate of 36.99%, ranking 5th below South Kalimantan, West Java, East Kalimantan, and Central Java. Experts generally agree that the causes and risk factors that increase hypertension in Indonesia are behaviors or lifestyles, where generally do not eat fruits and vegetables (95.4%) and consume salty foods every day, especially in people over 10 years old (29.7%) (Kementerian Kesehatan RI, 2018; Riyadina, 2019).

Compliance with the treatment of hypertension patients is important because hypertension is a disease that cannot be cured but must always be controlled or controlled so that complications do not occur that can lead to death (Ikhwan et al., 2017; Palmer et al., 2007). Early detection of risk factors and standard management of hypertension are included in the Minimum Service Standards of Puskesmas in general and especially at Puskesmas Pal 3. Based on this description, a study was conducted to determine the differences in the characteristics of hypertensive patients towards participation in hypertension health services at the Pal Tiga Health Center as additional information to optimize the work program at the Pal Tiga Health Center.

2. Materials and Methods

This study is a research that uses *a cross-sectional* method. This research was conducted by interviewing patients for data collection, classification or classification, data processing/analysis, making conclusions, and reports. The sample in this study is hypertension patients at the Pal Tiga Pontianak Health Center UPK who have met the inclusion criteria. The sampling technique used in

this study is *a non-probability sampling* technique with *a consecutive* sampling technique which is the best technique of all sampling techniques that are not based on chance.
The inclusion criteria in this study are:

1. Patients diagnosed by doctors with hypertension,
2. People who have been registered as patients and have medical records at the UPK Pal Tiga Pontianak Health Center
3. Age ≥ 15 years old.

The exclusion criteria in this study are

1. Not willing to be a respondent.
2. Patients who live outside the UPK work area of the Pal Tiga Pontianak Health Center

The research instrument used in this study was in the form of a questionnaire filled out by the respondents. The questionnaires used were the MMAS-8 (Morisky Medication Adherence Scale) questionnaire for the level of medication adherence and the HK-LS (Hypertension Knowledge-Level Scale) questionnaire for the level of patient knowledge about hypertension.
Univariate analysis is an analysis carried out on each variant of the research results. Bivariate analysis was carried out on two variables that were suspected to be related or correlated. The correlation test used for this study is a spearman test.

3. Result and Discussion

Data collection was carried out on 86 respondents who were hypertension patients who were treated at the Pal 3 Health Center who met the inclusion criteria and passed the exclusion criteria. Samples were taken according to the non-probability sampling technique with consecutive sampling techniques. Data collection was carried out by cross-sectional method using a questionnaire containing 8 questions about medication adherence and 22 questions about the level of knowledge about hypertension. The results of filling out the questionnaire were collected and processed to find out the Relationship between the Characteristics of Hypertension Patients and the Level of Compliance with Taking Hypertension Medication at the Pal Health Center 3rd Quarter to the Third Quarter of 2022 (Boima et al., 2015).

Distribution of Respondents

The distribution of respondents based on the last education showed that the majority of hypertension patients who went to the Pal 3 Health Center in the 3rd quarter had the last high school education, namely 34 people (39.5%) and 26 people (30.2%) in higher education. Respondents with the last education of junior high school amounted to 15 people (17.4%), elementary school 10 people (11.6%) while respondents who had never attended school amounted to 1 person (1.2%) (National Health and Nutruition Examination Survey, 2013).

Table 1 Distribution of respondents based on last education,

Education	Total	%
College	26	30,2
Senior High School	34	39,5

Junior High School	15	17,4
Primary school	10	11,6
No School	1	1,2
Total	86	100

Sumber: Data Average.

Respondents' Knowledge Distribution

A summary the knowledge of hypertension patients who received treatment at the Pal 3 Health Center in the 3rd quarter was seen from the results of the HK-LS questionnaire answers which contained questions about the level of knowledge about hypertension. The results were then percentaged and interpreted on a qualitative scale, namely "high" with a total of 16-22 answer points, and "moderate" with a percentage of 8-15 out of a total of 22 question points.

The distribution of respondents' knowledge can be seen in table 2. The results showed that 76 people (88.4%) had "high" knowledge about hypertension, 10 participants (11.6%) had "moderate" knowledge.

Table 2 Distribution of Respondents' Hyperprerence Knowledge,

Category	Total	%
High	76	88,4
Keep	10	11,6
Total	86	100

Distribution of BPJS Respondent Participation

Table 3 summarizes the behavior of hypertensive patients who received treatment at the Pal 3 Quarterly Health Center. The results of SPPS 23.0 data processing and analysis showed that 80 patients (93.0%) participated in BPJS, and 6 people (7.0%) did not.

Table 3 Distribution of BPJS Participant Respondents

Category	Total	%
BPJS	80	93,0
Non-BPJS	6	7
Total	86	100

Source: Data Average.

Distribution of Respondents' Drug Compliance Levels

Based on the level of adherence to taking drugs, the respondents in this study were divided into 3 categories, namely "obedient", "moderately compliant", and "non-compliant". The calculation of MMAS-8 compliance is based on the score obtained from the results of the questionnaire answers, namely: (Yayasan Jantung Indonesia, 2017)

a. Non-compliant if MMAS-8 value = < 6,
b. Quite compliant if MMAS-8 value = 6-7,
c. Comply if MMAS-8 value = 8.

The level of adherence to the medication of respondents can be seen in Table 4, the results show that the level of adherence to the medication of respondents in this study has a majority of "non-compliant" as many as 34 people (39.5%), "compliant" as many as 28 people (32.6%) and "moderately compliant" 24 people (27.9%).

Table 4 Distribution of Respondents' Compliance Levels

Category	Total	%
Obedient	28	32,6
Quite Compliant	24	27,9
Non-Compliance	34	39,5
Total	86	100

The Relationship between Knowledge Level and Drug Compliance Level

Table 5 Relationship between Knowledge and Respondents' Drug Compliance Level

No	Knowledge	Medication Compliance			Spearman	
		Obedient	Quite Compliant	Non-Compliance	Significance Sig(2-Tailed)	Correlations Coefficient
1	High	26	22	28	0,189	0,143
2	Keep	2	2	6		
	Total	28	24	34	86	86

Based on Table 5 regarding the relationship between knowledge and the level of adherence to hypertension medication of respondents, a sig(2-tailed) value was obtained from the Spearman test of 0.189 (significance>0.05). The correlation coefficient was 0.143 (0.00-0.25). It can be concluded that there is no relationship between knowledge and respondents' level of adherence to hypertension medication. For the level of strength of the relationship between knowledge and the level of adherence to taking hypertension medication of respondents, the correlation strength was very weak. For the direction of the relationship, a positive value was obtained on the correlation coefficient number of 0.143 so that the relationship between the two variables is unidirectional so. If the level of knowledge is further improved, then the level of medication compliance will increase, and vice versa.

The Relationship between Education and the Level of Medication Compliance

Table 6 Relationship between Education and Respondents' Drug Compliance Level,

No	Knowledge	Medication Compliance			Spearman	
		Obedient	Quite Compliant	Non-Compliance	Significance Sig(2-Tailed)	Correlations Coefficient
1	College	7	8	11	0,879	0,017
2	SMA	12	12	10		
3	SMP	5	4	6		
4	SD	4	0	6		
5	Tidak Sekolah	0	0	1		

Total	28	24	34	86	86

Based on table 6 regarding the relationship between education and the level of adherence to taking hypertension medication of respondents, a sig(2-tailed) value was obtained from the spearman test of 0.879 (significance>0.05). The correlation coefficient was 0.017 (0.00-0.25). It can be concluded that there is no relationship between knowledge and the level of adherence to hypertension medication of respondents. For the level of strength of the relationship between knowledge and the level of adherence to taking hypertension medication of respondents, the correlation strength was very weak. For the direction of the relationship, a positive value is obtained in the correlation coefficient number of 0.017 so that the relationship between the two variables is unidirectional so that if the level of knowledge is increased, the level of medication adherence will increase, and vice versa.

The Relationship between BPJS Participation and the Level of Drug Intake Compliance

Table 7 Relationship between BPJS Participation and Drug Compliance Level,

No	Knowledge	Medication Compliance			Spearman	
		Obedient	Quite Compliant	Non-Compliance	Significance Sig(2-Tailed)	Correlations Coefficient
1	BPJS	27	21	32	0,802	0,027
2	Non BPJS	1	3	2		
	Total	28	24	34	86	86

Based on Table 7 regarding the relationship between BPJS participation and the level of adherence to hypertension medication of respondents, a sig(2-tailed) value was obtained from the Spearman *test* of 0.802 (significance>0.05). The correlation coefficient was 0.027 (0.00-0.25). It can be concluded that there is no relationship between knowledge and respondents' level of adherence to hypertension medication. For the level of strength of the relationship between knowledge and the level of adherence to taking hypertension medication of respondents, the correlation strength was very weak. For the direction of the relationship, a positive value is obtained in the correlation coefficient number of 0.027 so that the relationship between the two variables is unidirectional so that if the level of knowledge is increased, the level of medication compliance will increase, and vice versa.

Discussion

The Relationship between Knowledge and Respondents' Drug Adherence Level

The results of the study on the relationship between knowledge and the level of adherence to hypertension medication of respondents obtained a sig(2-tailed) value from the Spearman test of 0.189 (significance>0.05). The correlation coefficient was 0.143 (0.00-0.25). It can be concluded that there is no relationship between knowledge and respondents' level of adherence to hypertension medication. For the level of strength of the relationship between knowledge and the level of adherence to taking hypertension medication of respondents, the correlation strength was very

weak. For the direction of the relationship, a positive value was obtained on the correlation coefficient number of 0.143 so that the relationship between the two variables is unidirectional so. That if the level of knowledge is further improved, then the level of medication compliance will increase, and vice versa.

Knowledge influences decisions, so if someone is well-informed about the dangers of hypertension complications, the patient will regularly visit the health center for control.4 The results of this study are in line with the research by Boima et al., (2015) which found a positive and significant correlation between knowledge about hypertension and adherence to treatment.

A person's knowledge is influenced by several factors, such as education, work, mass media, age, environment and culture, experience, and interests (Arikunto, 2015). Most respondents were able to answer all or most of the questions in the HK-LS questionnaire regarding the level of hypertension knowledge. However, there were still respondents who had a low level of medication adherence. To increase the level of community medication adherence, it is necessary to carry out more comprehensive monitoring of hypertensive patients or use media such as control books or applications to monitor and remind patients to take hypertension medication.

The Relationship between BPJS Participation and Respondents' Drug Compliance Level

The result of the Spearman test in the study on the relationship between participation in the BPJS and respondents' adherence to taking antihypertensive medication was a two-tailed significance value of 0.802 (significance > 0.05). The correlation coefficient was 0.027 (0.00 – 0.25). It can be concluded that there is no relationship between respondents' knowledge and adherence regarding taking antihypertensive medication. Regarding the strength of the relationship between knowledge and respondents' adherence to taking antihypertensive medication, the strength of the correlation was very weak. As far as the direction of the relationship is concerned, the correlation coefficient is a positive value of 0.027, so the relationship between the two variables is unidirectional, meaning that as knowledge increases, adherence increases and vice versa.

The Relationship between Education and Respondents' Drug Compliance Level

The results of this study's Spearman test on the relationship between education and the respondent's level of adherence to hypertension treatment revealed a significant value (two-tailed) of 0.879 (significance > 0.05). The correlation coefficient was 0.017 (0.00-0.25). It can be concluded that there is no relationship between knowledge and the respondent's level of adherence to hypertension medication. Regarding the strength of the relationship between knowledge and the respondent's level of adherence to hypertension treatment, the correlation was very weak. Regarding the direction of the relationship, a positive value of the correlation coefficient of 0.017 was obtained, so the relationship between the two variables is unidirectional. As knowledge increases, medication adherence also increases, and vice versa (Budiarto, 2012).

These results showed that the level of education did not affect medication adherence in hypertensive patients. The higher the level of education, the better the literacy factor. Likewise, the ease of obtaining health information will be better compared to people with a lower level of education, so that with this health information can increase patients' concern for their health (2013). These results are not in line with research conducted by Sinuraya et al. (2018), which stated

that a person's level of education could affect behavior and awareness levels to improve their quality of life.

4. Conclusion

There was no relationship between education, knowledge level, and BPJS participation on compliance with taking hypertension medication at the Pal Tiga Pontianak Health Center.

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