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Relationship between Knowledge with Hypertension Control Behavior in Sumuragung Village, Sumberrejo, Bojonegoro

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ABSTRACT

Introduction: Hypertension is a non-communicable disease whose case trend continues to increase from year to year. Although hypertension is a disease that is suffered by many people in Indonesia, in reality there are still many people who do not understand about hypertension and do not apply hypertension control behavior. The formation of health behavior can be influenced by individual knowledge in viewing a disease. Insufficient knowledge of hypertension can have an impact on hypertension that is difficult to cure and is fatal to the emergence of various complications.

Objective: To determine the relationship between knowledge with hypertension control behavior in hypertensive patients in Sumuragung Village, Sumberrejo District, Bojonegoro Regency.

Method: This study was conducted in Sumuragung Village, Sumberrejo District, Bojonegoro Regency in December 2022-January 2023. The research design used was quantitative with a cross sectional study approach and obtained a sample of 91 respondents with hypertension aged 45 years or more. The sampling technique used probability sampling with the simple random sampling method. Meanwhile, the data collection technique was carried out door to door and the instrument used was an interview using a questionnaire sheet that had been tested for validity and reliability. Data were analyzed univariately in the form of frequency distribution and bivariate using the Chi Square test.

Result: It was found that there were 45 respondents who had good knowledge about hypertension and good hypertension control behavior and there were 18 respondents who had poor knowledge and poor hypertension control behavior. From the results of the chi square test obtained a p value of 0.001.

Conclusion: There is a relationship between knowledge with hypertension control behavior in hypertensive patients in Sumuragung Village, Sumberrejo District, Bojonegoro Regency.

Keywords: Hypertension; Knowledge; Behavior

INTRODUCTION

Hypertension or high blood pressure is one of the non-communicable diseases whose case trend continues to increase from year to year. Based on the results of the Basic Health Research (Riskesdas) in 2018, the prevalence of hypertension in Indonesia based on a doctor's diagnosis in the population aged ≥18 years was 8.36%. Meanwhile, the proportion of people aged ≥18 years with hypertension taking anti-hypertensive medication regularly was 54.40%. Meanwhile, the prevalence of people suffering from hypertension in East Java Province is 36.3%. This figure is higher when compared to the prevalence of hypertension in 2013 which was 26.4% (1). Furthermore, most of the population who experience hypertension are elderly in the age group of 65-74 years (63.22%) and above 75 years (69.53%), followed by the age group 55-64 years (55.23%), 45-54 years (45.32%), 35-44 years (31.61%), 25-34 years (20.13%), and the age group 18-24 years (13.22%) (2). The estimated number of hypertension patients aged ≥15 years in Bojonegoro Regency in 2022 is 387,013 patients (1).

Hypertension is a condition when systolic blood pressure and diastolic blood pressure increase above normal. A person is said to have hypertension if their systolic blood pressure is ≥140 mmHg and their diastolic blood pressure is ≥90 mmHg (3). Although hypertension is a disease that is widely suffered by people in Indonesia, in reality there are still many people who do not understand about hypertension. This can be caused by a lack of information and health education, age factors, education level, and lack of concern for hypertension because people think hypertension is a common disease and can heal by itself (4).

The formation of health behavior can be influenced by individual knowledge in viewing a disease. The better a person's understanding of hypertension, the better the individual's attitude in controlling their blood pressure (4). This can be proven by daily behaviors such as limiting salt consumption, regular exercise, and not smoking. Meanwhile, for people with hypertension, good knowledge can encourage compliance in treatment. This can be seen from compliance in meeting the control schedule and routinely taking antihypertensive drugs as recommended by the doctor. Conversely, lack of knowledge of hypertension can have an impact on hypertension that is difficult to cure and is fatal to the emergence of various complications such as stroke, kidney failure, and heart disease (5).

Based on Yuliza's research (2021), there is a relationship between knowledge and hypertension control behavior. There were 70.3% of respondents who had good knowledge and good hypertension control behavior (6). However, Anggi's research (2023) shows that there is no relationship between the level of knowledge and efforts to control hypertension (7). Thus, there is a gap in the results, where in theory good knowledge about hypertension can help generate a positive attitude in themselves and influence hypertensive patients to tend to care about implementing blood pressure control efforts. Blood pressure control is the key to successful hypertension disease management (4).

The inconsistency in the results of previous studies is the reason this topic is important to research. In addition, this study is expected to provide an overview of the relationship between knowledge and hypertension control behavior. Thus, it can be known priorities and appropriate interventions to help reduce the high prevalence of hypertension and encourage the success of hypertension management, especially in Sumuragung Village, Sumberrejo District, Bojonegoro Regency.

METHOD

This study is an analytical observational study to analyze the causal relationship of several variables by testing hypotheses without providing treatment or intervention to respondents. The design of this research is quantitative using a cross sectional study design. This research was conducted in Sumuragung Village, Sumberrejo District, Bojonegoro Regency in December 2022-January 2023.

The population in this study were all people aged 45 years or more who lived in Sumuragung Village, Sumberrejo District, Bojonegoro Regency and had hypertension, with a total population of 144 and a sample size of 91 respondents. The sampling technique in this study used probability sampling with the simple random sampling method. Furthermore, the data collection technique was carried out door to door and the instrument used was an interview using a questionnaire sheet that was adjusted to the research variables, research objectives, and referred to the designed theory. The questions on the questionnaire consisted of three parts. The first part contains respondents' identity data including name, gender, age, and latest education, the second part contains questions about respondents' knowledge of hypertension, and the third part contains questions related to hypertension control behavior.

The questionnaire to measure the knowledge of respondents in this study amounted to 8 questions and used a guttman scale with the answer options of yes or no, while the questionnaire to measure hypertension control behavior used a Likert scale with a total of 7 questions with answer options namely never, sometimes, and often. Both have been tested for validity and reliability. The following is a recapitulation of the results of the validity and reliability test of the question items on the knowledge questionnaire.

Table 1. Knowledge Questionnaire Validity Test Results

Item number	Question	Probability value (Sig. 2 tailed)
1	Hypertensive disease is high blood pressure	0.009
2	Patients with high blood pressure should have their blood pressure checked by the nearest health service.	0.023
3	Limiting fatty foods is one way to prevent high blood pressure.	0.001
4	Consuming excessive salt will cause blood pressure to increase	0.011
5	Apart from consuming fresh fruits, another effort to prevent high blood pressure is regular exercise	0.006
6	Smoking and drinking alcohol is a cause of recurrence of high blood pressure disease.	0.015
7	Keeping away from stress is one way to prevent high blood pressure.	0.024
8	Taking anti-hypertensive drugs regularly and controlling your diet are efforts to prevent recurrence of high blood pressure disease.	0.005

Table 2. Results of the Knowledge Questionnaire Reability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0.730	8

The following is a recapitulation of the results of the validity and reliability test of statement items on the behavioral questionnaire.

Table 3. Behavioral Questionnaire Validity Test Results

Item number	Question	Probability value (Sig. 2 tailed)
1	How often do you forget to take your high blood pressure medication?	0.000
2	How often do you deliberately not take your high blood pressure medication?	0.001
3	How often do you add salt to your food before eating?	0.000
4	How often do you eat fast food?	0.002
5	How often do you miss control appointments?	0.000
6	How often do you run out of your high blood pressure medication?	0.000
7	How often do you deliberately not take your high blood pressure medication when you feel sick?	0.014

Table 4. Behavioral Questionnaire Reability Test Results

Reliability Statistics	
Cronbach's Alpha	N of Items
0.750	7

From the validity test results above, it can be seen that all question items on both the knowledge and behavior variables are valid, because the probability value (Sig. 2 tailed) is less than 0.05. Furthermore, the knowledge and behavior variable questionnaires were also declared reliable because the Chronbac's Alpha value was greater than 0.70.

The data obtained were then analyzed univariately and bivariately. Univariate analysis aimed to determine the distribution of respondent characteristics. While bivariate analysis was carried out using the chi-square test with a confidence level of 95% ($\alpha=0.05$) and the level of significance p value to determine the relationship between knowledge and hypertension control behavior.

RESULTS

This study found that based on the distribution of respondent characteristics, it can be seen in the following table:

Table 5. Distribution of Respondent Characteristics

Description	Frequency	Percentage
Sex		
Male	15	16.5%
Female	76	83.5%
Total	**91**	**100.0%**
Age		
45 years old	9	9.9%
46-50 years old	12	13.2%
51-55 years old	17	18.7%
56-60 years old	12	13.2%
>60 years old	41	45.1%
Total	**91**	**100.0%**
Last Education		
Elementary School	65	71.4%
Junior High School	15	16.5%
Senior High School	7	7.7%
College	4	4.4%
Total	**91**	**100.0%**

Table 5 shows that the majority of respondents were female with a percentage of 83.5% (76 respondents), while only 16.5% (15 respondents) were male. Furthermore, 41 respondents (45.1%) were over 60 years old, meaning that most of the respondents were elderly. In addition, more than half of the respondents had elementary school education with a percentage of 71.4% (65 respondents).

Table 6. Distribution of Respondents' Knowledge about Hypertension

Knowledge	Frequency	Percentage
Less	39	42.9%
Good	52	57.1%
Total	**91**	**100.0%**

Based on table 6, it was found that 52 respondents (57.1%) had good knowledge about hypertension.

Table 7. Distribution of Respondents' Behavior related to Hypertension Control Behavior

Behavior	Frekuensi	Persentase
Less	25	27.5%
Good	66	72.5%
Total	**91**	**100.0%**

Based on table 7, it shows that more than half of the respondents or as many as 66 respondents (72.5%) have good hypertension control behavior.

Table 8. Relationship between Knowledge and Hypertension Control Behavior

Knowledge	Hypertension Control Behavior				Total		*p-value*	*Prevalence ratio*
	Less		Good					
	n	%	n	%	N	%		
Less	18	46.2%	21	53.8%	39	100.0%		
Good	7	13.5%	45	86.5%	52	100.0%	0.001	3.426
Total	**25**	**27.5%**	**66**	**72.5%**	**91**	**100.0%**		

Based on the results of the analysis in table 8, it can be seen that both respondents who have less and good hypertension knowledge, most of their hypertension control behavior is also good. Furthermore, from the results of

the relationship test using the chi square test, a p value of 0.001 was obtained which is smaller than alpha 0.05, so that the p value $< \alpha$, then H_0 is rejected and H_1 is accepted. Based on the test results, it can be interpreted that there is a relationship between knowledge and hypertension control behavior in hypertensive patients in Sumuragung Village, Sumberrejo District, Bojonegoro Regency.

DISCUSSION

The results of this study indicate that there is a relationship between knowledge and hypertension control behavior in hypertensive patients in Sumuragung Village, Suberrejo District, Bojonegoro Regency. The results of this study are in line with research conducted by Desak (2020) who examined the relationship between the level of knowledge of the elderly about hypertension and hypertension diet compliance in the Tresna Werdha Jara Mara Pati Buleleng social home. The sample used was 60 elderly people with hypertension. Data collection using a questionnaire of 30 question items. The results obtained are that there is a significant relationship between the level of knowledge of the elderly about hypertension and adherence to a hypertension diet in the Tresna Werdha Jara Mara Pati Buleleng social home as evidenced by the results of the Spearman Rank test analysis obtained a p-value of 0.000 (8).

This study is also in line with research conducted by Edriyani (2022) who examined knowledge and attitudes about hypertension with blood pressure control. The sample was all hypertensive patients in the work area of the Medan Deli District Health Center, totaling 54 people. The results of the chi square test showed that there was a significant relationship between hypertension knowledge and blood pressure control in hypertensive patients with a p value of 0.004 (6).

This shows that the better a person's knowledge and understanding of hypertension, the better the behavior in controlling hypertension, because they will tend to comply with the recommendations of doctors or health workers regarding hypertension diet rules that can control blood pressure. Thus, health is maintained. Vice versa, the less knowledge and understanding a person has about hypertension, the more they will tend to violate the rules of the hypertension diet and blood pressure is difficult to return to normal. This means that there is a positive relationship between knowledge about hypertension and hypertension control behavior. The knowledge in question can be in the form of a definition of hypertension, risk factors for hypertension, symptoms of hypertension, and prevention and treatment of hypertension (9). Knowledge about hypertension is obtained by respondents from educational activities about hypertension during the implementation of the elderly posyandu. In addition, respondents can also consult about their hypertension to village midwives or doctors when visiting health care facilities.

With good knowledge, a person will be motivated and able to change their lifestyle to be healthier, such as quitting smoking, eating a healthy diet, regular exercise, and avoiding stress or negative thoughts (10). In addition, good knowledge can also prevent recurrence and prevent complications due to hypertension because patients will take medication regularly and routinely carry out controls at health care facilities (11). On the other hand, lack of knowledge and information about hypertension can cause inhibition of individual awareness to control blood pressure and will tend to neglect personal health, which can hinder the patient's recovery (7). While undergoing hypertension treatment, patients will tend to continue to have bad habits such as consuming excess salt, smoking, and lack of physical activity. In addition, the motivation to undergo hypertension control compliance is also low (11).

The above statement is in accordance with Lawrence Green's theory of introducing the Precede-Proceed behavior change model which explains that health behavior is influenced by individual and environmental factors. These factors are further divided into three, namely predisposing factors, enabling factors, and reinforcing factors. Knowledge is one of the aspects included in the enabling factors, namely factors that underlie, facilitate, and motivate a person to act on certain behaviors. This factor becomes an individual's personal consideration in influencing the occurrence of a behavior and can be an obstacle or supporter (12). In this study, knowledge is the basis for motivating and supporting people with hypertension in shaping hypertension control behavior.

The results of this study do not fully meet the criteria and perfect research procedures. The researcher's limitation in this study is that in the knowledge questionnaire, the answer choice uses "true or false", this can cause the tendency of respondents to continue to answer the "correct" answer choice, which can cause bias. In addition, in the hypertension control behavior questionnaire, the results of the study are highly dependent on the honesty of each respondent. Researchers did not take supporting factors such as the availability of health facilities and accessibility of health services, and did not take reinforcing factors such as social support.

CONCLUSION

This study concluded that there is a relationship between knowledge and hypertension control behavior in hypertensive patients in Sumuragung Village, Bojonegoro Regency. The respondents' knowledge about hypertension is relatively good, although the majority of respondents are elderly over 60 years old and have elementary school education, but it is not an obstacle to increasing knowledge. A good understanding of hypertension can help generate

self motivation, so that people with hypertension will tend to care about implementing blood pressure control efforts. In addition, the majority of respondents have also implemented hypertension control behavior well, respondents assume that this behavior is not only to control hypertension, but also as a form of their desire to have a healthy body and avoid all diseases.

SUGGESTION

This study recommends that relevant health care facilities should routinely provide education about hypertension, how to prevent and control hypertension, as well as provide health counseling and routine health checks for the community, so that it can grow awareness and concern for healthy living. In addition, rewards can be given to hypertensive patients who succeed in reducing their blood pressure to normal limits and their blood pressure is stable at normal limits within a certain time interval.

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