Relationship Between Knowledge and Level of Dietary Compliance In Patients with Hypertension

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ABSTRACT

Hypertension is a disease that gets attention from all walks of life, considering that its impact requires comprehensive and integrated long-term treatment, one of which is to run a good diet. Hypertension is a natural way to control blood pressure. This study aims to determine the relationship between knowledge and the level of dietary compliance in patients with hypertension. The design of this study uses Analytical Correlation with a Cross-sectional approach. The samples obtained were 96 by using the purposive sampling technique. The independent variable is knowledge, the dependent variable is hypertension diet. The instrument used in this study was a questionnaire. Data tabulated and analyzed using the Spearmen Rank test with a significance level of <0.05. The result almost half of the respondents had less knowledge (43.8%), more than some who did not comply with their diet (58.3%). The test results obtained p = 0.000 (p <0.05). There is a relationship between knowledge and the level of dietary compliance in patients with hypertension. The participation of health workers is needed in increasing patient knowledge about hypertension diet so that patients can undergo a good diet.

Keywords: Knowledge; diet compliance; hypertension

INTRODUCTION

Hypertension is a medical condition in the form of an increase in blood pressure above normal limits. To ensure hypertension by measuring blood pressure. The normal range is 120-140 mmHg systolic and 80-90 mmHg diastolic. A person is said to have hypertension if his blood pressure is above 140/90 mmHg[1]. Hypertension is a medical condition characterized by increased contraction of the arteries, resulting in resistance to blood flow which increases blood pressure against the walls of blood vessels[2]. This disease is categorized as silent disease because the patient does not know he has hypertension before checking his blood pressure[3].

Hypertension is the number one cause of death in the world. Data from the Joint National Committee on Prevention, Detection, Evaluation, and Treatment on High Blood Pressure VII said that almost 1 billion people in the world suffer from hypertension[4]. According to the World Health Organization (WHO), around 972 million people, or 26.4% have hypertension worldwide, the figure is likely to increase to 29.2% in 2025. From the data, 972 million people with hypertension, 333 million are in developing countries, including Indonesia. Hypertension is the cause of death that reaches 6.7% of the hypertensive population, at all ages in Indonesia[5]. There are more than 63 million Indonesians who suffer from hypertension. In East Java Province, hypertension sufferers reached 2.43% or 1,828,669 residents[6].

The high incidence of hypertension is influenced by two factors, which can not be changed as heredity, age, gender, race, and factors can be changed including obesity, alcohol consumption, lack of exercise, excessive salt consumption, stress, and smoking habits and alcohol consumption. One of the non-pharmacological efforts that can do in controlling blood pressure to remain stable is dieting. According to WHO, the recommended diet for people with hypertension includes low salt, namely salt consumption of no more than 1 teaspoon (6 grams/day), low cholesterol and saturated fat, increasing consumption of fruits and vegetables. It is also recommended for people with hypertension to do sports such as walking, running, jogging, cycling for 20-25 minutes with a frequency of 3-5 times/week[7]. Some studies showed is a significant relationship between knowledge and behavior on a low-salt consumption diet[8].

To undergo a hypertension diet, it is necessary to have patient compliance. Factors that influence adherence to the diet include knowledge, family support, communication, health facilities, sufferers/individuals, support from health workers[9]. Several studies have shown that there is a relationship between knowledge and adherence to a hypertension diet[10,11]. Less knowledge can reduce awareness in the implementation of the hypertension diet. According to Notoatmodjo, the knowledge that a person has will refer to the perception to perform a behavior or attitude[12]. The problem today is that there are still many hypertensive patients who are less obedient to their diet[13]. A hypertension diet is one of the natural methods of controlling hypertension. Adjusting the diet that had recommended for people with hypertension[14]. This is one of the lack of knowledge about hypertension diet. The study shows that there is a positive correlation between knowledge and adherence to a hypertension diet[10].

Factors that affect knowledge are gender, age, education, and occupation. Another study stated that gender, age, and occupation had no effect, only education affected adherence to the hypertension diet[13]. The description examines the relationship between the level of knowledge with dietary compliance in patients with hypertension.

METHOD

The design of this study uses analytical correlation with a cross-sectional approach. The population is patients with hypertension in Public Health Center, Kalitengah Lamongan. The independent variable is knowledge, and the dependent variable is adherence to the hypertension diet. Sampling by purposive sampling, as many as 96 respondents who met the inclusion criteria, namely hypertension sufferers who are more than 18 years old, can communicate well and are willing to be respondents to fill out the questionnaire. The research instrument used a questionnaire. The validity test of the knowledge questionnaire is (0.682-0.891), and the reliability test uses Cronbach's Alpha=0.915. While the dietary compliance questionnaire, the value of the validity test is 0.754-0.923, and for the reliability test, the value is 0.924.

RESULTS AND DISCUSSION

Characteristics of Respondents

The results of the study on the frequency distribution of respondents' characteristics are shown in Table 1.

Table 1 Distribution of Respondents by Age, Gender, Education, Occupation and Marital Status

No	Characteristics	Frequency	Percentage
1.	Age:		
	19-44 years old	19	19.8
	45- 59 years old	49	51.0
	60- 74 years old	23	24.0
	>75 years old	5	5.2
2.	Gender:		
	Man	41	42.7
	Woman	55	57.3
3.	Education:		
	No school	10	10.4
	Elementary School	38	39.7
	Junior High School	21	21.8
	Senior High School	19	19.8
	Diploma/ PT	8	8.3
4.	Work:		
	Does not work	21	21.9
	Farmer	43	44.7
	Swasta	15	15.7
	PNS/TNI/POLRI	12	12.5
	Pension	5	5.2
5.	Marital Status:		
	Not married	0	0
	Married	85	88.5
	Widow widower	11	11.5

Table 1 shows that most of the 51.0% of respondents are 45-59 years old, 57.3% are female, less than 39.7% have primary school education, 44.7% work as farmers and 88.5% are married. The factors that influence the occurrence of primary hypertension are heredity, lifestyle, age, gender, occupation, and education[15]. First, hypertension was easier for men than women, it was probably because men had many factors driving the occurrence of hypertension, such as stress, fatigue, and uncontrolled eating. But this will happen the other way around after entering menopause, hypertension in women will increase due to hormonal factors[16]. Gender greatly affects the occurrence of hypertension because: affected by a hormonal imbalance where at menopause in women the cells will lose the hormone estrogen so that which affects the elasticity of blood vessels and work on the cardiovascular system, So women are more likely to have high blood pressure. Likewise, with research conducted at RSI Palembang, that gender is significant in the incidence of hypertension[17]. This is different from the research conducted in Talang Empat, Bengkulu stated that there was no relationship between gender and the incidence of hypertension[18].

Hypertension is more prone to occur in old age. Increasing age can increase the risk of developing hypertension, although hypertension can occur at any age but most often occurs in adults aged 35 years or older. This is in line with research in Tangerang City that age is the dominant factor that affects the incidence of hypertension[19]. Likewise, with research conducted in the city of Belitung, North Sulawesi that there is a significance between age and the incidence of hypertension[20]. The results of the study in Karangbinangun, Lamongan showed that most of the respondents aged 51-60 years had severe hypertension 22%21. It is very natural to increase blood pressure with age, this is due to natural changes in the heart, blood vessels, and hormone levels. Older people are more susceptible to hypertension because in old age the arteries are harder and less flexible to blood, which can lead to an increase in systolic blood pressure[16]. This is caused by the many declines in the function of the body's physiological systems with age because in old age blood vessels have begun to lose elasticity so that which can affect the work of the cardiovascular system and can lead to hypertension. The Elderly are more susceptible to hypertension.

Education also affects the incidence of hypertension, less education can affect the lifestyle and patterns of daily activities in each individual. Research conducted in Ratahan, Minahasa states there is a relationship between education and the incidence of hypertension[21]. In line with this study, there is a relationship between education level and gender with the incidence of hypertension in Jagalan Village, Surakarta[22]. The higher a person's education, the easier it is for them to receive information, and in the end, the more knowledge they have. On the other hand, if a person has a low level of education, it will hinder the development of a person's attitude towards acceptance, information, and newly introduced values[23]. A person's level of education affects a person's ability to receive information and process it before it becomes good or bad behavior had an impact on health status[24]. Patients with hypertension

have attention to diet, lifestyle, activity, exercise, reduce stress, smoke, and reduce salt to increase in blood pressure can be controlled.

Knowledge about Hypertension Diet

Table 2 Distribution of Knowledge about Hypertension Diet

No	Knowledge	Frequency	Percentage (%)
1.	Low	42	43.8
2.	Currently	32	33.3
3.	Tall	22	22.9
	Total	96	100.0

Based on table 2 shows that almost most of the respondents have less knowledge about hypertension diet as much as 42 (43.8%) and a small proportion have good knowledge as much as 22 (22.9%). Knowledge of the hypertension diet in the poor category can be interpreted that they do not understand the definition of a hypertension diet, the purpose of the diet, and the recommended diet. One of the factors that can cause their lack of knowledge is age. Age before the elderly the ability to receive or remember knowledge will decrease[25]. Intelligence before the elderly will decline with age. Thus causing a lack of ability to understand general knowledge and information. They assume that hypertension is a natural disease to suffer when they have entered the age of 50 years and over. So they are not so interested in finding information about hypertension diet. They only think of fulfilling physiological needs such as eating and resting without caring about the wrong diet and lifestyle. Several studies show that most of the respondents have a low level of knowledge in the management of hypertension diet[26]. On the other hand, another study showed that most of the respondents had good knowledge and attitude towards hypertension diet[27]. Therefore, high knowledge and motivation are needed to prevent hypertension[25].

The second factor that causes lack of knowledge is education. Based on table 3, almost most of the elderly are not in school, namely 23 respondents (47.9%). This shows that knowledge is influenced by the level of education. Education is a process of guidance given by someone to others on something so that they can understand and education is an important factor in influencing one's knowledge[11,23]. Knowledge is not only obtained through formal education but also informal education such as health counseling Posyandu cadres or Puskesmas officers. While in Posyandu they did not receive counseling about hypertension diet. They only get information from the surrounding environment about reducing salty and fatty foods. While the recommended diet is a definite measure of the foods that are recommended, reduced, and avoided and the importance of regular exercise. The lack of information obtained from the environment makes knowledge about diet less. This shows that the higher a person's level of education, the better they will receive information and consequently the better the level of knowledge.

Level of Dietary Compliance in Patients with Hypertension

Table 3 Distribution of the Level of Dietary Adherence in Patients with Hypertension

No	Compliance level	Frequency	Percentage (%)
1.	Not obey	56	58.3
2.	Obey	40	41.7
	Total	96	100.0

Based on table 3, shows that more than some hypertensive patients do not comply with their diet, as many as 56 (58.3%) and almost some elderly people with hypertension adhere to their diet, namely as many as 40 (41.7%). Elderly disobedience in the implementation of the hypertension diet occurs because it is still difficult to limit salty taste, fatty foods, increase fiber consumption, and the importance of doing exercise. Non-compliance in the implementation of the hypertension diet is influenced by factors that influence the formation of behavior, one of which is knowledge or education[12].

Based on table 3 shows that almost most of the elderly are not in school as many as 23 respondents (47.9%). Low elderly education will make respondents have difficulty in understanding knowledge including knowledge about hypertension diet. In addition, in informal terms, they do not get information about hypertension diet either from the surrounding environment which can be sourced from health workers, print, and electronic media. This research is obedient in implementing their diet with a high school education level. This shows that education will affect the knowledge of the elderly in carrying out their diet to comply[28].

The Relationship between Knowledge and Level of Dietary Compliance in Patients with Hypertension

Table 4 Crosstabulation of Knowledge with the Level of Dietary Compliance in Patients with Hypertension

Knowledge level	Compliance Rate		Total
	Not obey	Obey	
Low	18 (85.7%)	3 (14.3%)	21 (100%)
Currently	9 (56.3%)	7 (43.8%)	16 (100%)
Tall	1 (9.1%)	10 (90.9%)	11 (100%)
Total	28 (58.3%)	20 (41.7%)	48 (100%)
	p = 0.000		

The data above shows that the elderly who have less knowledge about the hypertension diet is almost entirely disobedient in carrying out their diet, the elderly who have sufficient knowledge about the hypertension diet is more than partially disobedient in carrying out their diet while respondents who have good knowledge about the hypertension diet are almost entirely obedient in carrying out their diet. The results of the Spearman Rank test analysis obtained p=0.000 (p <0.05), meaning that there is a significant relationship between knowledge and the level of dietary compliance in patients with hypertension in Public Health Center, Kalitengah Lamongan. Several studies are in line with this that there is a positive correlation between the level of knowledge about diet and diet adherence[11,29].

Knowledge is the result of knowing after someone has sensed a certain object. Human knowledge is mostly obtained through eyes and ears[12]. Knowledge of a person's hypertension diet is very influential on compliance in the implementation of a hypertension diet. Because of the higher the level of knowledge, the better one's adherence to the hypertension diet. Good knowledge will encourage a person to behave appropriately, especially in carrying out a hypertension diet, where behavior is usually influenced by the individual's response to the stimulus, depending on how the individual reacts to respond to a stimulus that is in action or behavior[24]. So that it can be concluded that in implementation, it needs to be supported by adequate knowledge so that the elderly are obedient in carrying out the recommended diet. In addition to adherence to the diet, non-pharmacological therapy (distraction and relaxation techniques) and health education (reducing salt consumption, diet regulation, stress management, not smoking, not consuming alcohol, exercising, getting enough rest) can prevent hypertension[30].

CONCLUSIONS AND SUGGESTION

The study concluded is knowledge about hypertension diet is in the low category of 43.8%, medium 33.3%, and high 22.9%. The category of non-adherence to the diet was 58.3% and compliant 41.7%. There is a significant relationship between the level of knowledge and dietary compliance of hypertension sufferers at the Kalitengah Public Health Center, Lamongan Regency with a very strong relationship. The role of health workers is very needed in increasing the client's knowledge about the hypertension diet so that the patient can run a good diet. It is recommended for further researchers to examine other factors other than knowledge related to hypertension dietary compliance or can use qualitative studies.

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