



## **Diet knowledge, Self Efficacy, and Motivation for Hypertension Preventive Behavior**

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**Abstract.**

Preventive behavior requires an individual's desire and ability to be able to control blood pressure. The study aimed to examine the dietary knowledge, self-efficacy, and motivation towards hypertension prevention behavior elderly with hypertension. A cross-sectional approach was applied in this study. The results showed that knowledge on a diet, and motivation were associated with hypertension preventive behavior  $p = <\alpha = 0.05$ . While self-efficacy of hypertension prevention behavior  $p = > \alpha = 0.05$ . Conclusion: Knowledge of diet, motivation influences hypertension prevention behavior, whereas self-efficacy does not affect hypertension prevention behavior. It is expected to conduct further research on the effect of social support and effective methods of providing information on increasing self-efficacy.

**Keyword:** Diet knowledge, Self-efficacy, motivation, preventive behavior



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### **INTRODUCTION**

The World Health Organization's hypertension prevalence shows that around 1 billion suffer from hypertension, while the data of the Ministry of Health in 2016 showed 63,309,620 cases and 427 thousand deaths (1). According to Riskesdas in 2018, there was an increase in the prevalence of hypertension based on the results of measurements in the age group 31-44 years (31.6%), ages 45-54 years (45.3%), ages 55-64 years (55.2%) (2). Increased cases due to not being able to control risk factors such as smoking, unhealthy diets such as less consumption of vegetables and fruit, consumption of sugar, salt and excess fat, obesity, lack of physical activity, excessive alcohol consumption, and stress (3).

Data of Karang Rejo City Health Center Tarakan patient visits in 2017 were 3151 (4). In 2018 there were 3244 cases from January to October 2018 and ranked 2nd out of 10

diseases with the most visits (5). Efforts to monitor and detect early are made to reduce the recurrence rate by managing hypertension.

Management of hypertension is done by pharmacological and non-pharmacological efforts as a preventative behavioral effort to control blood pressure. According to the Indonesian Cardiovascular Specialist Association (6) explained non-pharmacological treatment efforts carried out with a healthy lifestyle include weight loss, reducing salt intake, exercising, reducing alcohol consumption, and stopping smoking from controlling the pressure to normal. Preventive behavior is carried out to support individual health to prevent complications and even death.

Preventive behavior requires the desire and ability of the elderly to be able to control blood pressure. Then a healthy lifestyle becomes the leading choice to change behavior by providing information. The information is expected to give the elderly knowledge to participate in efforts to prevent or reduce the risk of hypertension. Efforts to encourage or support carried out by Karang Rejo City Health Center Tarakan is by providing hypertension information with the media, consultation through elderly poly as well as physical activity, which is carried out routinely once a week by checking blood pressure and weight. In line with the gifted program planned by the Ministry of Health described that is periodic health checks, get rid of cigarette smoke, diligent physical activity, balanced diet, adequate rest, and manage stress (7). In addition, according to Nuraeni, Mirwanti & Anna (2017), to get good behavior, the factors that influence it must also be useful in improving the behavior of prevention and treatment of hypertension (8).

Elderly as a vulnerable population, health efforts need to be done with one of them changing risk behavior. This is to maintain the condition of the elderly who are vulnerable to complications due to hypertension. Identification of the elderly's problem about diet knowledge, self-efficacy, and motivation becomes alternative efforts to implement more towards behavior modification.

## **OBJECTIVE**

The study aimed to examine the relationship between knowledge on diet, self-efficacy, and motivation with prevention behavior among the elderly with hypertension.

## **METHOD**

We conducted a cross-sectional approach in this study. The study was done at Karang rejo Tarakan North Kalimantan in 2019. Fifty samples were selected from the population by using the simple random sampling. The inclusion criteria of the study include being able to read write, diagnosed controlled hypertension, elderly, type of primary hypertension, and willingness to participate in this study. In the exclusion criteria, the respondent is not willing to fill in the questionnaire. Data collection was carried out several times at the beginning of the study before making research respondents follow inclusion and exclusion criteria.

Then the respondent gets an explanation of the study and signs an informed consent. The time needed is  $\pm$  30 minutes—the validity test used by the Pearson method with the help of a computer. The validity test decision is expressed by the value of  $r$  count also  $r$  table. If  $r$  count is greater than  $r$  table, then it is approved valid and for testing reliability by comparing the  $r$  table's value with  $r$  results (9). C-Square ( $\chi^2$ ) test analysis is used to determine the independent variable's relationship to the dependent variable (10).

## RESULTS

### Characteristic of respondents

Characteristics of respondents explained the patients' age, gender, and level of education among respondents (see table 1). Most of the respondents were more than 61 years. The criteria for respondents are chosen by the elderly to be analyzed for prevention behavior in line with the older age who are increasingly vulnerable to disease but have controlled blood pressure.

The distribution of the respondents based was 36% of males and 64% with females. This condition is sufficient to illustrate the characteristics of respondents based on inclusion criteria.

Respondents are mostly elementary schools (58%), but some respondents did not go to school. Respondents were selected based on inclusion criteria, namely being able to read and write so that it was easy to answer questions and communicate well.

**Table 1. Characteristic of respondents**

Variables	Frequency	Percentage
Age		
45-50 years old	12	24 %
51-55 years old	8	16 %
56-60 years old	10	20 %
>61 years old	20	40 %
Total	50	100%
Gender		
Male	18	36 %
Female	32	64%
Total	50	100%
Education background		
Unliterate	6	12 %
Primary school	29	58 %
Secondary school	7	14 %
High school	7	14 %
Colleg	1	2 %
Total	50	100%

### The relationship between knowledge and hypertension prevention behavior

Table 2 showed the relationship between knowledge and hypertension prevention behavior. The results showed that there was a significant relationship between dietary knowledge with hypertension prevention behavior ( $p < 0.05$ ). As for the coefficient of association between perceptions of obstacles with hypertension prevention behavior of 0.383 which indicates that the correlation is weak

Table 2. The relationship between knowledge and hypertension prevention behavior

Diet knowledge	Behavioral Prevention						Total		P-Value
	Less	%	Enough	%	Well	%	f	%	
Less	1	4	4	27	3	25	8	16	0.383
Enough	14	61	9	60	7	58	30	60	
Well	8	35	2	13	2	17	12	24	
Total	23	46	15	30	12	24	50	100	

**The relationship between self-efficacy with hypertension prevention behavior**

Table 3 showed The relationship between self-efficacy with hypertension prevention behavior. The results of statistical tests showed that there was no significant relationship between self-efficacy and hypertension prevention behavior. With Chi-square test obtained  $p = 0.522 > \alpha = 0.05$ . As for the coefficient of association between self-efficacy and hypertension prevention behavior of -0.104 which indicates that the association direction is negative (opposite direction) the greater the value of self-efficacy, the smaller the value of hypertension prevention behavior

Table 3. The relationship between self-efficacy with hypertension prevention behavior

Self Efficacy	Behavioral Prevention						Total		P-Value
	Less	%	Enough	%	Well	%	f	%	
Not Sure	5	25	1	5	3	27	9	18	-0.104
Sure enough	12	60	10	53	6	55	28	56	
Feel confident	3	15	8	42	2	18	13	26	
Total	20	40	19	38	11	22	50	100	

**The relationship between motivation with hypertension prevention behavior**

The results of the statistical test showed a significant relationship between motivation and hypertension prevention behavior with  $p = 0,000 < \alpha = 0.05$ . As for the coefficient of association between motivation and hypertension prevention behavior of 0.323 which indicates that the correlation is weak

Table 4. The relationship between motivation with hypertension prevention behavior

Motivation	Behavioral Prevention						Total		P-Value
	Less	%	Enough	%	Well	%	f	%	
Low	12	66,6	7	33,3	4	36,3	23	46	0.323
Medium	5	28	9	43	4	36,3	18	36	
High	1	5,4	5	23,7	3	27,3	9	18	
Total	18	36	21	42	11	22	50	100	

**DISCUSSION**

Characteristics of respondents at the elementary school level can influence respondents on one's knowledge of perceiving information. Information received and carried out repeatedly. The age factor is not a reason for the elderly to not be able to control blood pressure. This is under the activities carried out by the health center with routine elderly

activities such as gymnastics, blood pressure control, drug administration, and information through health promotion media. This is consistent with the research of Umar & Agustina (2016) showed that there is a significant relationship between age and hypertension ( $p$ -value 0.004) with an OR value of 3,439. Based on gender, data on respondents is not distinguished. This is in line with the criteria and methods used in selecting samples (11).

The level of knowledge can affect an individual's health conditions. Learning about the hypertension diet shows that there is a significant relationship with prevention behavior. Good knowledge supports the respondent's prevention behavior because the possibility of the respondent is in the evaluation stage by having the ability to assess the condition of the disease by making prevention efforts by knowing what foods are restricted and should not be eaten to prevent relapse hypertension. Six levels of knowledge. According to notoatmodjo (2013 in Hartono, 2016), namely know, understand, application, analysis, synthesis, and evaluation (12). A person's ability is said to be capable of knowing if the respondent can look at the evaluation stage by being able to assess or make an assessment of an object. Satisfaction with one or several needs will lead to a higher tendency to get more information (13). This information is obtained because someone has been able to assess an object. This is supported by research according to Utomo confirmed that there is a relationship between the level of knowledge about hypertension with efforts to prevent hypertension recurrence in the Posyandu in Bluluk Village, Colomadu District, Karanganyar District with  $P = 0.032$  (14). Another study conducted by Astika, Muhlisin & Rosyid, (2014) shows a relationship between the level of knowledge of hypertension diet with recurrence hypertension in Mancasan Village, Puskesmas I Baki Sukoharjo due to poor nutrition in the elderly (15).

The results of research on self-efficacy do not influence the behavior of hypertension prevention. Low self-efficacy has a small chance of preventing hypertension behavior regarding control of blood pressure, weight, diet, physical activity, and stress. Barriers experienced by respondents can affect self-efficacy, such as how to regulate inappropriate eating patterns, smoking habits, and uncontrolled pressure can affect the prevention of hypertension. The ability to avoid these habits can undoubtedly change the condition of hypertension. Self-efficacy management related to stress is needed by the elderly to have risk factor prevention behavior. According to Adria (2013) showed there was a significant relationship between stress and the occurrence of hypertension in the elderly with  $p = 0.047$  ( $p < 0.05$ ). Self-efficacy related to diet The elderly's efforts to be sure to avoid salty foods tend to be lacking (16). This is undoubtedly a risk of hypertension in the elderly. This statement is in line with research conducted by Sukri, Wibowo & Wahyono (2019). There is a significant influence between eating patterns on hypertension in the elderly in the Posillandu Kutillang 1 in the Arut subdistrict of North Arawar Subdistrict, Kotawaringin Barat, Central Kalimantan (17).

Self-efficacy as preventive behavior is an individual's belief that he can carry out prevention based on conditions experienced by the elderly. High self-efficacy will influence the behavior of the elderly in preventing or avoiding conditions that aggravate the disease. This is in line with Abdi's research reported that respondents who have high self-efficacy have full confidence in changing behavior, such as encouragement from health workers or advice from family or neighbors who have a history of hypertension (18). A study from Amelia, Sinaga & Sembiring (2018) showed that hypertensive patients' self-efficacy and lifestyle obtained the majority of people aged 56-69 years. Who has a patient's experience of lifestyle also related to the duration of illness can make their health better, but if previous experience is not right, then from that experience will reduce his motivation in conducting self-care so that health can decrease (19).

The motivation for prevention behavior shows there is a relationship. This is shown because of the stimulation of the desire to prevent illness and the group of elderly respondents

who follow both blood pressure control and physical activity. According to Prihartanta (2015) confirmed that active and functioning motives, because there are external stimuli, are extrinsic motivations caused by the driving factors. Respondents became motivated to participate due to the presence of elderly groups and Public health center monitoring through continuous information sharing (20). Also, the public health center's efforts in providing health promotion indirectly affect respondents' knowledge, which can then cause motivation to take preventative behavior. Information that has been given has an impact on the elderly. According to Herlinah et al. showed analysis showed information support was a dominant factor in the behavior of the elderly in controlling hypertension (21). Another study conducted by Prabandari et al explained the higher the level of respondents' knowledge about hypertension, the higher the level of motivation to check themselves or vice versa (22).

## CONCLUSION

Dietary knowledge, motivation influences hypertension prevention behavior, whereas self-efficacy does not affect hypertension prevention behavior. It is expected to conduct further research related to the effect of social support as well as methods of providing useful information in increasing self-efficacy.

## STRENGTH AND LIMITATION

Data collection needs to be done in quantitatively and qualitatively to obtain more in-depth information about motivation and self-efficacy. Further research needs to be done related to the intervention of prevention behaviors towards blood pressure and comparing samples in the elderly with secondary hypertension to determine preventive action.

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