



Description of Health Maintenance Behavior of Hypertension Sufferers in the Tayu Coastal Area

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<p>Track Record Article</p> <p>Accepted: 27 April 2023 Revised: 23 May 2023 Published: 20 June 2023</p> <p>How to cite: Izza, A. R. N., & Kristinawati, B. (2023). Description of Health Maintenance Behavior of Hypertension Sufferers in the Tayu Coastal Area. Contagion : Scientific Periodical of Public Health and Coastal Health, 5(2), 503–513.</p>	<p style="text-align: center;">Abstract</p> <p><i>Hypertension is a non-communicable disease problem in the world and in developing countries including Indonesia which can cause death by requiring serious treatment. Coastal communities are at risk of developing hypertension caused by foods that contain high salt and bad lifestyle. The purpose of this research is to find out the description of the health maintenance of hypertension sufferers in the coastal area of Tayu. This research is a quantitative descriptive study with a cross-sectional research design. This research was conducted in the coastal area of Tayu, Pati Regency in 5 villages namely Sambiroto, Keboromo, Ndororejo, Tunggul Sari, and Margomulyo villages. This research was conducted in February-March 2023. The population in this study were all hypertensive patients in the Tayu coastal area, totaling 644. The sample in this study was 247 people. Sampling technique with Accidental Sampling. Data collection in this study used the Self-Care of Hypertension (SC-HI) questionnaire. Analysis of this research data with descriptive Univariate analysis. The research results obtained were that the majority of hypertension sufferers in the Tayu coastal area were aged >65 years as many as 101 (40.9%). The majority of hypertension sufferers in the Tayu coastal area were female, 186 (75.3%). Most of the hypertension sufferers in the Tayu coastal area have elementary school education as many as 80 (32.4%). The majority of jobs in the Tayu coastal area work as housewives as many as 87 (35.2%). The majority of blood pressure in hypertension sufferers in the Tayu coastal area are at degree 2 (>140/90 mmHg). The description of maintenance behavior in hypertension sufferers in the Tayu coastal area, the majority of hypertension sufferers carry out health maintenance on a daily basis, namely 142 (57%) are still categorically bad. It is suggested to health workers to improve education about prevention of hypertension in the Coastal Areas in order to increase public knowledge, especially those with hypertension and it is suggested to health workers to carry out health checks for blood pressure in hypertension sufferers.</i></p> <p>Keyword: Behavior, Coastal Area, Health maintenance, Hypertension</p>
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INTRODUCTION

Hypertension is a condition or condition in a person in which the person experiences a rise in blood pressure that is higher than normal limits which can cause morbidity and even death, so it is referred to as hypertension “*the silent killer*” because this disease often attacks without any complaints (Nurhayati et al., 2020). Hypertension is the leading cause of premature death worldwide. One of the global goals for non-communicable diseases (WHO, 2021).

Based on data from *World Health Organization* (WHO) Prevalence of hypertension will be 33 by 2010, 1 in 5 adults 21% of people with high blood pressure can control it (WHO, 2022). The global prevalence of hypertension is 22% of the total world population. Indonesia itself in 2018 the prevalence of hypertension reached 34.11% (Kemenkes, 2018). Based on data

from the Central Statistics Agency, it was found that the prevalence of hypertension in Central Java Province was 35% of the total population (BPS, 2021).

Hypertension is classified into 2 namely primary/essential hypertension and secondary/non-essential hypertension (Kemenkes, 2018). Hypertension can be caused by two factors: modifiable and non-modifiable risk factors. Various risk factors include physical activity, diet, obesity, alcohol consumption, smoking, and stress. Risk factors that cannot be changed include family history, age, and gender American Heart Association (AHA, 2017). Hypertension if not controlled properly can cause various complications such as stroke, heart failure and can interfere with vision (Unger et al., 2020).

The majority of coastal communities work as fishermen, so they depend on marine products for daily consumption such as (shrimp, crab, shellfish, squid etc.) as well as food that is preserved by drying it with salt. So that the research results obtained if hypertension sufferers in coastal communities are higher compared to mountain communities and urban areas (Noventi & Kartini, 2019). The occurrence of hypertension in coastal communities can be influenced by behavioral factors in everyday coastal communities. Behavioral factors that can influence the occurrence of hypertension, namely the habits that consume large amounts of salt and cholesterol in coastal areas tend to cause hypertension in coastal areas. (Musdalifah et al., 2020).

Other researchers suggest that in coastal communities, food consumption patterns are known to have 42.2% of subjects who do not routinely consume fruit, vegetables and fish have a 3.7 times risk of developing hypertension compared to subjects who consume fruit, vegetables and fish (Susanti et al., 2020). Excessive or uncontrolled eating portions can lead to obesity in which patients with obesity are also more likely to be resistant to treatment with various anti-hypertensive drugs (Shariq et al., 2020). Unhealthy lifestyle behavior can affect the incidence of hypertension in coastal communities (Rasiman, 2022).

Another risk of hypertension is physical activity, many women in coastal areas work as housewives who have an erratic lifestyle so that physical activity is less (Julkrismi, 2018). The habit of lack of physical activity and lack of exercise causes the body's organs and blood supply and oxygen to become congested which results in blood pressure (Siregar et al., 2020). Other researchers suggest that poor health behavior is drinking alcohol compared to those who do not drink alcohol with scores *p-value* (0,000), So alcohol is a risk factor for hypertension (Zhao et al., 2020). Lack of adequate rest can affect the occurrence of rising blood pressure (Kristinawati et al., 2021).

Based on the data obtained, the number of hypertension sufferers in the Tayu Coastal area in 2022 is 644 people. Based on the initial survey that has been conducted, the cause of hypertension in the Tayu Coastal area is unhealthy behavior such as not being able to do a low-salt diet, because coastal communities consume foods high in salt, like spicy food, like fried foods that are high in cholesterol, are active smokers, and still Few people with hypertension do health checks at health services such as the Public health center or Integrated Healthcare Center. Lack of knowledge about hypertension has led to an increasing incidence of hypertension. So that researchers are interested in conducting research with the aim of knowing the description of health maintenance behavior in hypertensive patients in the Tayu coastal area.

METHOD

This research is a quantitative descriptive study with a cross-sectional research design. The purpose of this research is to find out the description of the health maintenance of hypertension sufferers in the coastal area of Tayu. This research was conducted in the coastal area of Tayu, Pati Regency in 5 villages namely Sambiroto, Keboromo, Ndororejo, Tunggul Sari, and Margomulyo villages. This research was conducted from February 2023 to March 2023.

The population in this study were all patients with hypertension in the coastal area of Tayu, Pati district, consisting of the villages of Keboromo, Sambiroto, Ndororejo, Tunggul Sari, and Margomulyo with a total of 644 hypertension sufferers. Calculation of the number of samples using the Slovin formula so that the number of samples in this study was 247 people. The sampling technique in this study used a non-probability sampling technique with accidental sampling.

The sample criteria in this study have been defined as inclusion criteria such as hypertension sufferers in the Tayu coastal area, blood pressure above 130/85 mmHg, willing to be respondents, aged over 18 years. While the exclusion criteria in this study were hypertensive patients who resigned, had mental disorders and had co-morbidities.

In this study data collection used a questionnaire consisting of the characteristics of the respondents and the questionnaire *Self-Care of Hypertension* (SC-HI) which has been translated into Indonesian and has been tested for validity and reliability. The number of questions in the questionnaire SC-HI There are 24 questions including 12 health maintenance questions, 6 health management questions and 6 health belief questions. Researchers only used health maintenance questionnaires.

The analysis of the research data was using descriptive Univariante analysis which produced the distribution and percentage of each variable. This research has gone through ethical trials from the Health Research Ethics Committee at the Regional General Hospital Dr.Moewardi by number 296/II/HREC/2023.

RESULTS

The results of the characteristics of the respondents who took part in the study which included age, gender, last education, occupation and blood pressure of the respondents are presented in table 1 :

Table 1. Respondents' Demographic Characteristics

Characteristics	Frequency	%
Age		
26-35 year	16	6,5
36-45 year	38	15,4
46-55 year	41	16,6
56-65 year	51	20,6
>65 year	101	40,9
Gender		
Male	61	24,7
Female	186	75,3
Last education		
No school	25	10,1
Elementary school	80	32,4
Junior High School	76	30,8
Senior High School	52	21,1
Higher Education	14	5,7
Work		
Doesn't work	55	22,7
Housewife	87	35,2
Entrepreneur	39	15,8
Fisherman	32	13,0
Farmer	29	11,7
Government employees	5	2,0
Degree of Hypertension		
Degree 1 (130-139/80 mmHg)	28	11,3
Degree 2 (>140/90 mmHg)	187	75,7
Critical Hypertension (>180/120 mmHg)	32	13,0

Based on table 1, the results obtained from 246 respondents, the majority aged > 65 years, were 101 people (40.9%) while the minority of respondents aged 26-35 years were 16 people (6.5%). The majority of hypertension sufferers were female with a total of 186 people (75.3%) and a minority of men with 61 people (24.7%). The majority of respondents had education up to elementary school as many as 80 people (32.4%) and the minority had tertiary education as many as 14 people (5.7%). The majority of people with hypertension in coastal areas work as housewives with a total of 87 people (35.2%) and a minority of people work as civil servants with 5 people (2.0%). The majority of hypertension sufferers in coastal areas are

at degree 2 as many as 187 people (75.7%) and the minority are at degree 1 with a total of 28 people (11.3%).

Health maintenance behavior of hypertension sufferers is categorized into 3, namely good, moderate and bad behavior. The research results are presented in table 2.

Table 2 Distribution of Hypertension Health Care Behavior

Behavior	Frequency	%
Good	27	11
Moderate	78	33
Bad	142	57

Table 2 explained that 247 respondents stated that most of the behavior of people with hypertension, namely having bad health care behavior, was 142 respondents (57%), respondents with moderate health care behavior were 78 respondents (33%), and respondents with good health care behavior were 27 respondents (11%).

Table 3. Cross Tabulation based on Health Maintenance Behavior of Hypertension Sufferers

Characteristics	Behavior						Total	
	Good		Moderate		Bad		n	%
	n	%	n	%	n	%		
Age								
26-35 year	0	0.0	8	3.2	8	3.2	16	6.5
36-45 year	5	2.0	10	4.0	23	9.3	38	15.4
46-55 year	11	4.5	10	4.0	20	8.1	41	16.6
56-65 year	7	2.8	23	9.3	21	8.5	51	20.6
>65 year	18	7.3	28	11.3	55	22.3	101	40.9
Total	41	16.6	79	32.0	127	51.4	247	100
Gender								
Male	12	4.9	17	6.9	32	13.0	61	24.7
Female	29	11.7	62	25.1	95	38.5	186	75.3
Total	41	16.6	79	32.0	127	51.4	247	100
Last education								
No school	0	0.0	8	2.8	18	7.3	25	10.1
Elementary school	14	5.7	35	11.7	37	15.0	80	32.4
Junior High School	10	4.0	12	9.7	42	17.0	76	30.8
Senior High School	11	4.5	10	5.7	27	10.9	52	21.1
Higher Education	6	2.4	11	2.0	3	1.2	14	5.7
Total	41	16.6	79	32.0	127	51.4	247	100
Work								
Doesn't work	9	3.6	8	3.2	38	15.4	55	22.3
Housewife	9	3.6	35	14.2	43	17.4	87	35.2
Entrepreneur	13	5.3	12	4.9	14	5.7	39	15.8
Fisherman	5	2.0	10	4.0	17	6.9	32	13.0
Farmer	3	1.2	11	4.5	15	6.1	29	11.7
Government employees	2	0.8	3	1.2	0	0.0	5	2.0
Total	41	16.6	79	32.0	127	51.4	247	100
Degree of Hypertension								
Degree 1 (130-139/80 mmHg)	2	0.8	6	2.4	20	8.1	28	11.3
Degree 2 (>140/90 mmHg)	25	10.1	60	24.3	102	41.3	187	75.7
Critical Hypertension (>180/120 mmHg)	14	5.7	13	5.3	5	2.0	32	13.0
Total	41	16.6	79	32.0	127	51.4	247	100

In the results of cross-tabulation between age and the level of health care behavior in hypertension sufferers, it was found that the majority aged 26-35 years still had a bad level of hypertension health care behavior of 8 (3.2%). The majority of respondents aged 36-45 years still had a bad level of hypertension health maintenance behavior of 23 (9.3%). The majority of respondents aged 46-55 years still had a bad level of hypertension health maintenance behavior of 20 (8.1%). The majority of respondents aged 56-65 years still had a bad level of hypertension health maintenance behavior of 21 (8.5%). And the majority of respondents with age > 65 years still have a bad level of hypertension health care behavior as much as 55 (22.3%).

The results of cross-tabulation between gender and the level of Health Care Behavior in hypertension sufferers found that the majority male sex still had a bad level of Hypertension Health Care Behavior as much as 32 (13.0%). And the majority of female respondents still had a bad level of hypertension health maintenance behavior of 95 (38.5%).

The results of cross-tabulation between education level and health care behavior level of hypertension sufferers found that the majority of non-school respondents still had a bad level of hypertension health care behavior of 18 (7.3%). The majority of respondents with elementary school education level still had a bad level of hypertension health care behavior as much as 37 (15.0%). The majority of respondents with junior high school education level still had a bad level of hypertension health care behavior as much as 42 (17.0%). The majority of respondents with high school education level still had a bad level of hypertension health care behavior as much as 27 (10.9%). And the majority of respondents with higher education levels still have a bad level of hypertension health care behavior as much as 3 (1.2%).

The results of cross-tabulation between work and the level of health care behavior in hypertension sufferers found that the majority of non-work responses still had a bad level of hypertension health care behavior as much as 38 (15.4%). The majority of respondents who worked only as housewives still had a bad level of hypertension health maintenance behavior of 43 (17.0%). The majority of respondents who work as entrepreneurs still have a bad level of hypertension health care behavior as much as 14 (5.7%). The majority of respondents who work as fishermen still have a bad level of hypertension health care behavior as much as 17 (6.9%). And the majority of respondents who work as farmers still have a bad level of hypertension health care behavior as much as 15 (6.1%).

The results of cross-tabulation between the degree of hypertension and the level of Health Care Behavior in hypertension sufferers found that the majority of respondents with degree 1 (130-139/80 mmHg) still had a bad level of Health Maintenance Behavior of

hypertension as many as 20 (8.1%). The majority of respondents with degree 2 (>140/90 mmHg) still had a bad level of hypertension health care behavior as many as 102 (41.3%). And Respondents with Critical Hypertension (>180/120 mmHg) the majority still have a level of bad hypertension Health Care Behavior of 5 (2.0%).

DISCUSSION

1. Respondent Demographic Characteristics

Based on the age category, the majority of hypertensive patients in Dayu coastal areas are over 60 years old. Risk of high blood pressure increases with age. In accordance with the results of research conducted by Adam (2019) The results show that the older you are, the higher the risk of experiencing hypertension because as you get older, the ability of blood vessels to become narrower decreases and stiffness in the walls of blood vessels occurs, causing blood pressure to increase. This is in line with research Akbar et al., (2020) People over the age of 60 are at increased risk of high blood pressure, and large arteries lose their flexibility and become stiff at this age. In contrast to research conducted by Adam, (2019) the younger the age, the elastic level of blood vessels is still normal, there is no decrease in elasticity in the arteries, so that at a young age the rate of occurrence of hypertension is low.

Based on the distribution of sex characteristics, the majority are female. The results of this study have conformity with research Widjaya et al., (2018) results that women are more likely to have high blood pressure. In line with research Wahyuni et al., (2019) Women are more likely to suffer from hypertension than men, with up to 27.5% of women suffering from hypertension compared to just 5.8% of men. According to Nuryati (2019) in his book, blood pressure in women generally increases after menopause. Women who have menopause have a higher risk of hypertension than those who have not menopause. These hormonal changes make women experience sensitivity to salt and gain weight, both of which have the potential to increase blood pressure.

Based on the above explanation, most of the respondents have low educational background such as elementary school. According to the results of the research conducted by Yuwono et al., (2017) if the last education most of the respondents had elementary school education. A low level of education greatly influences hypertension, because a lack of knowledge about health causes a way of thinking that is less effective in responding to and maintaining health problems.

Based on the distribution of job characteristics, the majority of coastal communities work as housewives. In line with research conducted by Andini et al., (2019) The results showed that there were very many housewives at the Gang Aut Health Center in Bogor City who had

hypertension. The same is true of research conducted by Akbar et al., (2020) Housewives who have very high hypertension, this is caused by stress.

The degree of hypertension in this study found that the majority of hypertension sufferers were at hypertension degree 1. This could be influenced by the behavior of respondents such as consuming foods high in sodium, high in cholesterol, rarely doing physical activity. This can also be caused by the age factor because the majority of respondents are over 60 years old, due to decreased organ function. As well as the majority of women where women have a higher chance of hypertension, because women experience menopause so that blood flow is unstable.

2. Health Maintenance Behavior of Hypertension Sufferers

Based on the results of research conducted on hypertension sufferers, it was found that the majority of hypertension sufferers had bad behavior and a minority of respondents acted on good behavior. Coastal communities who depend on marine products so that consumption of seafood such as sea fish, shrimp, clams, squid, crab, and processed sea fish which is preserved with salt so that it lasts long enough, these foods contain very high sodium. So that it can trigger an increase in blood pressure when consumed quite a lot and consumed every day. This is in line with research conducted by Sinaga et al., (2023) where most of the people in the Serambi coastal area suffer from hypertension, this is caused by people who often consume seafood and fish that are salted with salt. In line with research conducted by Purwono et al., (2020) Consuming large amounts of salt can lead to narrowing of the arteries because sodium will be absorbed by the blood vessels, So the heart has to pump harder to push more blood into tight spaces, which can lead to high blood pressure.

Apart from consuming seafood, coastal communities rarely consume vegetables and fruits. According to research conducted by Sugiatmi et al., (2020) if the lack of vegetables and fruit can cause blood pressure to rise. In addition, the majority of coastal communities consume high-fat foods, for example consuming fried foods and coconut milk. Fat levels in the blood if left unchecked and become more and more will result in clogged blood vessels so that the cardiovascular system is disrupted.

If coastal communities often consume seafood, foods high in salt and consume fatty foods, all of these foods can cause weight gain. People with obesity usually experience increased levels of fat in the blood, so that the blood vessels experience narrowing. The narrowing occurs due to the deposition of plaque on the artery walls that comes from fat. The more deposits in the blood vessels, the blood circulation will be disrupted. Thus causing the heart to work harder to pump blood, this is what causes hypertension (Sari, 2017). Compared with the results of

research conducted by Tiara (2020) There is a relationship between obesity and high blood pressure, and overweight people tend to be at higher risk of developing high blood pressure.

Coastal people who work as fishermen can cause a lack of adequate rest because fishermen have to go sailing at night. Fishermen only have a short rest time because when they arrive on land the fishermen immediately deposit their catch to the traders. During the day fishermen usually fix damaged nets or make new nets. This situation causes the fishermen's rest time to decrease. Lack of rest can cause systolic and diastolic blood pressure to increase (Kristinawati et al., 2021).

The habits of the Tayu coastal community still carry out customs ranging from marriages, deaths, religious holidays, circumcision, and other rituals. All of this cannot be separated from the food served in each of these activities. Almost all the food served is high in salt, high in sugar, saturated fat and carbohydrates. Fibrous foods are rarely found when the activity takes place. The behavior of the Tayu coastal community is quite bad, because the majority of men work as fishermen, so they often stay up late, smoke, drink coffee, and consume salty food and seafood. This needs to be considered because an unhealthy lifestyle is a factor in the occurrence of hypertension (Suprayitno et al., 2020).

CONCLUSION

The research results obtained were that the majority of hypertension sufferers in the Tayu coastal area were aged > 65 years as many as 101 (40.9%). The majority of hypertension sufferers in the Tayu coastal area were female, 186 (75.3%). Most of the hypertension sufferers in the Tayu coastal area have elementary school education as many as 80 (32.4%). The majority of jobs in the Tayu coastal area work as housewives as many as 87 (35.2%). The majority of blood pressure in hypertension sufferers in the Tayu coastal area are at degree 2 (> 140/90 mmHg). The description of maintenance behavior in hypertension sufferers in the Tayu coastal area, the majority of hypertension sufferers carry out health maintenance on a daily basis, namely 142 (57%) are still categorically bad.

It is recommended for health workers in the Tayu area to further improve health promotion in addressing lifestyle and adherence in taking medication so that they are able to carry out efforts to prevent complications of hypertension through health education and through the media, for example posters, leftlets. And it is recommended for health workers in the Tayu area to hold health education regarding knowledge of hypertension prevention and prevention of complications of hypertension.

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