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LIFESTYLE WITH HYPERTENSION AT WESAPUT COMMUNITY HEALTH CENTER

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ABSTRACT

Controlling lifestyle and behavioral factors by implementing a healthy lifestyle can prevent hypertension. The aim of the study was to determine the relationship between lifestyle (smoking, physical activity, coffee consumption, fat consumption) and the incidence of hypertension at the Wesaput Community Health Center. Observational analytical research design, cross sectional approach, sample of 35 respondents, *simple random sampling*. Data collection uses questionnaires and sphygmomanometers. Data were analyzed using the chi-square test. The research results showed that the lifestyle that was related to the incidence of hypertension was fat consumption (p = 0.015). Meanwhile, there was no relationship between lifestyle and the incidence of hypertension, namely smoking habits (p = 0.207), physical activity (p = 0.226) and coffee consumption (p = 0.490). It was concluded that there was a relationship between lifestyle (fat consumption) and the incidence of hypertension, there was no relationship between lifestyle (smoking habits, physical activity and coffee consumption) and the incidence of hypertension. It is hoped that people will check their blood pressure regularly and adopt a healthy lifestyle. It is recommended that health workers provide health education/counseling regarding a healthy lifestyle.

Keywords

Coffee Consumption, Fat Consumption, Hypertension, Physical Activity, Smoking Habits

INTRODUCTION

Hypertension is an increase in blood pressure with systole and diastole values showing more than or equal to 140/90mmHg, measurements were taken three times on different occasions. Continuous increases in blood pressure will damage the walls of blood vessels such as the eyes, brain and heart, making hypertension the number one cause of death in the world (Furqani et al., 2020).

Hypertension causes the deaths of around 8 million people every year, of which 1.5 million deaths are in Southeast Asia. According to WHO (2019), the incidence of hypertension cases is around 22% of the world's population, the incidence of hypertension in the Southeast Asia region is 25% of the total population. (Arifin et al., 2021) . Data from the Jayawijaya District Health Service, Papua Mountain Province, shows that hypertension cases in 2022 were 872 cases, and will increase in 2023 to 1,709 cases. According to the Ministry of Health, the incidence of hypertension in adults is around 30-40% and the prevalence increases with age, with a prevalence of >60% at ages >60 years. The prevalence of hypertension

cases has increased most rapidly in a number of developing countries (80% of cases in the world), where treatment of hypertension cases is still quite difficult to control, resulting in an increase in cardiocerebrovascular (CVD) cases (Indonesian Ministry of Health, 2021).

Increasing blood pressure has a positive correlation with increasing the risk of stroke, kidney and heart failure. Therefore, it is important to carry out regular checks to detect early increases in blood pressure so that early treatment can be given to prevent complications. Early detection of hypertension can be carried out by measuring blood pressure. The coverage of early hypertension detection measures in Indonesia according to ASIK, SIPTM data is 13.57% (population aged 15 years, 28,364,181 out of 208,982,372). The highest value coverage province is NTB (48.12%) and the lowest value coverage province is Papua (1.65%) (P2PM, 2022).

The factors that cause hypertension consist of two large groups, namely factors that cannot be changed, for example genetics, age, gender. Meanwhile, factors that can be changed include exercise, eating habits and so on. Controlling lifestyle and behavioral factors by implementing a healthy lifestyle can prevent hypertension (Saputra & Anam, 2016) . Fadhli's research found that lifestyle (sodium foods) had a significant relationship with the incidence of hypertension, p value = 0.016. Behavior or lifestyle, for example consuming foods high in salt and fatty foods, obesity, stress, lack of activity and caffeinated drinks trigger hypertension (Fadhli, 2018). Simanullang in his research found that there was a correlation between lifestyle (physical activity) and the incidence of hypertension in the elderly, p value = 0.01, there was a correlation between lifestyle (eating habits) and the incidence of hypertension, p value = 0.05 (Simanullang, 2018). Widianto's research found a relationship between eating habits and lifestyle on the incidence of hypertension. Poor eating habits, for example eating high sodium, high fat, not eating enough fruit and vegetables and drinks containing caffeine can trigger hypertension. The lifestyle of respondents with hypertension is more likely to not exercise and have a smoking habit (Widianto et al., 2019).

Research on hypertension sufferers in the Mambalan Village area found that the majority of respondents had a healthy lifestyle, 76.7%. Implementing a healthy lifestyle in cases of hypertension aims to manage and control possible risk factors for complications and minimize the severity of patients who have suffered complications. A healthy lifestyle consists of controlling body weight, avoiding smoking, avoiding drinks containing alcohol and caffeine, exercising and checking blood pressure regularly. A healthy lifestyle can increase self-confidence, independence and quality of life for hypertension patients (Fatmawati et al., 2021) . Suprayitno in his research stated that for hypertensive patients who smoke, drink alcohol and caffeine, eat high fat and lack exercise, it is important to get advice from the health team and support from the family so that they can change their unhealthy lifestyle to a better/healthier lifestyle so that they can prevent the risk of complications. hypertension (Suprayitno et al., 2020) . Zulfitri's research showed that the healthy lifestyle of hypertensive patients before intervention was still low, only 31.4%. The important thing in controlling blood pressure is through lifestyle changes/modifications, including: not drinking alcohol, not smoking, a low salt diet, exercising regularly, and avoiding stress (Zulfitri et al., 2019)

The incidence of hypertension continues to increase if treatment is not carried out from the start. A healthy lifestyle is important for treating hypertension, namely by reducing weight for obese individuals, adopting a healthy diet, doing exercise, avoiding alcoholic drinks, caffeine and cigarettes so that severe hypertension does not occur which may lead to dangerous complications (Amila et al. al., 2018) .

In accordance with this, the researcher felt interested in researching at the Wesaput Community Health Center. The aim of the research is to determine the extent of the relationship between lifestyle (fat consumption, smoking, coffee consumption

and physical activity) with the incidence of hypertension.

METHOD

The design of this research is observational analytic with a cross sectional approach to explain the causal relationship between lifestyle and the incidence of hypertension through data collection and simultaneous observation. Sampling using nonprobability sampling, simple random sampling. There were 35 respondents from the community in the Wesaput Community Health Center working area. The lifestyles studied were physical activity, fat consumption, drinking coffee and smoking. Lifestyle measurements used a questionnaire instrument, while blood pressure measurements used a sphygmomanometer / tensimeter and were further categorized into hypertension, not hypertension. Data were analyzed using the chi-square test to determine the relationship between lifestyle variables and the incidence of hypertension.

RESULTS

1. Respondent Characteristics

Respondent characteristics are gender, age, education, occupation, hypertension status.

Table 1. Characteristics of Respondents

Characteristics		N	%
Gender	Man	12	34,29
	Woman	23	65,71
Age	18-40	21	60,00
	41-60	12	34,29
	>60	2	5,71
Education	No School	16	45,71
	Elementary School	8	22,86
	Junior High School	0	0,0
	Senior High School	10	28,57
	Bachelor	1	2,86
Work	Farmer	29	82,86
	Student/Students	2	5,71
	Employed	4	11,43
Hypertension	Yes	11	31,43
	No	24	68,57

Table 1 shows the total sample of 35 respondents, male gender amounted to 12 respondents (34.29%), female gender amounted to 23 respondents (65.71%). The largest age group was 18-40 years old with 21 respondents (60%), then the 41-60 years old group with 12 respondents (34.29%), and the >60 years old group with 2 respondents (5.71%). Most of the respondents did not go to school, 16 respondents (45.71%), 8 respondents had an elementary school education (22.86%), 10 respondents had a high school education (28.57%), and 1 respondent had a bachelor's degree (2.86). %). The majority of respondents worked as farmers as many as 29 respondents (82.86%), students as many as 2 respondents (5.71%) and employees as many as 4 respondents (11.43%). There were 11 respondents in the hypertension category (31.43%) and 24 respondents in the non-hypertension category (68.57%).

2. Respondents' Lifestyle

The description of the respondent's lifestyle consists of smoking, physical activity, coffee consumption and fat consumption.

Table 2. Respondents' Lifestyle

Lifestyle		N	%
Smoke	Do not smoke	15	42.86
	Smoke	20	57.14
Physical Activity	Not enough	11	31.43
	Enough	24	68.57
Coffee Consumption	Seldom	9	25.71
	Often	26	74.29
Fat Consumption	Seldom	17	48.57
	Often	18	51.43

Table 2 shows that the majority of respondents smoke with 20 respondents (57.14%) and do not smoke with 15 respondents (42.86%). Most of them had sufficient activity as many as 24 respondents (68.57) and less activity as many as 11

respondents (31.43%). Most of the respondents frequently consumed coffee, 26 respondents (74.29%) and rarely consumed coffee, 9 respondents (25.71%). Respondents who frequently consumed fat were 18 respondents (51.43%), not much different from the number of respondents who rarely consumed fat, namely 17 people (48.57%).

3. Relationship between Lifestyle and Respondents' Hypertension Incident

The relationship between smoking lifestyle, physical activity, coffee consumption, fat consumption and the incidence of hypertension.

Table 3. Relationship between lifestyle and hypertension

Lifestyle	Hypertension				Total		*p value*
	Yes		No				
	n	%	n	%	N	%	
Smoke							
Do Not Smoke	3	27,27	12	50,00	15	42,86	0,207
Smoke	8	72,73	12	50,00	20	57,14	
Physical Activity							
Not Enough	5	45,45	6	25,00	11	31,43	0,226
Enough	6	54,55	18	75,00	24	68,57	
Coffee Consumption							
Seldom	2	18,18	7	29,17	9	25,71	0,490
Often	9	81,82	17	70,83	26	74,29	
Fat Consumption							
Seldom	2	18,18	15	62,5	17	48,57	0,015
Often	9	81,82	9	37,5	18	51,43	

Table 3. The research results showed that there was a relationship between smoking and the incidence of hypertension, namely that 8 respondents (72.73%) smoked who suffered from hypertension and 3 respondents (27.27%) who did not smoke had hypertension. The statistical test obtained *p value* = 0.207, with the conclusion that there is no relationship between smoking and hypertension. Analysis of the relationship between physical activity and the incidence of hypertension showed that the category of insufficient activity and hypertension was 5 respondents (45.45%), while the category of sufficient activity and hypertension was 6 respondents (54.55%), the statistical test resulted in *p value* = 0.226, concluded no There is a relationship between physical activity and the incidence of hypertension. Analysis of the relationship between coffee consumption/drinking and the incidence of hypertension shows that 2 respondents (18.18%) rarely drink coffee with hypertension, while 9 respondents (81.82%) often drink coffee with hypertension, while the statistical test shows *p value* = 0.490, it was concluded that there was no relationship between coffee consumption/drinking and the incidence of hypertension. Analysis of fat consumption and the incidence of hypertension shows that 9 respondents (81.82%) frequently consume fat and suffer from hypertension, while 2 respondents who rarely consume fat suffer from hypertension (18.18%). Statistical test with *p value* = 0.015, it was concluded that there was a relationship between fat consumption and the incidence of hypertension.

DISCUSSION

Smoking habit

The statistical test obtained a p value = 0.207, it was concluded that there was no relationship between smoking habits and hypertension. This is in line with Mohi's

research, namely that there is no significant relationship between smoking habits and hypertension, p value = 0.344 (Mohi et al., 2023) . Setyanda in his research also found that there was no relationship between the number of cigarettes and the incidence of hypertension (p=0.412). The research results were influenced by the individual's diet, where there was a habit of drinking alcoholic beverages and high electrolyte intake in all respondents, which caused the respondents' blood pressure to be almost the same (Setyanda et al., 2015) . This is in accordance with Erman's research which found no relationship between the number of cigarettes and the incidence of hypertension, p value = 0.193. The effects of smoking are visible ten to twenty years after use. Apart from that, cigarettes have a dose response effect, which means that the younger the age at which you start smoking, the more difficult it is for an individual to stop smoking, so that the longer the individual will have the smoking habit. The next impact is the greater risk of experiencing hypertension (Erman et al., 2021)

Meanwhile, Wijaya's research found that there was a relationship between smoking and the incidence of hypertension, p value = 0.031 (Wijaya et al., 2020) . In line with Halim's research which found that of 177 respondents who smoked cigarettes, 106 respondents had hypertension, p value = 0.000, OR = 2.049, with the conclusion that there was a significant relationship between smoking and hypertension. Individuals who smoke have twice the chance of experiencing hypertension (Halim & Sutriyawan, 2022) . In line with Sangka's research, data was obtained from 20 active smoking respondents (55.6%), 16 respondents (44.4%) had grade II hypertension and 4 respondents (11.1%) had grade I hypertension. Data analysis using the Chi-square test, continuity correction approach obtained p value = 0.009, with the conclusion that there is a relationship between smoking habits and the incidence of hypertension. Respondents who are active smokers will tend to suffer from hypertension (Sangka et al., 2021) . Diana in her research stated that high levels of nicotine in cigarettes can cause an increase in arterial blood pressure and an increase in heart rate, thus having a significant impact on increasing blood pressure (Diana & Hastono, 2023) . Apart from that, nicotine can affect blood pressure through the formation of atherosclerotic plaque, the release of the hormones norepinephrine and epinephrine and the effect of carbon monoxide on increasing erythrocytes (Rahmatika, 2021) . According to Puspita, nicotine is a substance that stimulates the body to release catecholamines, for example adrenaline, a hormone that stimulates ten to twenty heart beats every minute and increases blood pressure ten to twenty times. Therefore, reducing smoking will minimize the risk of hypertension and cardiovascular risk (Puspita & Fitriani, 2021).

Physical Activity

The statistical test of the relationship between physical activity and the incidence of hypertension resulted in a p value = 0.226, it was concluded that there was no relationship between physical activity and the incidence of hypertension. Even though there was no relationship between physical activity and the incidence of hypertension, the results of the analysis showed that the majority of respondents in the moderate activity category did not experience hypertension, 18 respondents (75.0%). In line with Buhar's research, it shows that there is no relationship between physical activity and hypertension, p value = 0.356. Daily activities such as walking >7,000 steps every day, doing teaching activities, doing housework and doing light exercise can prevent hypertension (Buhar et al., 2020) . Garwahusada's research also found that physical activity had no significant relationship with hypertension, p value = 0.122. Physical activity causes an increase in catecholamines, increased insulin sensitivity which can reduce water sodium levels so that blood pressure can decrease (Garwahusada & Wirjatmadi, 2020) . Wirakhmi's research also found that physical activity was not related to hypertension in the elderly in PKM Kutasari, value p = 0.142. Walking does not help reduce blood pressure because only the lower body area moves. In order for blood

pressure to decrease, not only does the lower area of the body move, but the whole body must move so that blood circulation will be smooth and blood pressure will decrease/normalize (Wirakhmi, 2023).

In contrast to Halim's research, it was found that there was a relationship between physical activity and hypertension, p value = 0.000, OR = 5.723, people with less physical activity had a 5.7 times chance of experiencing hypertension (Halim & Sutriyawan, 2022) . In line with Lestari's research which found a significant relationship between physical activity and hypertension in Kab. Temanggung, p value = 0.001, adults who do light physical activity have a risk of increasing blood pressure compared to heavy physical activity (Lestari et al., 2020) . The results of Cristanto's literature review research found the significance of physical activity in reducing systolic and diastolic blood pressure. Heavy physical activity can prevent hypertension compared to light or moderate activity (Cristanto et al., 2021) .

Individuals who rarely do physical activity tend to have a faster heart rate and cause the myocardium to work harder with each beat. The harder the myocardium pumps blood, the greater the pressure on the arteries so that peripheral vascular resistance increases, resulting in an increase in blood pressure. Regular exercise can strengthen the myocardium thereby reducing systolic and diastolic pressure (Lestari et al., 2020) . Physical activity such as exercise can stimulate the growth of capillaries, thereby reducing blood vessel obstruction, which has an impact on controlling blood pressure. The recommended physical activity is moderate to high intensity exercise for 30 minutes over several days, for a total of 150 minutes a week. If clinically appropriate and there are no contraindications, then physical activity has a significant contribution to disease management (Lainsamputty, 2020) . Nurmandhani in his research stated that the majority of people suffering from severe hypertension have an unbalanced lifestyle/behavior. People do physical activities, but have the habit of drinking caffeine, drinking alcohol, eating unhealthy, smoking and suffering from stress (Nurmandhani, 2020).

Coffee Consumption

The statistical test resulted in a p value = 0.490, it was concluded that there was no significant relationship between coffee consumption and the incidence of hypertension. In line with Kiki's research which found that drinking coffee was not related to the incidence of hypertension (p=0.606) (Kiki et al., 2021) . Puspita's article review research found that 11 articles had no relationship between drinking coffee and the incidence of hypertension in productive men aged 18-65 years, with the conclusion that most of the articles stated that there was no significant relationship between drinking coffee and hypertension in men of productive age (Puspita & Fitriani , 2021) . In line with Kristanto's research which obtained the results of the Pearson Correlation statistical test, there was no relationship between the habit of drinking coffee and the incidence of hypertension, p value = 0.058 because the daily amount of coffee consumed by respondents was around 1-3 cups per day (93.4%), which is classified as safe because caffeine intake is safe. in healthy adult individuals, namely 200-300 mg per day, around 2-4 glasses (Kristanto & Diyono, 2021) . In line with this research, Ruus in his research also obtained results that there was no significant relationship between drinking coffee and the incidence of hypertension, p value = 0.942,where the majority of respondents drank coffee every day with a frequency of ≤ 3 cups of coffee. According to Ruus, consuming a cup of coffee every day results in an increase in systolic blood pressure of 0.19mmHg, diastolic blood pressure of 0.27mmHg, however, the increase in systolic and diastolic blood pressure is also influenced by factors such as age, body mass index, physical activity, alcohol consumption and smoking. If adjustments are made to the factors above, it turns out that consuming coffee has no relationship with increasing blood pressure (Ruus et al., 2018) . Warni's research states that respondents who do not suffer from hypertension are due to the body's tolerance of the response to the

effects of caffeine consumed, as well as a healthy lifestyle, for example exercise and heavy physical activity which affects the condition of the blood vessels (Warni et al., 2020) .

In contrast to Sari's research which found that there was a relationship between drinking coffee and blood pressure in older people with a history of hypertension, p value = 0.000 (Sari & Zulfitri, 2020). Likewise with Melizza's research with the results of the Correlation coefficient (r) showing a significant value of 0.010, with a positive result of 0.424 with the conclusion that there is a strong relationship between drinking coffee and blood pressure, the more coffee the more it increases blood pressure (Melizza et al., 2021) . In line with Warni's research, the results showed that there was a relationship between the habit of drinking coffee and hypertension, p value = 0.000, OR = 5.917. Respondents who consumed more than 2 cups of coffee per day tended to experience hypertension because drinking > 2 cups of coffee per day resulted in vasoconstriction and increased production of the hormone adrenaline due to the effects of caffeine which had an impact on increasing blood pressure. (Warni et al., 2020) . Caffeine consumed continuously can cause addiction/dependence. Caffeine also causes adrenaline to be released, resulting in an increase in heart rate and blood pressure (Senior et al., 2021).

Fat Consumption

The statistical test resulted in a p value = 0.015, it was concluded that there was a relationship between fat consumption and the incidence of hypertension. In line with Wijaya's research, there is a relationship between fat consumption and the incidence of hypertension, p value = 0.000 (Wijaya et al., 2020) . This is also in line with Yuriah's research, namely that there is a relationship between fat intake and blood pressure in hypertensive patients at PKM Gondokusuman I Jogyakarta, p value = 0.01 (Yuriah et al., 2019) . Kiki's research also found that dietary patterns of salt and fat intake were related with hypertension among fishermen in Medan, OR value = 15.068, p value = 0.000. Interview case group a total of 47 respondents (88.7) namely often high food consumption salt, for example salted fish, salted squid, foods containing fat, for example curry chicken, curry fish, fried fish, various fried foods (Kiki et al., 2021) . In line with research on people in Malang Regency which found a relationship between fat consumption and a high sodium diet with the incidence of hypertension, the significance value is p < 0.05. Man Whitney statistical analysis found significant results where there were differences in eating fatty foods in the hypertensive group and the normotensive group in the community in Malang Regency. The majority of respondents who "often" consume a high-fat diet are in the hypertension group. In the normotensive group, the majority of respondents "not often" consume a high-fat diet. People with low fat consumption who consume a balance of vegetables and fruit tend to have blood pressure more easily controlled (Kirom et al., 2020). Furqani's research also found that there was a relationship between consumption of fried foods/fat and the incidence of hypertension, p=0.001. The results of the interview with respondents said that fried food is a food that is liked by society. Furqani stated that consumption of fried foods contains Low Density Lipoprotein (LLD) cholesterol. High cholesterol causes plaque to form on the walls of the arteries, which then reduces the diameter of the blood vessels and lacks elasticity, which can result in high blood pressure (Furqani et al., 2020). Zainuddin's research is also in line with finding that fat and sodium intake is significantly related to the incidence of hypertension in the elderly in Poasia Kendari. Individuals who consume high amounts of fat, especially saturated fat, cause low density lipoprotein (LDL) cholesterol in the blood to increase, which over time forms plaque in the blood vessels. Cholesterol deposits that continue to increase will accumulate, causing blockages in blood vessels. As a result, the heart's work becomes harder, indirectly increasing blood pressure (Zainuddin & Yunawati, 2019).

In contrast to Lail & Yudistira's research, the conclusion of the Spearman

rank test was that there was no significant relationship between consumption of fatty foods and the incidence of hypertension, p value = 0.881 (Lail & Yudistira, 2021) . Wati in her research also found that there was no significant relationship between the intake of fat, sodium, protein and carbohydrates and the blood pressure of hypertensive sufferers. There is a trend in systolic pressure, where increasing fat intake will cause an increase in systolic pressure, but this trend is not found in diastolic pressure (Wati et al., 2023).

CONCLUSIONS

The lifestyle that had a significant relationship with the incidence of hypertension was fat consumption, while the lifestyle of physical activity, coffee consumption and smoking was not found to be associated with the incidence of hypertension. It is hoped that the community at the Wesaput Community Health Center will be able to check their blood pressure regularly and adopt a healthy lifestyle to avoid hypertension complications and it is recommended that health workers provide health education/counseling regarding healthy lifestyles as an effort to prevent cases of hypertension in the community.

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