

Association Between Lifestyle with Hypertension in Communities in Healthy at Working Area of Merdeka Health Center, Palembang City

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Abstract— The case of hypertension is a problem that is often not realized by the public, this disease usually begins to be detected when complications begin with other diseases. Many factors affect the emergence of this case, one of them is an unhealthy lifestyle. Unhealthy lifestyle includes smoking habit, coffee consumption and consumption of salty foods. Poor control of this disease can have serious consequences for each individual, therefore, this study aims to analyze the relationship between lifestyle and the incidence of hypertension in the working area of the independent health center in Palembang. This research method was carried out by cross sectional method, sample selection with purposive sampling with a total sample of 82 respondents by collecting data from questionnaires and then univariate and bivariate analysis. Based on the results of the study showed that there was a significant relationship between smoking habits and the incidence of hypertension ($p = 0.037$) and there was no significant relationship between coffee consumption and consumption of salty foods. Smoking has an important role in the incidence of hypertension so that reducing cigarette consumption can help reduce the incidence of hypertension so that complications do not occur with other diseases.

Keywords: *hypertension, lifestyle, smoking habit*

I. INTRODUCTION

Hypertension is a big challenge in Indonesia with conditions often found in primary health care. Based on 2013 riskesdas data, the prevalence of high hypertension events is 25.8% with controls that have not been adequate to date (1). In most cases, hypertension is detected during physical examination due to a specific disease reason and the patient unconsciously experiences complications in vital organs such as the heart, brain or kidneys (2).

Hypertension is a disease that is often found in the community with the number of sufferers that continues to

increase every year. Whether accompanied by symptoms or not, the threat to health caused by hypertension continues (3). Risk factors for hypertension include: age, sex, family history, genetics (risk factors that cannot be changed / controlled), smoking habits, salt consumption, consumption habits of alcoholic drinks, obesity, stress, (risk factors that can be changed) (4).

Management for patients with pre hypertension begins with non-pharmacological therapy, namely lifestyle modification (lifestyle) which is very closely related to nutrition. If the target blood pressure is not achieved, pharmacologic therapy will be applied. Thus every nutritionist / dietitian who will provide education and counseling to pre hypertensive and hypertensive patients needs to understand new recommendations regarding comprehensive hypertension management so that the goals of dietary therapy can be achieved (5).

II. METHOD

This research method uses cross sectional design. Data were analyzed univariately and bivariately. The number of respondents was 82 people in the area around the merdeka health center in Palembang. The dependent variable in this study was the incidence of hypertension and the independent variable was the smoking habit of consuming salty food and coffee consumption.

III. RESULTS

TABLE I
FREQUENCY DISTRIBUTION OF RESPONDENTS BY HYPERTENSION

Hypertension	frequency	%
Yes	12	14,6
No	70	85,4
Total	82	100

Based on the analysis it is known that there are 14.6% of respondents experiencing hypertension, this percentage shows less than those without hypertension.

TABLE 2
CORRELATION OF SMOKING HABIT WITH HYPERTENSION

Smoking habit	CORRELATION OF SMOKING HABIT WITH HYPERTENSION						P valu e	PR 95% CI
	Hypertension				Total			
	Yes		No					
	N	%	n	%	N	%	0.037	2.606
Yes	7	46,7	8	53.3	15	100		(1.237
No	12	17,9	55	82.1	67	100		- 5,490)

Based on the results of the analysis it was found that respondents who smoke and have hypertension status were 7 respondents or 46.7% then respondents who did not smoke and had hypertension status were 12 respondents or 17.9%. Statistical test results show that the p-value (0.037) is smaller than alpha (0.05) meaning that there is a relationship between smoking and hypertension status. While the PR value obtained is 2.606 (95% CI = 1.237 - 5.490) it can be interpreted that respondents who smoke have a risk of 2.606 times for hypertension compared to respondents who do not smoke. In the population it is believed that 95% of smoking is a risk factor for hypertension ranging from 1,237 to 5,490 compared to not smoking.

TABLE 3
CORRELATION OF COFFEE CONSUMPTION WITH HYPERTENSION

Coffee consumption	Hypertension				Total		P value	PR 95% CI
	Yes		No					
	N	%	n	%	N	%		
Yes	4	33.3	8	66,7	12	100	0.459	1.556 (0,622- 3.893)
No	15	21,4	55	78,6	70	100		

Based on the results of the analysis it was found that respondents who consumed coffee and had hypertension status were 4 respondents or 33.3% then respondents who did not consume coffee and had hypertension status were 15 respondents or 21.45%. Statistical test results show that the p-value (0.459) is greater than alpha (0.05) meaning that there is no relationship between coffee consumption and hypertension status.

TABLE 4.
CORRELATION OF CONSUMPTION OF SALTY FOODS WITH HYPERTENSION

Consumption of salty foods	Hypertension				Total		P value	PR 95% CI
	Yes		No					
	N	%	n	%	N	%		
≥1 time per day	1	14.3	6	85.7	7	100	0.446	2,364 (0,259-21,593)
1-6 times per week	5	17.2	24	82.8	29	100	0.281	1,891 (0,594-14,6)
< 33 times per month	13	28.3	33	71,7	46	100		Reference

Based on the results of the analysis it was found that respondents who consumed salty foods ≥1 time per day and had hypertension status of 1 respondent or 14.3%, respondents who consumed salty foods 1-6 times per week and hypertension status of 5 respondents or equal to 17.2%, then respondents who consumed salty foods ≤3 times per month and had hypertension status were 13 respondents or 28.3%. Statistical test results showed that the first p-value (0.446) was greater than alpha (0.05) meaning that there was no relationship between consumption of salty foods ≥1 time per day and hypertension status. Likewise, the second p-value (0.281) is greater than alpha (0.05) meaning that there is no relationship between consumption of salty food 1-6 times per week with hypertension status.

IV. DISCUSSION

Lifestyle is an important risk factor for hypertension in a person, including young adults. Increased hypertension is influenced by an unhealthy lifestyle. Things including unhealthy lifestyles include smoking, lack of exercise, eating less nutritious foods, and stress (6).

Changing lifestyles / nonpharmacological interventions in elderly hypertensive patients, as in all patients, is very beneficial for lowering blood pressure. Some lifestyle patterns that need to be improved are to lose weight if you are overweight, reduce drinking alcohol, increase aerobic physical activity, reduce salt intake, maintain adequate potassium intake, maintain adequate calcium and magnesium intake, stop smoking, reduce intake of saturated fat and cholesterol. As in younger people, these nonpharmacological interventions must be started before using drugs (7).

Smoking can be a risk factor for several diseases, one of which is hypertension, based on the results of research it is known that there is a relationship between smoking habits and the incidence of hypertension. This is in line with the research of Riyan (2013) which states that there is a relationship between smoking behavior and relapse of hypertensive patients. The nicotine substances present in cigarettes can increase epinephrine release which can cause narrowing of the arterial wall (8). Another substance in cigarettes is Carbon monoxide (CO) which causes the heart to work harder to provide enough oxygen to the body's cells. Cigarettes play a role in forming atherosclerosis by increasing the clotting of blood.

Tar and cigarette smoke can also stimulate the airway, and build up in it causing heart palpitations, increasing blood pressure and cholesterol levels in the blood. Diseases that are related to smoking are diseases that are directly caused by smoking or are exacerbated because they smoke. Disease that can cause death for smokers is heart disease (10). Heavy heart work can certainly

increase blood pressure, various studies prove smoking risks to the heart and blood vessels (11).

Coffee consumption factors in this study did not have a significant relationship to hypertension with a P-Value of 0.459. Coffee contains potassium and polyphenols which can reduce blood pressure, in addition to having content that can increase blood pressure. Instant coffee is coffee consumed by respondents. Polyphenols (antioxidants) contained in instant coffee which is high in water soluble fiber. Polyphenols inhibit atherogenesis and improve vascular function. Besides polyphenols, a high enough content in coffee is known to be potassium. Potassium inhibits renin release which functions to reduce systolic and diastolic blood pressure resulting in an increase in water and sodium excretion. The release of renin causes a decrease in cardiac output, peripheral pressure and plasma volume, so that blood pressure drops (12).

Polyphenols and potassium can balance the effects of caffeine. The individual effort in reducing coffee drinking habits is to exercise regularly and replace coffee drinking habits with other drinks. If the habit of drinking coffee continues to do not rule out the possibility it will trigger hypertension or an increase in blood pressure because one of the substances from coffee can trigger an increase in blood pressure in the body that is caffeine. Caffeine can increase blood pressure and palpitations (13).

In addition, the consumption factor of salty foods is also likely to cause hypertension. Salty foods are foods that contain sodium (salt) which are consumed by many people as a flavor enhancer in food. The results of this study are not in accordance with the statement of the US (2010) which says if the intake of potassium is sufficient it will make positive changes in blood pressure in people with hypertension. But if consuming less food sources containing potassium causes the amount of sodium to accumulate and will increase the risk of hypertension (10). There are 2 (two) kinds of preserved food, namely: salted fish, and salted egg. Preserved food is not good for people with hypertension. This is due to the high salt content used to preserve these foods. There are 1 (one) kinds of milk and its preparations, namely: butter. Milk and processing are very good for bones and teeth, because they contain high calcium. For the consumption of butter is not recommended for people with hypertension, this is due to the fat content of 81.6 grams and cholesterol of 250 mg. High levels of fat and cholesterol can increase the risk of blocked arteries (14).

V. CONCLUSION

Based on the results of the study note that there are 14.6% of respondents who have hypertension and based on the results of the analysis there is a relationship between smoking habit variables with the incidence of hypertension with a P-value of 0.037

VI. ACKNOWLEDGMENT

The authors thank the Faculty of Public Health, Sriwijaya University in supporting the financial aid for researcher's lecturers as well as the gratitude to the Dean of the Faculty of Public Health of the University of Sriwijaya Mr. Iwan Stia Budi, S.KM., M.Kes on permissions granted in conducting the research.

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