ISSN:3026-0442

Proceedings of the 1st International Conference on Education, Science Technology And Health (ICONESTH 2023 Universitas Bina Bangsa Getsempena, Des 12-14, 2023, Banda Aceh, Indonesia)

Social Determinants of Hypertension in South Nias

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ABSTRACT

Hypertension is very rarely reported because the disease is asymptomatic and people are less aware of their health. Data on risk factors needs to be obtained as soon as possible so that prevention can be carried out as early as possible to reduce the risk of death and disability. This study aims to determine the social of hypertension in South Nias. The research was conducted with a matched case-control study. The sample amounted to 100 people, where the case numbered 50 people and the control numbered 50 people. This research was conducted in the South Nias Regency. Cases were of essential hypertension who were diagnosed by doctors at the puskesmas and controls were neighbors of cases. Analyze with Mc Nemar X2 test, and calculate OR. The results showed that most subjects aged 41-62 years old, had high school and high school education and had jobs as farmers. The bivariate analysis found risk factors for hypertension are stress (OR = 2.01 CI 95% 1,234-3,285), excessive salt consumption (OR = 1.98 CI 95% 1,269-3,119), lack of physical activity (OR = 1, 87 95% CI 1,203-2,924), and obesity (OR = 1.81 CI 95% 1,094-3,006). The conclusion of this study is the risk factors for the occurrence of essential hypertension are stress, excessive salt consumption, lack of physical activity, and obesity. Efforts to involve all stakeholders are needed to empower POSBINDU PTM, and the participation of community leaders in helping health workers promote health both in the village environment and in the Puskesmas.

Keywords: *Social, Determinant, Hypertension.*

INTRODUCTION

Non-communicable diseases (NCDs) have emerged as a major global health problem in low- and middle-income countries. The widespread increase in PTM is evident in Southeast Asia where, with limited resources, it has been widely used to cope with the rise of the epidemic, as in the case of Indonesia. Strong evidence is needed to measure the increasing burden of PMS at the national and local levels and to assist national discussions on the social determinants of health and national inequalities. (Schröders, et al, 2017).

According to the WHO (2013), PTM is expected to continue to rise worldwide, and occur in middle- and low-income countries. Approximately 70% of the global population is estimated to die from non-communicable diseases such as cancer, heart disease, stroke, hypertension, and diabetes. By 2030, it is predicted that there will be 52 million deaths per year from PTM. This marks an increase of 9 million from 38 million at present.

The prevalence of high blood pressure in women (32.9%) is higher than in males (28.7%). Urban prevalence is slightly higher (31.7%) compared to rural (30.2%). According to the Health Profile data of Southern Nias District, the prevalence of hypertension increased by 4.7 percent from 2017 to 10.05 percent in 2018 occupying the fifth position in the northern province of Sumatra, and in 2018 the prevalence of diabetes in 2017 by 8.9 percent to 13.5 percent by 2018 and stroke disease by 2017 by 5.6 percent, to 7.5 Percent in 2018.

According to WHO (2014), common risk factors for hypertension are unhealthy diet patterns, lack of physical inactivity, smoking and alcohol consumption, air pollution, age, and heredity. Intermediate risk factors include high blood sugar, hypertension, over-normal blood fat levels, obesity, and overweight. Some of the underlying determinants are globalization, urbanization, the elderly population, and social determinants.

Research by Melva Vania in Nias District found that there are risk factors for hypercholesterolemia and consumption habits of meat and foods cooked with coconut salts. (Harefa, 2017). The role of social culture in public health is in shaping, regulating, and influencing individual actions or activities of a social group to meet various health needs so that social culture can be a determinant of the quality of public health. When a community is too attached to local socio-culture, it can also affect health behavior in the community. (Jahidin et al. 2012).

Based on the above data, it takes a very serious effort to identify the social determinants that influence the occurrence of hypertension to prevent it. The social-cultural role of health in the community can help to meet a variety of health needs so that social culture can be a determinant of the quality of public health.

METHODS

The research we're doing is quantitative research. To obtain data on the prevalence of essential hypertension, use the case-control scheme, while to see the determination, use a matched case-control study scheme. The case groups and controls come from the same population, that is, those who are inheritors. After that, the research was carried out by digging for accurate information on the sample about previous exposure to the risk factors studied. The study was conducted in the regency of Southern Nias. In this study, the respondents were 100 persons with hypertension, where the hypertensive respondents were 50 persons and the non-hypertension control was 50 people. The ratio in this study is 1:1.

The research was carried out in the Regency of Nias Selatan. Hypertension cases diagnosed by doctors in puskesmas and controls are neighboring cases. Analysis with Mc Nemar X2 test, and OR count.

RESULTS AND DISCUSSION

1. Univariate analysis

In this study, his univariate analysis looks at the characteristics of respondents, among others age, level of education, and employment

Table 1. Characteristics of Respondents

No.	*Characteristics of Respondents*	*Number*	*Percentage (%)*
1.	Umur		
	18 – 40 years	35	35.0
	41 – 62 years	65	65.0
	Total	100	100.0
2.	Level of Education		
	No School	11	11.0
	Low Education	15	15.0
	Secondary Education	40	40.0
	Higher Education	34	34.0
	Total	100	100.0
3.	Jobs		
	Household Mothers	29	29.0
	Private	11	11.0
	ASN	5	5.0
	Farmers	55	55.0
	Total	100	100.0

Based on Table 1, it can be seen that the majority of respondents were in the age group 41 – 62 as 65 persons (6.5%), based on the level of education was in the middle education group as 40 persons (40.0%), and higher education as 34 persons (34.0%).

2. Bivariate Analysis

In this study, his bivariate analysis was to look at respondent habits including stress, excess salt consumption, lack of activity, and obesity.

Table 2. Social determination of occurrences of hypertension

No	Stress	Hypertension		Total	P value	OR
		Yes	Not			
1.	Risk	47	16	63	0.001	2.01
2.	No Risk	27	10	37		
No	**Salt Consumption**	**Hypertension**		**Total**	**P value**	**OR**
		Yes	**Yes**			
1.	Risk	43	20	63	0.028	1.98
2.	No Risk	16	21	37		
No	**Physical Activity**	**Hypertension**		**Total**	**P value**	**OR**
		Yes	**Yes**			
1.	Risk	43	20	63	0.034	1.87
2.	No Risk	17	20	37		
No	**Obesity**	**Hypertension**		**Total**	**P value**	**OR**
		Yes	**Yes**			
1.	Yes	40	23	63	0.040	1.81
2.	Not	25	12	37		

From Table 2, it can be found that all variables have a significant relationship to the occurrence of hypertension. The risk factors are stress (OR = 2.01 CI 95% 1,234-3,285), excess salt consumption (or = 1.98 CI 95% 1.269-3,119), lack of physical activity (OR=1,87,95% CI 1,203-2,924), and obesity (or=1.81 CI 95% 1,094-3,006).

Hypertension is a very complex or multifactorial disease, the cause of which has not yet been identified. The complex interaction between genetic and environmental factors has a big contribution. Some of the environmental factors that cause essential hypertension are obesity, poor physical activity, excessive salt consumption, and psychosocial stress.

The results of this study, supported by several other studies that found a link between obesity and hypertension incidence, found that adults with IMT ≥25 were 2.96 times more likely to suffer from hypertensive disease than those with an IMT < 25. Other studies on risk factors for high blood pressure that found stress was 2.1 times higher.

Stress can stimulate the nervous system to produce vasoconstrictive hormones that raise blood pressure (Chaweewon et al, 2011). Increased physical activity has a beneficial effect on lowering blood pressure. Exercise like aerobic exercise or a 30-45-minute quick walk 3-4 times a week can boost fitness and improve metabolism in the body so it can control blood pressure.

Salt causes fluid to build up in the body by pulling the fluid outside the cells so that it is not excreted, thereby increasing the volume and blood pressure. Restricting daily sodium intake between 70-150 mmol/day can reduce blood pressure by 6/3 mmHg, similar to the 8/5 mm Hg decrease achieved through placebo-controlled monotherapy. A clear link between the influence of obesity and hypertension has been proven. Obesity causes the activation of the sympathetic nervous system and various hormones that can affect blood

pressure. It almost contributes to an increase in blood pressure, but the sodium content of the diet causes further contributions (Morgan, 2010).

CONCLUSION

This study concluded that the majority of respondents were aged 30-40 years old, had secondary and secondary education, and had a job as a farmer. Bivariate analysis found that the essential risk factors for hypertension in the bloodstream are stress (OR = 2.01 CI 95% 1.234-3.285), excess salt consumption (OR= 1.98 IC 95% 1.269-3.119), lack of physical activity (or = 1.87 95% CI 1.203-2.924), and obesity (or= 1.81 CI 95% 1.094-3.006).

Efforts are needed to involve all stakeholders necessary to empower PTM POSBINDU, the participation of public figures in helping health workers improve health both in the village neighborhood and in Puskesmas.

ACKNOWLEDGEMENT

The author thanked all the parties who have participated in this study.

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