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Study of the Prevalence of Hypertension in Women of Reproductive Age (15-49 Years) in the Working Area of the Sungai Tering Community Health Center, East Tanjung Jabung Regency, 2022

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A B S T R A C T

Hypertension is the most common chronic disease and a major risk factor for disability and premature death worldwide. Hypertension in women of childbearing age can accelerate the emergence of complications of cardiovascular disease. The purpose of this study was to determine the prevalence of the risk of hypertension in women of childbearing age (15-49 years) in the Working Area of the Sungai Tering Public Health Center, East Tanjung Jabung Regency in 2022. The type of research used was descriptive. The research design was cross sectional, 120 samples were analyzed using a descriptive narrative. Obtained the proportion of hypertension of 43.35%. Respondents who were aged ≥ 35 years (68.3%), respondents did not have a family history (55.8%), respondents were not obese (65%), respondents did the most strenuous physical activity (72.5%), respondents consumed a lot of seafood <100-400 grams/week (66.7%), and respondents used more hormonal contraception (89.2%).

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INTRODUCTION

Hypertension is the most common chronic disease and a major risk factor for disability and premature death worldwide. The World Health Organization (WHO) estimates that the prevalence of hypertension globally is estimated at 22% of the total world population. It affects nearly 1 billion adults, accounts for about 9% of global disability-adjusted life years and is associated with more than 9 million deaths annually.

Nationally, it was found that hypertension affects up to 42.1 million people and from that number Riskesdas data revealed that only 30% of these cases were detected or diagnosed. The other 70% have not been detected in health care facilities. This of course will cause delays in medical services that sufferers get so that it can cause complications, disability, and increase premature death rates in the community. (Ministry of Health Republic of Indonesia, 2016)

The high prevalence of female sex has a higher risk of experiencing hypertension. In Indonesia, the prevalence of hypertension in childbearing age (15-49 years) is around 28.2% of the national prevalence. Hypertension in women of childbearing age can accelerate the emergence of complications of cardiovascular disease (such as stroke, heart attack, heart failure and chronic kidney damage) and can accelerate the decline in a person's cognitive function. The impact of hypertension on women of childbearing age is also related to pregnancy problems. Women of childbearing age who experience chronic hypertension before their pregnancy are at risk of causing pre-eclampsia-eclampsia (PE-E) and bleeding. (Situmorang, 2018)

Based on Riskesdas data for 2018, the prevalence of hypertension in Indonesia was 34.11%. The prevalence of hypertension in Indonesia tends to be high in women. According to the 2018 Riskesdas data, the prevalence of hypertension in women (36.85%) and in men (31.34%). One of the provinces that has a high prevalence of hypertension in women is Jambi Province, namely in women (32.58%). East Tanjung Jabung Regency also has a higher prevalence of hypertension in the female group (41.02%) and in men (21.69%). (Ministry of Health Republic of Indonesia, 2018) Prevalence of hypertension in the Working Area of the Sungai Tering Health Center in women in in 2021 that is (24.29%) and for men it is (12.10).

This study aims to determine the prevalence of the risk of hypertension in women of childbearing age (15-49 years) which includes age, family history, obesity, physical activity, consumption of seafood, and hormonal contraception in the Working Area of the Sungai Tering Public Health Center, East Tanjung Jabung Regency. 2022. Based on the description of the background above, the researcher is interested in conducting a study entitled "Study of the Prevalence of Hypertension in Women of Reproductive Age (15-49 years) in the Working Area of the Sungai Tering Health Center in East Tanjung Jabung Regency in 2022".

LITERATURE REVIEW

Definition of Hypertension

Hypertension is a condition of increasing blood pressure above normal. This is indicated by systolic and diastolic readings when checking blood pressure with a gauge such as a mercury cuff (sphygmomanometer) or other digital blood pressure gauge. According to the 2018 Riskesdas, if a person's measurement results meet the JNC VII criteria and their systolic or diastolic pressure is 140 mmHg or 90 mmHg, they are considered to have hypertension (Ministry of Health RI, 2018). A person is classified as hypertension if he has measured his blood pressure on at least three occasions and is diagnosed as abnormal. High blood pressure in hypertensive patients can increase morbidity and mortality (Mardalena et al., 2020).

Hypertension Classification

Classification of hypertension based on the severity of the disease, as shown in Table 1. Below:

Table 1. Classification of Hypertension According to JNC 7

Category	TDS (mmHg)		TDD (mmHg)
Normal	< 120	And	< 80
Pre-hypertension	120 – 139	Or	80 – 89
Grade 1 hypertension	140 – 159	Or	90 – 99
Grade 2 hypertension	> 160	Or	> 100
Isolated systolic hypertension	> 140	And	> 90

Source: Joint National Committee on Prevention Detection, Evaluation, and Treatment or High Pressure VII/JNC – VII 2004

Hypertension Risk Factors

The risk factors for hypertension can be divided into two, namely modifiable and non-modifiable factors. Factors that cannot be modified are age, gender, and family history. While the modifiable factors are obesity, smoking, lack of physical activity, high fat diet, excess salt consumption, dyslipidemia, excessive alcohol consumption, psychosocial and stress.

METHODOLOGY

The type of research used is descriptive. The research design used in this study was cross sectional. The population in this study were all women of childbearing age in the Working Area of the Sungai Tering Health Center with a sample of 120 women of childbearing age in the working area of the Sungai Tering Health Center who met the inclusion and exclusion criteria. The method of sampling technique used is stratified random sampling. In this study, the sampling was distinguished based on the location of the sample consisting of 44 respondents in Sungai Tering Village, 24 respondents in Pemusiran Village, 25 respondents in Teluk Kijing Village, and 27 respondents in Sungai Raya Village.

RESEARCH RESULT

In this study, it was found that the percentage distribution of respondents based on research variables is in table 2 below:

Table 2. Distribution of Respondents Based on Research Variables in Sungai Tering Community Health Center Work Area

	Variable	Amount (n)	Percentage (%)
1	**Hypertension**		
	Yes	52	43,3
	No	68	56,7
2	**Age**		
	≥ 35 Years	82	68,3
	< 35 years	38	31,7
3	**Family History**		
	There is	53	44,2
	There isn't any	67	55,8
4	**Obesity**		
	Yes	42	35
	No	78	65
5	**Physical Activity**		
	Currently	33	27,5
	Heavy	87	72,5
6	**Consumption of Seafood**		
	Many (>400 g/week)	40	33,3
	Less-Moderate(<100-400 g/week)	80	66,7
7	**Hormonal Contraception**		
	Yes	107	89,2
	No	13	10,8
	Types of Contraception		
	Pill	39	32,5
	Inject	68	56,7
	Implants / implants	1	0,8
	Total	120	100

Source: Processed primary data, 2023

DISCUSSION

Based on the results of data analysis, it shows that there are two categories in the population, namely hypertension and not hypertension which can be observed in Figure 1 below:

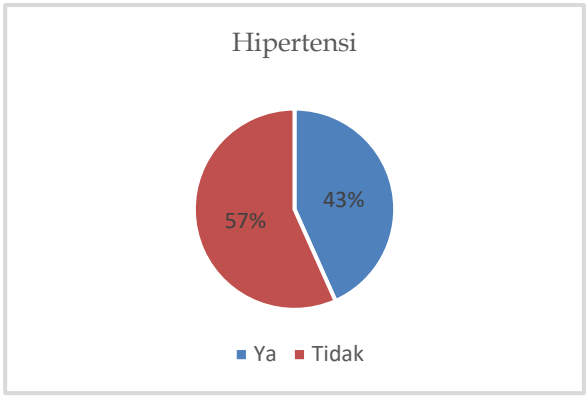

Figure 1. Percentage of Hypertension in Women of Reproductive Age in the Working Area of the Sungai Tering Health Center

Based on the results of data analysis, it showed that the proportion of hypertension in respondents in the Sungai Tering Health Center Work Area was 43.3%. This figure is higher when compared to the prevalence of hypertension in women in Jambi Province based on the 2018 Riskesdas, which is 32.58%. The proportion of hypertension found by researchers is also higher when compared to the prevalence of hypertension in East Tanjung Jabung Regency in 2021 in the female group based on the health profile of 41.02%.

In this study, the proportion of cases of hypertension was higher when compared to the prevalence in the district. This relates to the characteristics of the respondents. In this study it was found that most of the respondents were ≥35 years old (68.3%). The number of cases of hypertension in the Sungai Tering Health Center work area, the researchers found, was related to knowledge. In this study, it was found that most of the respondents were aged ≥35 years (68.3%).

Based on the results of data analysis, risk factors for hypertension were also found, namely age, family history, obesity, physical activity, consumption of seafood and hormonal contraception which can be observed in Figure 2 below:

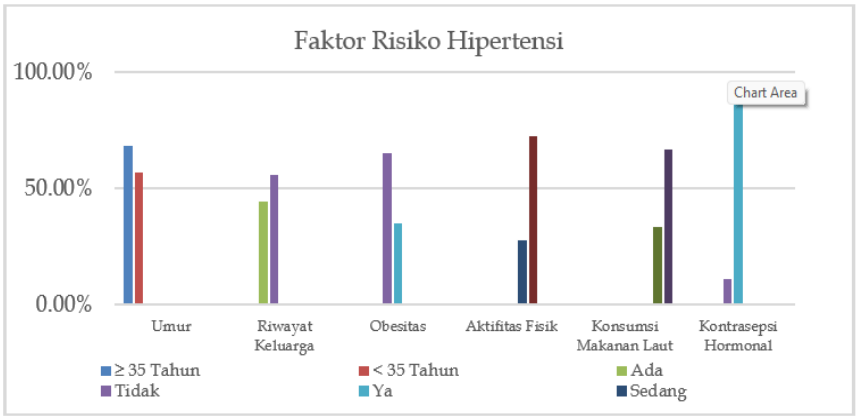

Figure 2. Bar chart of the risk factors for hypertension in women of childbearing age in the Sungai Tering Health Center Work Area

In addition, the frequency distribution for the age variable is that most of the respondents are aged ≥ 35 years (68.3%). In this study, the proportion of cases

of hypertension was higher when compared to the prevalence in the district. This relates to the characteristics of the respondents. In this study it was found that most of the respondents were ≥35 years old (68.3%). The number of cases of hypertension in the Sungai Tering Health Center work area, the researchers found, was related to knowledge. In this study, it was found that most of the respondents were aged ≥35 years (68.3%).

Age is a risk factor for hypertension that cannot be changed. At an advanced age, inflammation will be difficult to overcome (Ramona et al., n.d.). As a person ages, a person's blood pressure will also increase, this can be caused by several factors such as natural changes in a person's heart and blood vessels, these changes occur naturally as an aging process. Increasing the occurrence of hypertension is due to natural changes in the body that affect reduced elasticity of blood vessels and decreased endurance, increasing age due to the aging process which makes a person susceptible to disease (Maulidina et al., 2019). The aging process is associated with changes in the vascular, cardiac and autonomic systems. (Yunus et al., 2021)

In the family history variable, it was found that the majority of respondents did not have a family history (55.8%). Hypertension tends to be a hereditary disease, if both of our parents have hypertension then there is a 60% chance that we will get the disease (Maulidina et al., 2019). Genetic factors play a role in the incidence of hypertension, giving rise to two forms of hypertension, namely hypertension that is inherited or called monogenic hypertension and hypertension that is influenced by many genes (polygenic hypertension). (Angesti et al., 2018)

In the obesity variable, most of the respondents were not obese (65%). Obesity can lead to hypertension from various mechanisms, namely directly or indirectly. Obesity can directly result in increased cardiac output. This is because the greater the body mass, the greater the amount of circulating blood and this causes cardiac output to increase. Meanwhile, indirectly, obesity occurs through stimulation of the activity of the sympathetic nervous system and the Renin Angiotensin Aldosterone System (RAAS) by mediators such as cytokines, hormones and adipokines. (Tiara, 2020).

In the physical activity variable, the respondents mostly did strenuous physical activity (72.5%). Insufficient physical activity is one of the main risk factors for global death and continues to increase in many countries, adding to the burden of non-communicable diseases such as hypertension and affecting general health worldwide (Dwi Anggraini et al., 2018). Based on research conducted by Zhou et al (2021) a prospective study in rural China for six years reported physical activity at low, moderate, and high activity, compared to no physical activity (Zou et al., 2021). In theory, physical activity greatly affects the stability of blood pressure. In people who are not actively doing activities tend to have a higher heart rate frequency. This causes the heart muscle to work harder with each contraction (Harahap et al., 2018).

In the pattern of seafood consumption, most of the respondents consumed a lot of seafood <100-400 grams/week (66.7%). Coastal communities suffer more from hypertension, this is due to the high consumption of sodium in salted

processed seafood (Norliani, 2020). Coastal communities have a habit of preserving these seafood naturally by using salt and drying them out to dry, to become long-term food ingredients. These preserved foods are very high in salt, so they can trigger hypertension (Adi Try Wurjatmiko & Aluddin, 2022).

In addition to salted foods, previous studies have found that liking seafood that is high in cholesterol such as clams, shrimp, crabs and squid will also affect the amount of cholesterol in the body. If consumed in excess and processed which can increase cholesterol and calorie levels, it can contribute to an increase in bad cholesterol in the blood which can then accumulate in blood vessels, and cause blockages in blood vessels (Musdalifah et al., 2020). Fat deposits caused by cholesterol will stick to blood vessels which will eventually form plaques. The formation of plaque can cause blockage of blood vessels or atherosclerosis. Blood vessels affected by atherosclerosis will decrease in elasticity and blood flow throughout the body will be disrupted and can trigger an increase in blood volume and blood pressure. This increase in blood pressure can lead to hypertension (Fitriani et al., 2019).

In the use of hormonal contraception, the majority of respondents used hormonal contraception (89.2%) with the most use of the type of contraception, namely injection (56.7%). Hormonal birth control is a contraceptive method that contains only the hormone estrogen, only progesterone or a combination of both, apart from being useful in preventing pregnancy in couples of childbearing age, the use of hormonal contraception can cause several side effects for its users, one of which is hypertension (Setyorini et al., 2022). Hormonal contraception contributes to increasing blood pressure by 10% higher than women who do not use hormonal contraception. And the 2013 Riskesdas data analysis shows that statistically there is an effect of using contraception on a higher risk of developing early hypertension in women entering the age of 35 (Setiyowati & Ronoatmodjo, 2019).

Based on research conducted by Chrisandra and Alexis (2020) it is said that choosing hormonal contraceptives for women can increase the risk of developing hypertension. This is because hypertension can be a relative contraindication. Therefore, the choice of hormonal contraception must be adjusted to the patient's age and level of hypertension (Shufelt & Levee, 2020). Blood pressure can be increased by hormonal contraception due to increased production of angiotensinogen in the liver which activates the renin-angiotensin-aldosterone system (RAAS). This is also supported by the research of Gunaratne et al., (2021) which said hormonal contraception can cause an average increase in systolic blood pressure of 4mm Hg, diastolic blood pressure of 1mm Hg and increase in average arterial pressure.

CONCLUSIONS AND RECOMMENDATIONS

The proportion of hypertension among respondents in the Sungai Tering Community Health Center Work Area was 43.3%. In addition, the frequency distribution for the age variable is that most of the respondents are aged ≥ 35 years (68.3%). For the family history variable, most of the respondents did not have a family history (55.8%). In the obesity variable, most of the respondents

were not obese (65%), the physical activity of the respondents mostly did strenuous physical activity (72.5%). In the pattern of seafood consumption, most of the respondents consumed a lot of seafood <100-400 grams/week (66.7%). In the use of hormonal contraception, the majority of respondents used hormonal contraception (89.2%) with the most use of the type of contraception, namely injection (56.7%).

It is hoped that the public can control a healthier lifestyle in order to avoid hypertension. In addition, the community is also expected to be able to balance consumption patterns with daily physical activities. With a healthy lifestyle, it is hoped that the incidence of hypertension in the community can be minimized immediately.

ADVANCED RESEARCH

The limitation in this study is that this research only describes each observed variable. The possibility of memory and embarrassment in giving answers that are not in accordance with the truth, such as in the variable history of hypertension, eating patterns

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