The Influence of Family History, Obesity and Psychosocial Stress on the Incidence of Hypertension in Women of Childbearing Age in the Working Area of Puskesmas Pembangunan, Garut Regency

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Abstract: Hypertension is one of the most common risk factors for death in the world. Ischemic heart disease and stroke are often caused by hypertension. Grups of diaseases such hypertension, heart diabetes, stroke, and cancer account for 73% pf deaths in Indonesia. In 2022 the number of people suffering from hypertension is ranked 10th and hypertension in the first row in the Garut Regency Development Health Center Area. This study aims to identify the relationship between the incidence of hypertension obesity, and psychososial stress, in women of childbearing age in the area of Garut Regency Development Health Center. This study used observational analytic with case control study and retrospective design. All women in the working area of Garut Regency Development Health Center subjectsof this study. In this study, the respondent sample consisted of 68 people who were considered as the case group and 68 people who were considered as the control group. All respondents were taken through consecutive sampling technique. Univariate, with chi square test were used to analyze the data. The results showed that obesity had the greatest influence on the incidence of hypertension in the working area of Garut Regency Development Health Center, with p=0,003 (OR-2,95 CI 95% 1,438 6,058) and psychososial stress p=0,008 (OR-2,95 CI 95% 1,438 6,058). Family history did not affect the incidence of hypertension; however, obesity was the most dominant factor affecting the childbearing age with OR=2,95 (p<0,05), health workers at Garut Regency Development Health Center are advised to provide adequate information about hypertension to the community so that they can avoid hypertension by routinely controlling their blood pressure, following a healthy diet and lifestyle, and exercising regularly.

Keywords*:* Hypertension; Obesity; Psikososial Stress; Women of childbearing age; ealth canter

INTRODUCTION

Non-communicable diseases (NCDs) are a major challenge to health and development in the 21st century. No government can avoid the growing burden of NCDs. Therefore, countries must address NCDs directly and receive support in the form of resources and socio-economic support (Rahmi, 2015). According to the World Health Organization (WHO), NCDs accounted for 63% of the 56 million deaths worldwide in 2019, while communicable diseases accounted for another 63%. NCDs include cancer (21.7%), cardiovascular diseases (46.2%), respiratory diseases

including asthma and chronic obstructive pulmonary disease (10.7%), and diabetes (4%) (Kemenkes Ri, 2020). Hypertension is one of the most common risk factors for death worldwide. Coronary artery disease and stroke are often caused by high blood pressure. Diseases such as high blood pressure, diabetes, stroke, and cancer account for 73% of deaths in Indonesia (World Health Assembly).

According to Riskesdas, comparing NCD prevalence data from 2018 to 2022, it is shown that the NCD prevalence in Indonesia will increase in 2022. Hypertension increased from 25.8% to 34.1%, coronary heart disease (CHD) increased from 1.5% to 1.5%, heart failure increased from 0.3% to 0.3%, chronic renal failure increased from 7.69% to 7.69%, and stroke increased from 12.1%. Asthma increased from 4.8% to 4.8%, chronic obstructive pulmonary disease (COPD) from 3.8% to 3.8%, cancer from 3.6% to 3.6%, and diabetes from 3.0% to 3.0%. Yogyakarta Province is one of the provinces in Indonesia with the fastest increase in NCD cases.

According to the Yogyakarta City Health Data in 2023, the number of diabetes treatment services, cervical and breast cancer screenings, and hypertens ion screenings has increased every year, indicating an increase in the incidence of non-communicable diseases in Yogyakarta City. Women who have a history of hypertension before are also at a higher risk of developing severe hypertension during pregnancy, such as kidney disease and preeclampsia. Maternal hypertension can have serious consequences in the postpartum period. Some factors to consider, such as gestational hypertension, preeclampsia, and chronic hypertension, can lead to postpartum hypertension. Postpartum hypertension requires regular and careful management, including monitoring blood pressure and using antihypertensive drugs as needed. One of the leading causes of maternal death is hypertension during pregnancy and postpartum. Preeclampsia and eclampsia are the leading causes of maternal death due to pregnancy complications such as postpartum hemorrhage, infections, and other obstetric complications. Overall, the impact of hypertension on pregnant women during the postpartum period is very important to consider and treat appropriately to minimize the risk of serious complications.

According to the Ministry of Health in 2024, risk factors for hypertension during pregnancy include early (the woman's first pregnancy), early (the woman's first pregnancy with her second husband), placental hyperplasia such as molar pregnancy, multiple pregnancy, diabetes, large children, extreme age (over 35 years), family history of preeclampsia or previous hypertension. In fact, hypertension prevention is possible from the nursing mother to the child. All national and international health organizations support breastfeeding because it provides health benefits for both mother and child. It has been proven that mothers who breastfeed their children have a lower risk of developing hypertension and other

cardiovascular diseases in the short and long term compared to mothers who do not breastfeed their children. Some lifestyle recommendations to lower blood pressure include losing weight, adopting the Dietary Approaches to Stop Hypertension (DASH) eating plan, limiting salt intake, and reducing alcohol consumption.

Stephanie, H. J. Ina, Jannes Bastian Selley (2020). This study found a significant correlation between the incidence of hypertension in young people and genetic variables. The survey results showed that 79.3% of the respondents had a family history of hypertension. According to data from the Garut Regency Health Development Center managed by the Garut Regency Health Authority, the number of people suffering from hypertension in 2022 was in the top 10, with hypertension at the top of the list. Ten out of 15 women of childbearing age suffered from hypertension, while the remaining five did not. Of the 10 women with hypertension, five were obese, four suffered from psychosocial stress, and one said that her parents had hypertension. The purpose of this study was to find out how family history affects the occurrence of hypertension in women of childbearing age in Garut Regency.

METHOD

This observational analysis study was conducted with a retrospective case-control design (Notoatmojdo Soekidjo,2015). The study examines (retrospectively) the subjects' previous experiences. The study ws conducted at Garut County Health Development Center between May and July 2024. The study included all hypertensive and non-hypertensive women of childbearing age in Pusquemas Pembangunan Garut. The case sample was divided into two cases and one control group in a 1:1 ratio. The case group is women of childbearing age with hypertension, and the control group is women of childbearing age with the same age characteristics as the case sample but without hypertension. This study used sequential sampling, which means that subjects who meet the research criteria are included in the study for a certain period of time so that the number of respondents can be satisfied. In this study, 136 samples were collected. In this study, the incidence of hypertension in women of childbearing age in Puskesmas Pembangunan Garut District was the dependent variable. Family history, obesity, and psychosocial stress are independent variables. Statistical tests were used in SPSS 17.00 for bivariate data analysis. Multivariate analysis used conditional logistic regressio n analysis at a confidence level of 95%. The analysis method was inverse logistic regression analysis.

RESULT

Tabel 3.1 The Influence of Family History, Obesity and Psychosocial Stress on the Incidence of Hypertension in Women of Childbearing Age in the Working Area of Puskesmas Pembangunan, Garut Regency

Variabel	Case		Control		*p-value*	OR (95% CI)
	n	%	n	%		
Family history						
Available	29	42,6	22	32,4	0,215	1,555
None	39	57,4	46	67,6		(0,7773-3,129)
Total	**68**	**100**	**68**	**100**		
Obesity						
There is obesity	43	63,2	26	38,2	0,004	2,778
Not obese	25	36,8	42	61,8		(1,387-5,564)
Total	**68**	**100**	**68**	**100**		
Psychosocial stress						
Stress	44	64,7	29	42,6	0,010	2,466
Not stressed	24	35,3	39	57,4		(1,235-4,923)
Total	**68**	**100**	**68**	**100**		

According to table 3.1, it can be seen that in the multivariate analysis, the family history variable was included, because p<0.25, but the results of the bivariate analysis showed that it did not affect the incidence of hypertension (p>0.05).

Table 3.2 Multiple Logistic Regression Test Analysis Results

Variables	B	Sig.	OR	95% C.I
Family history	0,418	0,272	1,519	0,721 – 3,199
Obesity	1,103	0,003	3,014	1,461 – 6,220
Psychosocial stress	0,934	0,012	2,544	1,231 – 5,260
Constant	-1,219	0,001	0,295	
Obesity	1,082	0,003	2,952	1,438 – 5,058
Psychosocial stress	0,970	0,008	2,638	1,282 – 5,426
Constant	-1,071	0,002	0,343	

According to table 3.2, the results of multivariate analysis show that obesity is the variable that most influences the incidence of hypertension in women of childbearing age, with an OR of 2.952, which means that women of childbearing age who are obese estimate 2.952 times the likelihood of suffering from hypertension compared to women of childbearing age who are not obese.

The Effect of Family History on the Incidence of Hypertension in Women of Childbearing Age

Family history increases the risk of hypertension, especially primary hypertension, which is caused by increased intracellular sodium levels and a low ratio of postasium to sodium. People who have a family history of hypertension have twice the risk of suffering from hypertension than people who do not have a

family history of hypertension. Davidson states that 45% of children with both parents suffer from hypertension and 30% of children with one parent suffering from hypertension.

According to the results of the study indicate that family history does not affect the incidence of hypertension in PUS women. Judging from the number of respondents in the case group and control group, the majority of respondents did not have a family history of hypertension. A family history of hypertension may not be influential in the Garut Regency Development Health Center area.

Influence of Obesity on the Incidence of Hypertension in Women Of Childbearing Age

Blood pressure is related to Body Mass Index (BMI). The greater the body mass, the more blood is needed to carry oxygen and nutrients to the body tissues. As a result, the volume of blood circulating through the blood vessels increases, which puts more pressure on the arterial walls.

According to the results of the study, obesity has an impact on the incidence of hypertension in Women of Childbearing Age; as many as 63.2% of respondents in the group were obese, which indicates that this factor contributes to the incidence of hypertension around the area of Puskesmas Pembangunan Garut Regency. These results are in line with the research of Erikamayarni, et al (2020), on the Relationship between Obesity and the Incidence of Hypertension in the Community in Air Tiris Village, UPTD Puskesmas Kampar 2019 Working Area. Of the 84 respondents, 47 (56%) were obese, 30 (71.4%) had hypertension (case), and 17 (40.5%) did not have hypertension (control).

The Effect of Psychosocial Stress on the Incidence of Hypertension in Women of Childbearing Age

In stressful situations, the body increases the production of cortisol and adrenaline, which increases cardiac activity. Continuous exposure interferes with cardiac function. In addition, when stress occurs, nerve cells change the way they secrete or transport sodium, which increases blood pressure. The results of the study showed that psychosocial stress affects the incidence of hypertension. As a result, 64.7% of the patient group experienced psychosocial stress. This variable affects the incidence of hypertension in the work area of Garut District Pembangunan Health Center. The results of this study are consistent with the study by Ninin Wulan Sari et al. (2024) on the relationship between stress and hypertension incidence in hypertensive patients in the Tamangap Medical Center work area in Makassar City. The value = (0.003) < θ± (0.05) indicates that there is a correlation between stress and hypertension incidence in hypertensive patients. Discussion Healthcare workers in Garut Regency Development Medical Center should engage staff to coordinate within each work area and support staff to complete their tasks. Future studies should reexamine the impact of psychosocial stress on hypertensive pregnant women so that innovative interventions can be developed that address not only physiological needs but also psychological needs to achieve public health status.

CONCLUSION

The study ofthe impact of family history, obesity, and psychosocial stress on hypertension incidence in couples of childbearing age in Garut Regency Development Health Center area showed that obesity was the most dominant variable with an OR of 2.952. A study found that obese fertile women were 2.952 times more likely to have high blood pressure than non-obese fertile women. Healthcare workers at Garut Regency Development Health Center should recruit staff to coordinate and support staff in each work area. Since obesity is the most

influential factor, counseling on healthy salt intake, more regular physical activity, and support from health professionals may help improve positive mood and reduce psychosocial stress.

Conflict of Interest

The author declares no conflict of Interest in this research

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