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The Relationship between Obesity and the Incidence of Pre-Eclampsia

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ABSTRACT

Preeclampsia and eclampsia are problems in pregnancy that require special attention because preeclampsia is one of the highest causes of death, especially in developing countries. One of the risk factors that cause pre-eclampsia and eclampsia are Overweight and Obesity. This study aimed to determine the relationship between obesity and the incidence of pre-eclampsia in RSUD dr Soeroto Ngawi in 2022. Based on the scope of the study, it was included in the type of quantitative inference. Based on the time of data collection including the type of design used cross-sectional. data sources include the kind of Secondary. The sample of this study was pregnant at dr. Soeroto Ngawi Hospital in March - June 2022. The sampling technique used was Simple Random Sampling. Test analysis Using Spearman Rank. The results showed that most (82.1%) had a BMI of more than > 27. And most (63.2%) had preeclampsia. The results of the analysis test obtained P Value < that is 0.002 < 0.05. There is a relationship between obesity and the incidence of pre-eclampsia in pregnant women. Suggestions for further researching the factors that cause pre-eclampsia.

Keywords: obesitas, pre-eklamsia

INTRODUCTION

Maternal mortality is one of the global problems in the world of health. 80% of maternal deaths are classified as direct maternal deaths. The pattern of direct causes is the same everywhere, namely bleeding (25% usually postpartum hemorrhage), sepsis (15%), hypertension in pregnancy (12%), obstructed labor (8%), complications of unsafe abortion (13%), and other causes (8%) (Prawirohardjo, 2012). Globally, pre-eclampsia occurs in 0.5% of live births and 4.5% of hypertension in pregnancy. Preeclampsia can cause kidney, and liver damage, pulmonary edema, and cerebral hemorrhage, while in the fetus it can cause fetal distress, intrauterine fetal growth restriction (IUGR), and placental abruption (Prawirohardjo, 2012). Pre-eclampsia is the second leading cause of death in pregnancy in the world. Death generally occurs due to delays in handling and ignorance of the mother having pre-eclampsia.

Preeclampsia and eclampsia are problems in pregnancy that require special attention because preeclampsia is one of the highest causes of death, especially in developing countries. In the world, about 76,000 mothers die each year due to preeclampsia. The maternal mortality rate in Indonesia is still quite high. In 2012 it rose to 359 per 100,000 live births or returned to 1997 conditions. This means that maternal health has declined for 15 years. In 2007, the MMR in Indonesia had reached 228 per 100,000 live births (IDHS, 2012). In 2015, Indonesia was at 190 deaths per 100,000 live births (Human Development Report, 2015).

Based on a preliminary survey conducted at RSUD dr Soeroto Ngawi, it was found that out of 15 preeclampsia pregnant women, 10 were obese and 5 were not obese. This shows the high incidence of pre-eclampsia due to obesity.

One of the risk factors that cause pre-eclampsia and eclampsia are Overweight and Obesity. In the United States, 30% of the causes of pre-eclampsia are obesity. The nutritional status of pregnant women is very important, therefore a simple method that is often used to determine the obesity status of pregnant women is to calculate the Body Mass Index (BMI) at the first visit in early pregnancy, by dividing weight by height squared (Jeyebalan, 2013).). Obesity is the accumulation of excessive fat in all body tissues evenly which results in health problems and causes various diseases such as diabetes, high blood pressure, and heart attacks that can cause death. Worldwide, it is estimated that 1.5 billion adults fall into the overweight category, and 43 million children also fall into this category (Baha S, Dekker G, Kupferminc M, 2005). Obesity has several criteria, but the most widely used and the most common is the Body Mass Index (BMI). According to WHO, there is a classification of BMI in determining a person's nutritional status, namely: Underweight (less body weight) with a BMI < 18.5. It's normal to have a BMI of 18.6 – 24.9. Overweight has a BMI of 25-29.9 and Obesity has a BMI >30. Women with a BMI > 35 before pregnancy had a fourfold increased risk of developing preeclampsia compared with women with a BMI of 19-27. Several studies have also found that in women with a BMI.

METHODS

Design and Samples

This research was conducted at dr Soeroto Hospital in 2022 with the Cross Sectional method, based on the research objectives including the correlational analytical research design, based on data sources including secondary data.

Data Collection

The sample of the study was some mothers giving birth and newborns in Maret – Juni 2022 at Soeroto Hospital,Ngawi City**.**

Data Analysis

In this study, the multivariate analysis technique of Spearman Rank was used.RESULTS

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IMT	Preeklamsia		Total
	Ya	Tidak	
>18,5-<24,9	0	11	11
>25,0-<27	5	18	23
>27	65	91	156
Total	70	120	190
P- Value 0,002			

It was found that BMI > 27 experienced pre-eclampsia as many as 65 respondents. And the results of the SPSS test obtained a P-Value of 0.002 <, which means that there is a relationship between obesity and the incidence of preeclampsia.

DISCUSSION

Obesity is a risk factor that has been widely studied for the occurrence of preeclampsia. Obesity triggers the occurrence of preeclampsia through several mechanisms, namely in the form of superimposed preeclampsia, as well as through triggers of metabolites and other micromolecules. The risk of preeclampsia increased by 2 times for every increase in body weight of 5-7 kg/m2. In addition, it was found that there was an increased risk of preeclampsia with an increase in BMI. Women with a BMI > 35 before pregnancy had a fourfold risk of developing preeclampsia compared with women with a BMI of 19-27. Several studies have also found that women with a BMI < 20 have a reduced risk of preeclampsia. The risk of developing preeclampsia due to a high BMI may be due to its association with an increased risk of developing hypertension. (Zahra, 2016).

Obesity is a risk factor for preeclampsia and the risk increases with increasing BMI (Body Mass Index). Obesity is strongly associated with insulin resistance and is a risk factor for preeclampsia. Obese pregnant women can experience preeclampsia through hyperleptinemia,

metabolic syndrome, inflammatory reactions, and increased oxidative stress by cytokines and direct hemodynamic effects of hyperinsulinemia (increased sympathetic activity and increased tubular sodium resorption) which leads to endothelial damage and dysfunction. The cause of preeclampsia is not known for certain, but several studies have concluded that several factors influence the occurrence of preeclampsia, one of which is being overweight/obese during pregnancy. hypertension, hypercholesterolemia, and hyperglycemia are known as (3H). Hypertension in pregnancy can trigger preeclampsia. Between the facts and the theory, there is agreement that obesity and BMI are the factors that cause preeclampsia. Based on the results of the study, the majority of obese respondents experienced severe preeclampsia. This shows that the more weight a pregnant woman gains, the greater the risk of developing preeclampsia. This is because excessive weight gain causes a person to experience various health problems, such as hypertension where hypertension is one sign of a mother experiencing preeclampsia. If BP 140/90 is a sign of mild preeclampsia and if it has reached 160/110 it is a sign of severe preeclampsia. Therefore, weight gain and increased blood pressure in pregnant women should receive special monitoring from health workers (given aspirin) to prevent eclampsia.

CONCLUSION

The Relationship between Obesity and the Incidence of Pre-Eclampsia at dr. Soeroto Hospital, Ngawi City in 2022.

REFERENCES

Astutik, Sri Fuji. (2015). Faktor-faktor yang Berhubungan dengan Kejadian Preeklampsia Kehamilan di Wilayah Kerja Puskesmas Pamulang Kota Tanggerang Selatan Tahun 2014-2015. Fakultas Kedokteran dan Ilmu Kesehatan UIN Syarif Hidayatullah. Jakarta.

Mardiana. (2014). Faktor Resiko yang Berhubungan dengan Preeklampsia pada Ibu Hamil (Study Kasus di RSUD Brebes Tahun.

Nursal, dkk. (2015). Faktor Resiko Kejadian Preeklampsia pada Ibu Hamil di RSUP Dr. M. Djamil Padang tahun 2014. Program Studi S-1 Kesehatan Masyarakat Fakultas Kesehatan Masyarakat Universitas Andalas.

Prawirohardjo, S. (2012). Ilmu Kebidanan. Jakarta : Yayasan Bina Pustaka Sarwono Prawirohardjo.