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ANALYSIS OF FACTORS RELATED TO PREECLAMSIA INCIDENT ON PREGNANT MOTHER IN RSUD DR. CHASBULAH ABDUL MADJID, BEKASI

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ABSTRACT

Backgrounds:Preeclampsia affects ten million people across the world each year. As for RSUD dr. Chasbulah Abdul Madjid in Bekasi City, preeclampsia affected 16.1% of the 1443 pregnant women who visited the hospital in 2020. Preeclampsia is a common reason of maternal death and can be harmful to the fetus if it is not treated promptly.

Purpose:Conducted analysis of factors related to preeclampsia in pregnant women in RSUD dr. Chasbulah Abdul Madjid Bekasi City in 2021.

Methods:This research was an analytical study with a case control design. Samples were pregnant women with gestational age more than 20 weeks who visited RSUD as many as 106 people with purposive sampling technique. The data were collected using questionnaires and medical record data. The data were analyzed using the Chi Square test.

Results:Pregnant women who experienced preeclampsia estimated to account for 50% of all cases, with poor knowledge amounted to 51.9 percent, a negative attitude amounted to 54.7 percent, poor eating habits amounted to 52.8 percent, stress amounted to 53.8 percent, and light physical activity amounted to 54.8 percent. Bivariate analysis revealed a strong link between preeclampsia in pregnant women and knowledge (p=0.006), attitude (p=0.001), eating habits (p=0.000), stress (p=0.000), and physical activity (p=0.000).

Conclusion:The majority of them have poor understanding (51.9%), a negative attitude (54.7%), poor dietary habits (52.8%), are stressed (53.8%), and engage in light physical activity (54.8%). At RSUD pubdr. Chasbulah Abdul Madjid Bekasi City in 2021, there was a substantial relationship between knowledge, attitudes, dietary habits, stress, and physical activity and the incidence of preeclampsia in pregnant women.

Suggestion Pregnant women are expected to improve their eating habits during pregnancy in order to prevent preeclampsia by avoiding foods high in fat, sodium, and carbohydrates and instead eating nutritious food with a balanced nutritional menu, increasing consumption of fruits and vegetables, and consuming more protein.

Keywords: preeclampsia, pregnant women.

ABSTRAK

Latar Belakang: Sepuluh juta wanita menderita preeklamsia setiap tahun di seluruh dunia. Adapun di RSUD dr. Chasbulah Abdul Madjid Kota Bekasi pada tahun 2020, sebanyak 16,1% dari 1443 ibu hamil yang melakukan kunjungan, menderita preeklamsia. Preeklamsia diketahui sebagai penyumbang kematian ibu dan bisa menimbulkan bahaya pada janin yang dikandungnya apabila tidak segera ditangani.

Tujuan: Melakukan analisis faktor yang berhubungan dengan preeklamsia pada ibu hamil di RSUD dr. Chasbulah Abdul Madjid Kota Bekasi Tahun 2021.

Metodologi: Penelitian ini merupakan penelitian analitik dengan rancangan *case control*. Sampel adalah ibu hamil dengan usia kehamilan lebih dari 20 minggu yang melakukan kunjungan ke RSUD dr. Chasbulah Abdul Madjid sebanyak 106 orang dengan teknik *purposive sampling*. Pengambilan data dilakukan dengan kuesioner dan data rekam medik Data dianalisi dengan menggunakan uji *Chi Square*.

Hasil Penelitian: Ibu hamil yang mengalami preeklamsia sebesar 50% dengan pengetahuan kurang baik 51,9%, sikap negatif 54,7%, kebiasaan makan kurang baik 52,8%, mengalami stres 53,8% dan dan aktivitas fisik ringan 54,8%. Analisis bivariat menunjukkan bahwa ada hubungan yang signifikan antara pengetahuan (*p*=0,006), sikap (*p*=0,001), kebiasaan makan (*p*=0,000), stres (*p*=0,000) dan aktivitas fisik (*p*=0,000) dengan preeklamsia pada ibu hamil.

Simpulan: Sebagian besar memiliki pengetahuan kurang baik 51,9%, sikap negatif 54,7%, kebiasaan makan kurang baik 52,8%, mengalami stres 53,8% dan aktivitas fisik ringan 54,8%. Terdapat hubungan yang signifikan antara pengetahuan, sikap, kebiasaan makan, stres dan aktivitas fisik dengan kejadian preeklamsia pada

ibu hamil di RSUD dr. Chasbulah Abdul Madjid Kota Bekasi Tahun 2021. Peluang terbesar terhadap kejadian preeklamsia pada ibu hamil yaitu kebiasaan makan dengan nilai OR 10,636.

Saran diharapkan ibu hamil dapat memperbaiki kebiasaan makan selama masa hamil agar dapat mencegah terjadinya preeklamsi melalui cara tidak mengkonsumsi makanan yang memiliki kandungan banyak lemak, natrium dan tinggi karbohidrat, akan tetapi makan makanan bergiji dengan menu gizi seimbang, perbanyak konsumsi buah dan sayur dan tinggi protein.

Keywords: preeklamsia, ibu hamil.

INTRODUCTION

The cause of death in maternity, postpartum and pregnant women is due to preeclampsia (Nugroho, 2016). Preeclampsia is a disease that affects ten million women every year worldwide. Preeclampsia and other hypertensive disorders of pregnancy cause 76,000 pregnancy-related deaths each year, and they also claim 500,000 or more infant lives (Patricia, 2016).

According to the WHO (World Health Organization) for 2018 worldwide, it was found that 14% of the causes of death were caused by hypertension. In the United States, 5-8 percent of infants develop preeclampsia and its associated problems with hypertension during pregnancy. The incidence of preeclampsia in the United States, Canada, and Western Europe is between 2 and 5 percent. Preeclampsia and eclampsia affect anywhere from 4% of all pregnancies in underdeveloped countries to 18% in some regions of Africa. Preeclampsia is the leading cause of maternal death in Latin America (Septiasih, 2018). In Indonesia, according to the 2019 Indonesian Health Profile, the reported frequency of preeclampsia ranges from 25.3% to 36.9%. The excessive bleeding is around 30.3% (Kemenkes RI, 2020).

According to information from the Health Profile of West Java Province according to the district/city health profile report, in 2019 there were 684 maternal deaths or 74.19 per 100,000 live births, a decrease of 16 cases compared to 2018 which were 700 maternal deaths. As for the cause of the first maternal death, mostly by bleeding as much as 33.19%, the second as much as 32.16% preeclampsia. Meanwhile in Bekasi City in 2019 there were 16 cases of mothers who died, as was the case with West Java Province where the biggest cause was bleeding and the second was preeclampsia (West Java Provincial Health Office, 2019). As for RSUD dr. Chasbulah Abdul Madjid Bekasi City was found when in 2019 and 2020 it was found that 3 mothers each died where the cause was a case of preeclampsia (Dr. Chasbulah Abdul Madjid Hospital, Bekasi City,

According to Pribadi (2018), risk factors and influences on the incidence of preeclampsia include those related to pregnancy, related to the mother (maternal) and related to father factors (paternal). Several factors related to maternal (maternal) factors include knowledge, attitudes, eating habits, stress and physical activity. Pregnant women should learn as much as possible about preeclampsia and eclampsia as early as possible (Manuaba, 2017). As a result, preeclampsia and eclampsia account for about half of all maternal and fetal deaths.

Meanwhile, a high level of concern in pregnant women increases the risk of hypertension. According to Novita (2017), emotional stress experienced by pregnant women increases the release of corticotropic-releasing hormone (CRH) from the hypothalamus, which in turn increases cortisol levels. There was no decreased sensitivity to these vasopeptides in preeclamptic or eclamptic women, in whom a significant increase in blood volume directly led to increases in cardiac output and blood pressure.

Likewise, lack of physical activity can lead to a lack of body resistance to disease, while excessive physical activity will actually make the situation worse (Teviningrum, 2016). Therefore, work is always carried out, provided that it does not exceed the ability and cause excessive fatigue (Susilo & Wulandari, 2017).

Meanwhile, according to Marmi (2017), the principle of preventing the occurrence of preeclampsia can be done by performing ANC properly so that it can be diagnosed correctly and if necessary, termination of pregnancy is carried out. Manuaba (2017) adds that you should go on a diet to eat, get enough restand carry out antenatal surveillance.

Based on data at RSUD dr. Chasbulah Abdul Madjid Bekasi City was obtained for 2020 from 1443 pregnant women who visited, 16.1% were found to be suffering from preeclampsia. Preeclampsia can play a role in contributing to maternal death and can pose a danger to the fetus in the womb if not treated quickly. According to the theory and the results of previous studies, several causes related to the

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incidence of preeclampsia are knowledge, attitudes, eating habits, stress and physical activity. Based on this background, the authors are interested in conducting research to analyze factors that have a relationship with the incidence of preeclampsia in pregnant women at dr. Chasbulah Abdul Madjid Bekasi City in 2021.

RESEARCH METHODOLOGY

The research design in this study is quantitative analytical research using a case control design, namely research carried out by comparing two groups, namely the case group and the control group (Notoatmodjo, 2017).

The group that became the research subject (respondents) were all pregnant women with a gestational age of more than 20 weeks who visited RSUD dr. Chasbulah Abdul Madjid Bekasi City in 2021 in January-March 2021 as many as 257 respondents.

Sampling amounted to 106 respondents (53 samples into the case group and 53 samples as the control group) in this study using purposive sampling, namely taking samples decided by the researcher through inclusion and exclusion criteria. The instrument used by the researcher was a questionnaire, with closed and open types of answers.

Research analysis includes univariate and bivariate analysis. Before testing the hypothesis, a normality test is carried out which is one of the tests of data analysis requirements. Univariate analysis used distribution and percentage of each variable, bivariate analysis used Chi Square test.

RESULTS AND DISCUSSION

Univariate Analysis

Table 1.
Distribution of the Frequency of Preeclampsia in Pregnant Women

Preeclampsia Incidence	Frequency (f)	Percentage (%)
Preeclampsia (Case)	53	50.0
No Preeclampsia (Control)	53	50.0

Distribution of the frequency of knowledge, attitudes, eating habits, stress, physical activity of pregnant women and the frequency of occurrence of preeclampsia for pregnant women in RSUD dr. Chasbulah Abdul Madjid Bekasi City in 2021.

Based on the data in table 1, it can be seen that of the 106 pregnant women who experienced preeclampsia, 53 were pregnant women (50.0%).

Table 2.
Distribution of the Knowledge Frequency of Pregnant Women

Knowledge	Frequency (f)	Percentage (%)
Not good	55	51.9
Well	51	48.1

Based on the data in table 2, it can be seen that of the 106 pregnant women who have poor knowledge, 55 pregnant women (51.9%).

Table 3.
Frequency Distribution of Pregnant Women's Attitudes

Attitude	Frequency (f)	Percentage (%)
Negative	59	54.7
Positive	48	45.3

Based on the data in table 3, it can be seen that out of 106 pregnant women who have a negative attitude, 59 pregnant women (54.7%).

Table 4.
Frequency Distribution of Eating Habits of Pregnant Women

Eating habit	Frequency (f)	Percentage (%)
Not Good	56	52.8
Well	50	47.2

Based on the data in table 4, it can be seen that from 106 pregnant women who have bad habits, 56 pregnant women (52.8%).

Table 5.
Frequency Distribution of Pregnant Women

Stress	Frequency (f)	Percentage (%)
Stress	57	53.8
No Stress	48	46.2

Based on the data in table 5, it can be seen that out of 106 pregnant women who experience stress, 57 pregnant women (53.8%).

Table 6.
Distribution of Physical Activity Frequency

Physical Activity	Frequency (f)	Percentage (%)
Light	57	54.8
Currently	49	46.2

Based on the data in table 6, it can be seen that out of 106 pregnant women with light physical activity, 57 pregnant women (54.8%).

Based on the findings, it was found that out of 106 pregnant women, where each of them felt the incidence of preeclampsia and not preeclampsia. According to Nugroho (2016) preeclampsia is hypertension during pregnancy which is indicated by blood pressure 140/90 mmHg after pregnancy within 20 weeks, accompanied by proteinuria 300 mg in 24 hours. Symptoms and signs of preeclampsia according to Morgan et al (2016) include hypertension, hyperreflexia, facial edema, visual disturbances, drowsiness, severe headache, proteinuria, oliguria and heartburn. According to Manuaba (2017) the toughest complication is the death of the mother and fetus.

Some of the factors related to preeclampsia according to Pribadi, et al (2018) include age, low education, high parity > 3, employment status, history of hypertension with the incidence of preeclampsia, knowledge, attitudes, eating habits, stress and physical activity. Marmi (2017) that the principle of preventing preeclampsia is to measure blood pressure, weigh weight, measure proteinuria every week and diet appropriately, it would be better if termination of pregnancy or also called a good and routine ANC

Researchers assume that the finding of pregnant women who experience preeclampsia is caused by the diagnosis of finding blood pressure 140/90 mmHgaccompanied by proteinuria 300 mg/24 hours. The occurrence of preeclampsia, researchers assume, is caused by the mother's lack of knowledge about preeclampsia and the negative attitude of the mother in conducting the examination. This is if mothers have good knowledge, they can identify and take action on indications and symptoms as well as solutions to health problems that arise in their pregnancy where they are not worried when dealing with pregnancy and quickly report to health workers if health problems arise. in pregnancy according to the signs and symptoms of preeclampsia so that the incidence of preeclampsia can be resolved immediately.

Because attitudes affect the stage of fetal development, pregnant women have a good attitude towards antenatal care, which can be seen from their willingness and interest to receive counseling about the importance of early pregnancy checks. It is necessary to prevent the occurrence of preeclampsia in pregnant women, one of which is by conducting regular checks so that abnormalities can be detected.

Bivariate Analysis

Table 7.
The Relationship between Knowledge of Pregnant Women and the Incidence of Preeclampsia

Knowledge	Preeclampsia Incidence				Total		p value	OR
	Case		Control					
	F	%	f	%	n	%		
Not good	35	66	20	37.7	55	51.9	0.006	3,208
Well	18	34	33	62.3	51	46.1		

Based on the data in table 7, it shows that from 53 pregnant women with preeclampsia, 35 (66%) have poor knowledge, but from 53 pregnant women with no preeclampsia, 18 (34%) have good knowledge. The results of the Chi-Square test obtained p value = 0.006 <0.05, which is significant, there is a significant relationship between knowledge and the incidence of preeclampsia in pregnant women. The OR value is 3,208, so it can be conveyed that pregnant women with poor knowledge have 3 times the risk of suffering from preeclampsia than pregnant women with good knowledge.

Djannah (2015) states that knowledge about pregnancy problems has a significant impact because it allows people to recognize the symptoms of accompanying health problems, deal with them, and find solutions. This reduces pregnancy-related anxiety and encourages people to immediately report any accompanying health problems to a medical professional.

Researchers assume that knowledge is related to the incidence of preeclampsia, this is in accordance with the results of the study of pregnant women with poor knowledge, the majority experienced preeclampsia, while pregnant women

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who had good knowledge did not experience preeclampsia. Mothers with good knowledge will know the signs and symptoms if they have preeclampsia, this makes the mother immediately do a pregnancy check. Meanwhile, mothers with less knowledge consider it an ordinary disease and do not need to be questioned so that it can cause complications that can have an impact on the occurrence of abnormalities in the baby in the womb.

Table 8.
The Relationship between the Attitude of Pregnant Women and the Incidence of Preeclampsia

Attitude	Preeclampsia Incidence				Total		p value	OR
	Case		Control					
	f	%	f	%	n	%		
Negative	38	71.7	20	37.7	58	54.7	0.001	4,180
Positive	15	28.3	33	62.3	48	45.2		

Based on the data in Table 4.8, it shows that of 53 pregnant women with the incidence of preeclampsia, 38 (71.7%) had a negative attitude, while from 53 pregnant women with no preeclampsia, 33 (62.3%) had a positive attitude. The results of the Chi-Square test obtained p value = 0.001 <0.05, which means that there is a meaningful relationship between attitudes towards the incidence of preeclampsia for pregnant women. The OR value is 4.18, therefore it can be stated that pregnant women who carry a negative attitude are 4 times more likely to experience preeclampsia than pregnant women with a positive attitude.

Rohman (2015) explains that certain lifestyle choices or eating habits can affect how a disease develops, consistent eating habits can stop disease progression or maintain physical fitness. Consuming too much salt will make you thirsty and make you want to drink more. This will increase the amount of blood in your body, which will make your heart work harder to pump blood and increase your blood pressure. Improved heart function will also affect how much salt and water your kidneys need to filter because the amount of blood entering and leaving our bodies must be balanced.

Researchers assume that eating habits are related to the incidence of preeclampsia, this can be seen from the results of the study of pregnant women with poor eating habits, the majority experienced preeclampsia and vice versa, mothers with good habits did not experience preeclampsia. This can be seen from the results of the questionnaire. The majority of mothers with the incidence of preeclampsia eat foods that contain saturated fat such as offal, consume foods that contain a lot of salt, fast food, drink coffee and eat preserved foods. Eating lots of fatty foods, preserved foods and fast food can make the heart work harder. Likewise, consuming a lot of foods that contain salt can trigger preeclampsia.a lot of salt and water that needs to be filtered by your kidneys because the amount of blood entering and leaving our body must be balanced.

Table 9.
The Relationship between Eating Habits of Pregnant Women and the Incidence of Preeclampsia

Eating habit	Preeclampsia Incidence				Total		p value	OR
	Case		Control					
	f	%	f	%	n	%		
Not good	42	79.2	14	26.4	56	52.8	0.000	10,636
Well	11	20.8	39	72.6	50	47.2		

Based on the data in Table 9, it shows that of the 53 pregnant women with the incidence of preeclampsia, 42 (79.2%) have poor eating habits, but of the 53 pregnant women with the incidence of non-preeclampsia, 39 (72.6%) have good eating habits. . The results of the Chi-Square test obtained p value = 0.000 <0.05 which means that there is a relationship between eating habits and the incidence of preeclampsia for pregnant women. The OR value ranges from 10,636, therefore, it can be stated that pregnant women with poor eating habits have 11 times the risk of developing preeclampsia than pregnant women with good eating habits.

Afridayani (2018) explains that attitude is an individual reaction or response that is still closed to a stimulus or object. A pregnant woman with a high

level of education can control her behavior during her pregnancy, an attitude that helps to prevent the development of eclampsia and preeclampsia.

Researchers assume attitudes are related to the incidence of preeclampsia, this can be seen from the results of the study of pregnant women who have a negative attitude, the majority experience preeclampsia, while pregnant women who have a positive attitude do not experience preeclampsia. This happens because of the knowledge possessed by the mother where there is low knowledge, a pregnant woman cannot control her attitude during pregnancy, both attitudes that prevent the occurrence of eclampsia and preeclampsia, and vice versa because knowledge and attitudes are an important part in shaping behavior to improve health. Pregnant women take these precautions to prevent preeclampsia and eclampsia in their pregnancies because they have previous personal experience with the condition and because of cultural norms. Preeclampsia/eclampsia prevention information is offered in pregnancy classes. The creation of attitudes that will affect the behavior of pregnant women is influenced by education as a system.

Table 10.
The Relationship between Stress in Pregnant Women and the Incidence of Preeclampsia

Stress	Preeclampsia Incidence				Total		p value	OR
	Case		Control					
	f	%	f	%	n	%		
Stress	40	75.5	17	32.1	57	53.8	0.000	6.516
No Stress	13	24.5	36	67.9	49	46.2		

Based on the data in Table 10, it shows that from 53 pregnant women with preeclampsia, 40 (75.5%) experienced stress, while from 53 pregnant women with no preeclampsia, 36 (67.9%) did not experience stress. The results of the Chi-Square test obtained p value = 0.000 <0.05 which means that there is a significant relationship between stress and the incidence of preeclampsia for pregnant women. The OR value is 6.516, therefore, it can be stated that pregnant women who experience stress have a 7 times risk of experiencing preeclampsia compared to pregnant women who do not experience stress.

Kaplan & Sadock (2015) added that psychological factors that also affect pregnancy generally consist of stressors. Pregnant women who feel stress can have an effect on the health of the mother and fetus. If stress on the mother is not managed properly, the effect on the fetus can be in the form of developmental delays or emotional disturbances during childbirth. Maternal health is strongly influenced by family support.

Researchers assume that stress has a relationship with the incidence of preeclampsia, this can be seen from the results of the study of pregnant women who feel stressed the majority experience preeclampsia, while the majority of pregnant women who are not stressed do not experience preeclampsia. When the condition of the growing fetus in the mother's stomach makes the mother experience, lack of sleep rest can cause fatigue and discomfort which in turn can lead to stress which will affect the mother's blood pressure and cause preeclampsia.

Table 11.
The Relationship between Physical Activity of Pregnant Women and the Incidence of Preeclampsia

Physical Activity	Preeclampsia Incidence				Total		p value	OR
	Case		Control					
	f	%	f	%	n	%		
Light	41	77.4	16	30.2	57	54.8	0.000	7,901
Currently	12	22.6	37	69.8	49	46.2		

Based on the data in Table 11, it shows that of the 53 pregnant women with the incidence of preeclampsia, there were 41 (77.4%) with light physical activity, but of the 53 pregnant women with the incidence of not preeclampsia there were 37 (69.8%) with moderate physical activity. The results of the Chi-Square test obtained p value = 0.000 <0.05 which means that there is a meaningful relationship between physical activity and the incidence of preeclampsia in pregnant women. The

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OR value is 7.901. Therefore, it can be stated that pregnant women with strenuous physical activity are 8 times more likely to develop preeclampsia than pregnant women with moderate physical activity.

According to Elsanti (2016), in theory, doing physical activity is one of the factors that cause preeclampsia. Strenuous physical activity can cause physical stress.

Researchers assume that physical activity is related to the incidence of preeclampsia, this is in accordance with the results of the study of pregnant women with mild physical activity, the majority experienced preeclampsia and pregnant women with moderate physical activity did not suffer from preeclampsia. In this study, there were no mothers who experienced heavy physical activity, only mild and moderate. Mothers with light physical activity, activities that are often done are sitting, watching TV and rarely doing activities that cause obesity, besides that, mothers like to have bad eating habits, namely eating offal and eating foods that contain a lot of sodium which in turn triggers the work of the heart. and cause hypertension. Mothers with light physical activity often experience stress, causing the impact of preeclampsia. It is necessary to provide information to pregnant women diligently to exercise regularly, because regular exercise can improve health and prevent various diseases, one of which is hypertension which has an impact on the occurrence of preeclampsia.

Reduced disease resistance can be caused by lack of physical activity. This state greatly affects the state of a person's health and ultimately acts as a catalyst for a number of diseases. Regular physical activity is also important for daily tasks to prevent heart disease and high blood pressure. Lack of physical activity will result in the emergence of many diseases, consisting of diabetes mellitus, heart disease and hypertension.

CONCLUSION

Based on the results of data analysis, researchers can draw some conclusions as follows: There is a significant relationship between knowledge, attitudes, eating habits, stress and physical activity with the incidence of preeclampsia in pregnant women at dr. Chasbulah Abdul Madjid Bekasi City in 2021. The greatest chance of the incidence of preeclampsia in pregnant women is eating habits with an OR value of 10,636.

SUGGESTION

Suggestions for scientific interests are expected to be reading material or input for visitors to the Jakarta National University library, providing knowledge and student experience so that they can carry out additional research on variables related to the incidence of preeclampsia with more varied and substantial samples.Health workers are expected to be able to provide assistance to pregnant women in terms of providing information to pregnant women about good eating habits through the provision of counseling, counseling during visits and placing posters in every place so that they can be read about the types of food that are not good for pregnant women to eat, the impact of consuming it and telling the types of foods that are good for pregnant women to eat and how to regulate a good diet for pregnant women to avoid the occurrence of preeclampsia.Pregnant women in the first trimester are expected to immediately conduct a self-examination to health workers when complications occur in their pregnancy and pay more attention to eating patterns with small but frequent portions, avoiding oily and fatty foods and paying attention to the mother's physical condition.It is expected that pregnant women can improve their eating habits during pregnancy in order to prevent the occurrence of preeclampsia by not consuming foods that contain a lot of fat, sodium and high carbohydrates, but eating nutritious foods with a balanced nutritional menu, increasing consumption of fruits and vegetables and high protein.

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