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Factors Influencing the Occurrence of Preeclampsia in Pregnant Women at Sibuhuan Hospital, Barumun District, Regency The Old Field in 2022

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R T I C L E I N F O	ABSTRACT
	Preeclampsia is still the biggest cause of maternal and fetal morbidity and mortality worldwide. One of the basic theories that is most responsible for the occurrence of this syndrome is endothelial dysfunction in placentation defects. (Keman, 2014). Maternal mortality in Indonesia is still dominated by the three main causes of death, namely bleeding, preeclampsia and infection. Preeclampsia affects 3-5% of pregnancies and is responsible for more than 60,000 maternal deaths and 500,000 fetal deaths per year worldwide. The purpose of this research is to find outFactors Affecting the occurrence of Pre-eclampsia in pregnant women in hospitals. Sibuhuan Barumun District, Padang Lawas Regency in 2022. The type of research conducted is analytic observational with a case control approach, the population in the study is 733 people and the number of samples is 27 people using the techniquepurposive sampling. The data collected in this study is secondary data, namely data obtained from medical records. The data analysis used was univariate analysis and bivariate analysis. The research results areFactors that do not influence the occurrence of pre-eclampsia are age, parity, spacing of pregnancies, history of diabetes mellitus, and factors that influence the occurrence of pre-eclampsia are factors of history of hypertension in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency in 2022. It is hoped that all health workers inHOSPITAL. Sibuhuanexpected to be more active in providing counseling related tofactors that influence the occurrence of pre-eclampsia in pregnant women

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INTRODUCTION

Not all pregnancies can run smoothly, in pregnant conditions, various risks are often found that can affect the health and threaten the life of the mother and her womb. Among some of the problems that are often encountered is hypertension during pregnancy. This condition results in

high rates of morbidity and mortality which in turn becomes a public health problem in general. A person's pregnancy, is strongly influenced by physical maturity, psychology in adolescence, at this time is a phase, where physical function approaches perfection, or almost fulfills its peak (Darusman, 2018)

WHO data reports that the number of maternal deaths in the world is 303,000 people with the majority of incidents in developing countries (Ministry of Health, 2020). The World Health Organization reports that hypertensive disorders account for 16% of all maternal deaths in developed countries, 9% of maternal deaths in Africa and Asia and 26% in Latin America Kariba where the highest maternal mortality is mostly caused by eclampsia rather than preeclampsia (Jeyabalan, 2013). Globally it is estimated that more than 4 million pregnant women experience preeclampsia every year and every year an estimated 50,000 – 70,000 women die from preeclampsia (Fatmawati, 2021).

In obstetric services, apart from the maternal mortality rate (AKM), there is also the perinatal mortality rate which can be used as a parameter (AKP) for service success. However, in developed countries currently using PPA is a better and more sensitive parameter to assess the quality of midwifery services. Bearing in mind that the health and safety of the fetus in the womb is highly dependent on the condition and perfection of the system in the mother's body, which has the function of growing the product of conception from the embryo to becoming a full-term fetus. one of the causes of perinatal death is preeclampsia (PE) and eclampsia (E) (Hadi, 2012).

Maternal mortality in Indonesia is still dominated by the three main causes of death, namely bleeding, preeclampsia and infection. Preeclampsia affects 3-5% of pregnancies and is responsible for more than 60,000 maternal deaths and 500,000 fetal deaths per year worldwide (Kuklina, 2018). More than 25% of maternal deaths in Indonesia are caused by preeclampsia (Ministry of Health, 20016). This disease affects infants with a fivefold increase in perinatal mortality and accounts for 15% of premature births (Agrawal, 2014).

The cause of preeclampsia is not only caused by one factor, but many factors that cause preeclampsia and eclampsia. History of preeclampsia, economic status, parity, diabetes mellitus, hydatidiform mole, multiple pregnancies, hydrops fetalis, age more than 35 years and obesity are predisposing factors for preeclampsia (Wati, 2020).

Pregnant women are one of the groups in society that are most susceptible to health problems. During pregnancy, pregnant women will experience physical changes and psychological changes (feelings of anxiety, fear, stress) (Guyton, 2013). Physical changes in pregnancy cause an increase in energy metabolism, therefore the need for energy and other nutrients increases during pregnancy (Walker, 2012).

Preeclampsia is still the biggest cause of maternal and fetal morbidity and mortality worldwide. One of the basic theories that is most responsible for the occurrence of this syndrome is endothelial dysfunction in placentation defects. Preeclampsia as a specific syndrome in pregnancy in the form of reduced placental perfusion due to vasospasm and endothelial activity which will ultimately affect all organ systems characterized by hypertension (Keman, 2014). Preeclampsia causes a high risk for pregnant women and their babies, and is the highest cause of maternal death and a high cause of perinatal mortality (Lalenoh, 2018).

Preeclampsia can be triggered by several factors including age, parity, history of past pregnancies, twin pregnancies, nutritional status, family history, history of disease (Marmi, 2016). For those who experience preeclampsia 83.3% occur at a risk age (age <20 years and >35 years), 46.4 occur in at-risk parities (parity 1 and >2), 75% in twin pregnancies, 57.1% occur in mothers who have obesity and 66.7% in mothers who have a history of diabetes. Whereas in the study at RSUPKU Yogyakarta, the factors for the occurrence of preeclampsia were the majority of the 20-30 year group of 64.4%, mothers who had primigravida parity of 69.5% and mothers who had pregnancies <4 of 76.3%.

Based on Fahira's research (2017) that a history of hypertension is a risk factor for the incidence of preeclampsia, in other words, a history of hypertension has a 1.591 times greater risk of experiencing preeclampsia compared to those without a history of hypertension. According to

the results of Sri's research (2016), the highest proportion of pregnant women with hypertension is in the group of mothers who have given birth > 3 times, which is 74%. According to the results of Rida's research (2013), there is a relationship with hypertension between the stress levels experienced by pregnant women, which is 47.6%.

Based on the data from the initial survey at the RSUD. In Sibuhuan there were 234 pregnant women visiting the Obgyn Polyclinic with an average of 25 pregnant women visiting in one month. At the time of the preliminary study the researchers met with 3 pregnant women at the Obgyn Poly where they said that this was their first pregnancy, from the results of examinations 2 pregnant women had blood pressure of 140/90 mmHg, 1 pregnant woman 160/90 mmHg, they said they had blood new height at this time when pregnant

Based on the background above, the researcher is interested in conducting research with the aim of knowing "Factors Influencing the occurrence of Pre-Eclampsia in Pregnant Women at RSUD. Sibuhuan, Barumun District, Padang Lawas Regency in 2022 ".

RESEARCH METHODS

Types of research

This study uses observational research that is analytic in nature. Observational research is research that does not provide any treatment at all but only makes observations or observations of the research object. (Swarjana, 2015). Analytical research is research that tries to explore how and why health phenomena occur. Then analyze the dynamics of the correlation between phenomena or between risk factors and effect factors (Notoatmodjo, 2012). So what is meant by observational analytic research is an observation or measurement that tries to explore how and why health phenomena occur without any manipulation or intervention which is then analyzed..

Research design

This study used an observational analytic method using a case control research design. This research was conducted to determine the relationship between certain effects (disease or health conditions) and certain risk factors. Where research begins with the identification of patients with certain effects or diseases (PE in pregnant women) and the group without effect is called a control (not experiencing PE) which is then retrospectively traced to risk factors that can explain why cases are affected while controls are not (Sastroasmoro, 2017)

Research sites

The location of the research was carried out at the RSUD. Sibuhuan. The reason researchers chose the locationbecause there are cases of pregnant women who experience preeclampsia.

Research time

This research was conducted starting from submitting the title in August to the Results Examination in October 2022. Research data collection was carried out from September to October 2022. Data collection was carried out for 2 days.

Research Population

The population is the entire research subject which includes all elements in the research area (Arikunto, 2018). The population in this study were all medical record data on pregnant women who had preeclampsia or did not experience preeclampsia, amounting to 733 pregnant women in hospitals. Sibuhuan. Data from September 2021 to September 2022.

Research Sample

The sample is part or representative of the population studied. It is called sample research if we intend to realize the results of sample research (Arikunto, 2017). The sampling technique for the case group was carried out using the purposive sampling method, namely taking medical record data that was in accordance with the research objectives where the medical record data was selected based on the researcher's considerations so that it was expected to be able to answer research problems (Sastroasmoro and Ismael, 2017). The researcher applies the case sample criteria as follows:

Research Variables and Operational Definition of Research

The operational definition is an explanation of all the variables and terms of money that will be used in operational research so that it makes it easier for the reader to interpret the meaning of the research (Nasir, 2013). In this study, the independent variable (X) is Knowledge, Culture and the dependent variable (Y) is the use of IUD contraception.

Data collection technique

Data collection is a process of approaching the subject and the process of collecting the characteristics of the subject needed in a study (Nursalam, 2013). Data collection begins after receiving a permit for conducting research from the RSUD. Sibuhuan and Educational Institutions at Haji University, North Sumatra, researchers then came to the Medical Record Hospital. Sibuhuan to request a letter of approval to conduct research at the RSUD. Sibuhuan. After getting a reply letter for the research permit, conducting an initial survey and testing the validity of the instrument to determine the validity of the instrument, if the instrument is already valid.

Giving a letter of approval to become a respondent is willing to become a respondent and the respondent is willing to sign an informed consent letter to participate in this study, then the researcher explains the purpose, benefits, and process of filling out the questionnaire. After the respondent has finished observing, the observation sheet is checked for the completeness of the required data. Then the data that has been collected will be analyzed.

Research Instruments

The instrument used in this study was an observation sheet, where the observation sheet provided contained respondent data. In the first part of the research instrument, the demographic data of the respondents included: gender, age, occupation. The type of data used in this study was secondary data obtained from the medical record section of the hospital. Sibuhuan

RESULTS AND DISCUSSION

Univariate Analysis
Characteristics of Respondents

Table 1. Frequency DistributionFactors Affecting the occurrence of Pre-eclampsia in pregnant women in hospitals. Sibuhuan Barumun District, Padang Lawas Regency in 2022

Characteristics	Case		Control	
	F	%	f	%
Age				
No Risk	20	74,1	15	55.6
at risk	7	25,9	12	44.4
Total	27	100.0	27	100.0
Parity				
Primipara	21	77,8	21	77,8
Multipara	6	22.2	6	22.2
Total	27	100.0	27	100.0
Pregnancy Distance				
<1 year	18	66.7	24	88.9
>2 years	8	29.3	3	11,1
Total	27	100.0	27	100.0
History of Hypertension				
There is	15	55.6	0	0
There isn't any	12	44.4	27	100
Total	27	100	27	100
DM history				

Yes	0	0	0	
Not	27	100	27	100
Total	27	100	27	100
Preeclampsia				
Yes	27	100	0	0
Not	0	0	27	100
Total	27	100	27	100

Based on Table 1 above, it can be seen that of the 27 respondents who experienced PE the majority of the age were not at risk as many as 20 respondents (74.1%), the majority of primiparous parity were 21 respondents (77.8%), the majority of pregnancy intervals <1 year were 18 respondents. (66.7%), the majority had a history of hypertension as many as 15 respondents (55.6%), the majority did not have a history of DM as many as 27 respondents (100%).

Bivaat analysis
Age

Table 2. Cross tabulation of age factors that influence the occurrence of pre-eclampsia in pregnant women at hospitals. Sibuhuan, Barumun District, Padang Lawas Regency Year 2022.

Age	Pre Eclampsia				Total	
	Not	%	Yes	%	f	%
No Risk	15	55.6	20	74,1	35	68
at risk	12	44.4	7	25,9	19	35,2
Total	27	100	27	100	54	100
P = 0.154 OR= 0.438 [95% CI 0.139 – 1.378]						

Based on table 2, it can be seen that 20 respondents (74.1%) were pregnant women of a non-risk age, while 12 respondents (44.4%) were pregnant women of a risky age who did not experience PE.

Based on the statistical test using chi-square, the value of ρ = 0.154 ($\rho <\alpha$, α = 0.05) is obtained, then H0 is accepted, which means that there is no relationship betweenage with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency

Then results*odds ratio*(OR) results obtained OR = 0.438 [95% CI 0.139 – 1.378] which means that the range 0.139 – 1.378 passes the value 1, thenage with the occurrence of pre-eclampsia in pregnant women0.438 greater thanage with the occurrence of pre-eclampsia in pregnant women.

Parity

Table 3. Factor Cross TabulationParity Affecting the Occurrence of Pre-eclampsia in Pregnant Women in RSUD. Sibuhuan, Barumun District, Padang Lawas Regency Year 2022

Parity	Pre Eclampsia				Total	
	Not	%	Yes	%	f	%
Primipara	21	77,8	21	77,8	42	77,8
Multipara	6	22.2	6	22.2	12	22.2
Total	27	100	27	100	54	100
= 1,000 OR= 1,000 [95% CI 0.277 – 3,608]						

Based on table 3, it can be seen that pregnant women with primiparous parity who experienced PE there were 21 respondents (77.8%), whereas in pregnant women with multiparity parity who did not experience PE there were 6 respondents (22.2%).

Based on statistical tests using chi-square, the value of ρ = 1,000 ($\rho <\alpha$, α = 0.05) is obtained, then H0 is accepted, which means there is no relationship betweenparity with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency

Then results*odds ratio*(OR) the results obtained OR = 1,000 [95% CI 0.277 – 3.608] which means the range 0.277 – 3,608 passes the value 1, thenparity with the occurrence of pre-eclampsia in pregnant women0.277 greater thanparity with the occurrence of pre-eclampsia in pregnant women.

Pregnancy Distance

Table 4. Factor Cross TabulationPregnancy Distance Affecting Pre-Eclampsia in Pregnant Women in RSUD. Sibuhuan, Barumun District, Padang Lawas Regency Year 2022

Pregnancy Distance	Pre Eclampsia				Total	
	Not	%	Yes	%	f	%
<1 year	24	88.9	18	66.7	42	77,8
>2 years	3	11,1	9	33.3	12	22.2
Total	27	100	27	100	54	100
P = 0.127						

Based on table 4 it can be seen that there were 24 respondents (88.9%) for pregnant women with <1 year spacing of pregnancies, while for pregnant women with >2 years spacing who did not experience PE there were 9 respondents (33.3%))

Based on statistical tests using chi-square, the value of value = 0.127 (ρ < , = 0.05), then H0 is accepted which means there is no relationship betweenspacing of pregnancies with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency

History of Hypertension

Table 5. Factor Cross TabulationHistory of Hypertension that Affects the occurrence of Pre-Eclampsia in Pregnant Women at the Hospital. Sibuhuan, Barumun District, Padang Lawas Regency in 2022

History of Hypertension	Pre Eclampsia				Total	
	Not	%	Yes	%	F	%
There is	27	100	15	55.6	42	77,8
There isn't any	0	0	12	44.4	12	22.2
Total	27	100	27	100	54	100
= 0.000 OR= 0.357 [95% CI 0.238 – 0.536]						

Based on table 5 it can be seen that pregnant women with a history of hypertension did not experience PE, there were 27 respondents (100%), while pregnant women with no history of hypertension who experienced PE there were 12 respondents (44.4%)

Based on statistical tests using chi-square, the value ρ = 0.000 (ρ <α, α = 0.05), then H0 is rejected, which means there is a relationship betweenhistory of hypertension with the occurrence of pre-eclampsia in pregnant women at the hospital. Sibuhuan, Barumun District, Padang Lawas Regency

Then results*odds ratio*(OR) the results obtained OR = 0.357 [95% CI 0.238 – 0.536] which means the range 0.238 – 0.536 does not exceed the value 1, thenhistory of hypertension with the occurrence of pre-eclampsia in pregnant women0.357 greater thanhistory of hypertension with the occurrence of pre-eclampsia in pregnant women.

Diabetes history

Table 6. FactorHistory of Diabetes which Affects the occurrence of Pre Eclampsia in Pregnant Women at the Hospital. Sibuhuan Barumun District, Padang Lawas Regency in 2022

Diabetes history	Pre Eclampsia				Total	
	Not	%	Yes	%	f	%
Not	27	100	27	100	54	100
Total	27	100	27	100	54	100

Based on table 6 it can be seen that pregnant women with no history of diabetes did not experience PE, there were 27 respondents (100%), while pregnant women with a history of diabetes who experienced PE there were 27 respondents (100%)

Based on statistical tests using chi-square, the value ρ = 0.000 (ρ <α, α = 0.05), then H0 is rejected, which means there is a relationship betweenhistory of diabetes with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency

Discussion

Age

Based on the table, there are 20 respondents (74.1%) of pregnant women with age who are not at risk who experience PE (74.1%), while there are 12 respondents (44.4%) at risk age who do not experience PE.

Based on the statistical test using chi-square, the value of ρ = 0.154 (ρ <α, α = 0.05) is obtained, then H0 is accepted, which means that there is no relationship betweenage with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency

Then the odds ratio (OR) results obtained OR = 0.438 [95% CI 0.139 – 1.378] which means the range 0.139 – 1.378 passes the value 1, thenage with the occurrence of pre-eclampsia in pregnant women0.438 greater thanage with the occurrence of pre-eclampsia in pregnant women.

According to Wiknjosastro (2013) the age or age of pregnant women is classified into 2, namely age not at risk and age at risk. Age that is not at risk (safe) for pregnancy and childbirth is age 20-35 years, while age at risk for pregnancy and childbirth is <20 years and > 35 years . At the age of <20 years, maternal mortality is 2-5 times higher than maternal deaths at the age of 20-30 years, material deaths increase again at the age of >35 years. Age plays an important role in the incidence of hypertension during pregnancy where the risk level of pregnancy and childbirth for women aged less than 20 years and more than 35 years has a high risk of developing hypertension. At the age between 20-35 years, mothers are more prepared to get pregnant physically and psychologically. At the age of 35 years or more, the mother's health has declined,

The reproductive age of a woman is 20-35 years. This reproductive age is the safest period for pregnancy and childbirth because at that age the risk of complications during pregnancy is lower. Age under 20 years and over 35 years are also referred to as the age at high risk for complications during pregnancy. At the age of <20 years, the size of the uterus has not reached the normal size for pregnancy, so the possibility of pregnancy disorders such as preeclampsia is greater. At the age of > 35 years there is a degenerative process that results in structural and functional changes that occur in peripheral blood vessels which are responsible for changes in blood pressure, making them more susceptible to experiencing preeclampsia (Novianti, 2016).

According to Riskesdas (2017) there are still many cases of hypertension in pregnant women at a young age, namely 31.7% due to people's lack of understanding about healthy reproductive age, so many get married and get pregnant at a young age. In pregnancy <20 years, the reproductive state is not ready to accept pregnancy and will increase the risk of developing hypertension in pregnancy. A safe healthy age for pregnancy and childbirth is 20-30 years old. Meanwhile, at the age of 35 years and over, changes have occurred in the tissues and uterine devices and the birth canal are not flexible anymore. At that age, there tends to be other diseases in the body of pregnant women, one of which is hypertension (Chandradewi, 2014).

The results of this study are in accordance with previous research conducted by Hinda Noviati (2016), there is no relationship between age and the incidence of gestational hypertension. This study is also in line with Tigor Situmorang (2016) which shows that mothers aged in the risk category obtained 100%, it can be concluded that there is no significant relationship between age and the incidence of gestational hypertension.

According to the assumptions of researchers, respondents who are at risk age but do not experience pregnancy hypertension are caused by the condition of pregnant women who are very well spared from stress, are at parity not at risk and have no previous history of hypertension.

Because pregnant women know that they are at a dangerous age, so they are diligent in checking their condition. in midwives at puskesmas while respondents who were at age not at risk but experienced pregnancy hypertension because the average respondent was in their first pregnancy so they still had their own anxiety

Parity
Based on the table, it is known that pregnant women with primiparous parity who experience PE there are 21 respondents (77.8%), while pregnant women with multiparity parity who do not experience PE there are 6 respondents (22.2%).

Based on statistical tests using chi-square, the value of ρ = 1,000 (ρ <α, α = 0.05) is obtained, then H0 is accepted, which means there is no relationship betweenparity with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency

Then the odds ratio (OR) results obtained OR = 1,000 [95% CI 0.277 - 3.608] which means the range 0.277 - 3,608 passes the value 1, thenparity with the occurrence of pre-eclampsia in pregnant women0.277 greater thanage with the occurrence of pre-eclampsia in pregnant women.

The first parity is related to the mother's lack of experience and knowledge in prenatal care, parity 2-3 is the safest parity, parity one and parity more than 3 are risk parity because they have experienced a decline in reproductive organs, pregnant women who have just become mothers or with new partners have a risk 6 to 8 times more prone to hypertension. The new England journal of medicine noted that the risk of hypertension in the first pregnancy was 3.9, the second pregnancy was 1.7% and the third pregnancy was 1.8% (Oktaviani, 2017).

The results of this study are in accordance with previous research conducted by Sutrimah (2015) it can be concluded that there is no significant relationship between parity and the incidence of preeclampsia. The results of this study are also supported by Fauziah (2012) so that there is no relationship between parity and the incidence of preeclampsia in pregnant women at the Regional Public Service Agency, dr. Zainoel Abidin Banda Aceh. This study is in line with Tigor H. Situmorang (2016) there is no significant relationship between parity and the incidence of preeclampsia.

Pregnancy Distance
Based on the table it is known that there are 24 respondents (88.9%) for pregnant women with <1 year spacing of pregnancies, while for pregnant women with >2 years spacing who do not experience PE there are 9 respondents (33.3%)

Based on statistical tests using chi-square, the value of ρ = 0.127 (ρ <α, α = 0.05) is obtained, then H0 is accepted, which means that there is no relationship betweenspacing of pregnancies with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency

Nationally, the Indonesian government provides rules for married couples that 2 children in each married couple is enough (BKKBN, 2012). This is one of the efforts to equalize the population of Indonesia. The amount of parity that is too much can have a health impact on both mother and baby. During pregnancy, biological sources in the mother's body are systematically used and for subsequent pregnancies it takes 2-4 years for the mother's body condition to return to its previous condition. If pregnancy occurs before 2 years, the mother's health will progressively decline. A safe distance for women to give birth again is at least 2 years. according to research assumptions, so that women can recover after pregnancy and lactation.

History of Hypertension
Based on the table it is known that pregnant women with a history of hypertension did not experience PE, there were 27 respondents (100%), while pregnant women with no history of hypertension who experienced PE there were 12 respondents (44.4%)

Based on statistical tests using chi-square, the value ρ = 0.000 (ρ <α, α = 0.05), then H0 is rejected, which means there is a relationship betweenhistory of hypertension with the occurrence

of pre-eclampsia in pregnant women at the hospital. Sibuhuan, Barumun District, Padang Lawas Regency

Then the odds ratio (OR) results obtained OR = 0.357 [95% CI 0.238 – 0.536], which means that the range 0.238 – 0.536 does not exceed the value 1, sohistory of hypertension with the occurrence of pre-eclampsia in pregnant women0.357 greater thanhistory of hypertension with the occurrence of pre-eclampsia in pregnant women.

Women who have hypertension in their first pregnancy will increase preeclampsia in their next pregnancy, the incidence of hypertension shows that a pregnant woman who has a history of hypertension tends to have a risk of hypertension in her second pregnancy if the pregnancy is long distanced. Hypertension in pregnancy is a medical problem that often arises and can cause various complications such as eclamptic seizures, cerebral hemorrhage and low birth weight.

Factors with a history of hypertension have a risk of 4 times the occurrence of preeclampsia compared to pregnant women who have no history of hypertension. High blood pressure in pregnant women has a variety of impacts, ranging from mild to severe preeclampsia. have hypertension and continued hypertension during pregnancy).

The results of this study are in line with previous research conducted by Nuning Saraswati (2016). The results of bivariate analysis showed that there was a significant relationship between a history of hypertension and the incidence of preeclampsia in pregnant women. However, this study is not in line with Tigor H. Situmorang (2016) there is no significant relationship between a history of hypertension and the incidence of pre-eclampsia.

According to the assumption of the researcher, some respondents who are in the category of having a history of hypertension but do not experience pregnancy hypertension this is because basically these respondents have normal blood pressure conditions because they always control their blood pressure, besides that the average respondent who does not experience hypertension is also in the category age and parity are not at risk, so it is possible that in the category there is no history but has hypertension, this is because the respondent is the wife of a fisherman who helps her husband's work before and after going to sea. This causes pregnant women to be less rested and overworked and never even have their pregnancy checked at all, one of which is that they never control their blood pressure.

Diabetes history
Based on the table, it is known that pregnant women with no history of diabetes do not experience PE there are 27 respondents (100%), while pregnant women with a history of diabetes who have PE have 27 respondents (100%).

Based on statistical tests using chi-square, the value ρ = 0.000 (ρ <α, α = 0.05), then H0 is rejected, which means there is a relationship betweenhistory of diabetes with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency

Diabetes is a disease in which the body does not produce sufficient amounts of insulin or vice versa, the body is less able to use insulin optimally (even though the amount of insulin is sufficient). Insulin is a hormone produced by the pancreas, which functions to supply glucose from the blood to the body's cells to used as body fuel. Pregnancy can affect the onset of diabetes in a person. Since pregnancy, there has been a change in the level of carbohydrates in the mother's body which is needed for more energy than usual for the growth of the fetus. However, increased carbohydrate intake can make the hormone insulin in the body insufficient. The role of this hormone is to control blood sugar levels which are converted from carbohydrates. As a result, there is an accumulation of sugar levels which causes an increase in blood sugar levels. Congenital diabetes or diabetes that is acquired during pregnancy can be bad for pregnancy and the risk of preeclampsia (Inchtiari: 2015).

CONCLUSION

After conducting research on "Factors Affecting the occurrence of Pre-eclampsia in pregnant women in hospitals. Sibuhuan Barumun District, Padang Lawas Regency in 2022" then researchers can conclude that: There is no relationship betweenage with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency. There is no relationship betweenparity with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas RegencyThere is no relationship betweenspacing of pregnancies with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency. There is a relationship betweenhistory of hypertension with the occurrence of pre-eclampsia in pregnant women at the hospital. Sibuhuan, Barumun District, Padang Lawas Regency. no relationship betweenhistory of diabetes with the occurrence of pre-eclampsia in pregnant women in hospitals. Sibuhuan, Barumun District, Padang Lawas Regency

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