AN OVERVIEW OF THE RISK FACTORS FOR PREECLAMPSIA IN WOMEN WITH A HISTORY OF PREECLAMPSIA IN PREVIOUS PREGNANCIES IN JEMBER AGRICULTURAL AREA

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ABSTRACT

Introduction: Preeclampsia is a condition where symptoms appear in the third trimsemester of pregnant women. Preeclampsia has the main symptoms of edema, hypertension, and proteinuria, called the triad of preeclampsia. Preeclampsia is accompanied by complications such as seizures that can lead to eclampsia. Signs that can be seen are systolic blood pressure below 160 mmHg and diastolic blood pressure belom 110 mmHg. Preeclampsia is a problem in Indonesia, especially Jember, which causes high MMR (Maternal Mortality Rate) in Indonesia. **Purpose**: This study aims to determine risk factors that can cause preeclampsia, such as taking antihypertensive drugs, length of last pregnancy, history of gestational hypertension, age of first gestational hypertension, signs and symptoms of preeclampsia during pregnancy, signs and symptoms of preeclampsia before first pregnancy. **Methods:** This research is quantitative, with the number of respondents as many as 150 pregnant women. Questionnaires will be distributed to respondents in the form of Google Forms. **Result:** As a result, 23 respondents had preeclampsia, and the rest had risk factors for preeclampsia. **Conclusion:** The results of this study are used to provide preventive measures for pregnant women to reduce MMR in Indonesia, especially in Jember.
Keywords: Preeclampsia ; Risk Factors ; Maternal Mortality Rate

INTRODUCTION

Preeclampsia is a condition in which a symptom appears in the third trimester of pregnant women. Preeclampsia has the main symptoms of edema, hypertension, and proteinuria which is called the triad of preeclampsia. Preeclampsia accompanied by complications such as seizures can cause eclampsia. Signs that can be seen are systolic blood pressure below 160 mmHg and diastolic blood pressure below 110 mmHg (Hikmawati & Rahmawati, 2021).

Preeclampsia in Indonesia causes a high maternal mortality rate (MMR). The high MMR in Indonesia is caused by childbirth, making preeclampsia a very feared thing. Pregnant women around the world experience preeclampsia as much as 10% with an MMR coverage of 76,000. MMR in Indonesia alone in 2016 reached 305 in 100,000. East Java itself in 2021 will reach 234.7 in 100,000. Jember Regency itself in 2021 is ranked 14th in terms of MMR which reaches 350 in 100,000 (Dinas Kesehatan Provinsi Jawa Timur., 2021).

Preeclampsia has several risks, namely taking antihypertensives, length of last pregnancy, history of hypertension during pregnancy, age when hypertension first occurred, signs and symptoms of

preeclampsia during pregnancy, and signs and symptoms of preeclampsia before first pregnancy. These factors play an important role in the occurrence of preeclampsia in the mother. If the mother fulfills these risk factors, it is very likely that the mother will experience preeclampsia. Mothers who experience preeclampsia require special attention from nurses. This is because preeclampsia is dangerous for the mother and fetus (Alatas, 2019).

The way that can be done is to improve services during Antenatal Care regarding preeclampsia. This effort can be done to provide faster treatment to mothers who have risk factors for preeclampsia. In addition, nurses also provide support and motivation to mothers who experience preeclampsia because they are different from other mothers. The nurse must also be able to communicate properly when with the patient so that the patient can understand it and not be offended. Based on the background above, researchers are interested and (Patimah & Megawati, 2021).

RESULTS
Analisis Univariat
Karakteristik responden

Characteristics of respondents in the work area of the Banjarsengon, Panti, and Tempurejo Health Centers, based on marital status, household welfare, ethnicity, prenatal care provider (ANC), place to obtain prenatal care (ANC), parity, health problems during pregnancy, and sex of the fetus.

Table 1. Characteristics of respondents

Characteristics	Frequency	Percentage
Marital Status		
Married	149	99,3%
Divorced	1	0,7%
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Pre Prosperous	1	0,7%
Prosperous I	22	14,7%
Prosperous II	92	61,3%
Prosperous III	35	23,3%
Prosperous III Plus	0	0,0%
Tertiary Education		
No School	4	2,7%
Primary School	44	29,3%
Junior High School	39	26,0%
Senior High School	55	36,7%
Diploma	8	5,3%
S1	0	0,0%
S2	0	0,0%
S3	0	0,0%
Ethnicity		
Jawa	63	42%
Madura	69	46%
Pandalungan	18	12%
Language		
Jawa	58	38,7%
Madura	87	58%
Indonesia	3	3,3%
ANC Providers		

Characteristics	Frequency	Percentage
Family Doctor	0	0,0%
Obstetricians	14	9,3%
Midwifery	132	88%
Nurse Practice	0	0,0%
Public Health Center	3	2,0%
Nothing	1	0,7%
ANC Venues		
Home	12	8,0%
Clinic	17	11,3%
Poli	10	6,7%
Public Health Center	19	12,7%
Integrated Health Care Center	92	61,3%
Gender		
Boy	21	14%
Girl	16	10,7%
Unknown	113	75,3%
Mother's Age		
15-20	13	8,7%
21-26	55	36,7%
27-32	53	35,3%
33-38	23	15,3%
39-44	6	4,0%
Parity		
Primipara	50	33,3%
Multipara	100	66,7%
Gestational Age		
1st Trimester	6	4,0%
2nd Trimester	59	39,3%
3rd Trimester	85	56,7%

Table 1 shows the total characteristics of respondents based on marital status, most were married 149 respondents (99.3%), family welfare was the most prosperous II 92 respondents (61.3%), the most recent education level was senior high school 55 respondents (36.7%)), the most ethnicity is Madura 69 respondents (46.0%), the language is mostly Madura 87 respondents (58.0%) prenatal care providers (ANC) most are midwives 132 respondents (88.0%), where to get prenatal care (ANC) mostly integrated health care center 92 respondents (61.3%), the sex of the fetus is unknown at most 113 respondents (75.3%), the age of the mother is mostly in the range of 21-26 years 55 respondents (36.7%) , the most parity is multipara 100 respondents (66.7%), and the third trimester of pregnancy is mostly 85 respondents (56.7%).

Table 2. Distribution of the mean (average) value of the preeclampsia indicator at the Banjarsengon, Panti, and Tempurejo Health Centers in the Jember Agricultural Region

No.	Indicator	Mean	Std. Deviation	Confidence Interval	
				Min	Max
1.	Are you currently taking any prescription medication to lower your blood pressure?	2,02	0,441	1	3
2.	Have you ever experienced one pregnancy more than 6 months?	1,79	0,406	1	2
3.	During this pregnancy (which lasted longer than 6 months), did your doctor ever tell you that you had high blood pressure or hypertension?	4,46	2.213	1	5
4.	How old were you, when the first pregnancy-related high blood pressure occurred?	0,39	1.029	0	5
5.	During a pregnancy where you had hypertension, did you have preeclampsia?	0,19	0,610	0	3
6.	When you have never been pregnant and you have high blood pressure, do you have signs of preeclampsia?	0,32	0,892	0	3

Based on the results of table 2, the results of the preeclampsia category at Banjarsengon, Panti, and Tempurejo Health Centers in the Jember Agricultural Region show that the highest average score is the question of notification by a doctor about hypertension and the lowest average score is on the question of age at first hypertension.

DISCUSSION
Respondents Characterisctics

Characteristics of respondents based on marital status showed that most respondents had married status with a total of 149 respondents (99.3%) while there was 1 respondent (0.7%) who had divorced status. Harmonious families who have married status usually have less stress because they have the support of their husbands. Husband's support is a resource provided by husbands to their wives both mentally and socially. Wives who get good husband support will usually have good coping mechanisms so that they will minimize stress during pregnancy (Wahyu Agustina et al., 2021).

Characteristics of respondents based on household welfare obtained the most respondents at the Prosperous Family Welfare II level with a total of 92 respondents (61.3%) while there were still families who were in Pre-Prosperous Family status with a total of 1 respondent (0.7%). The Prosperous Family is a family that is formed based on legal marriage, is able to meet the needs of proper spiritual and material life, is devoted to God Almighty, has a harmonious, harmonious and balanced relationship between members and between families and society and the environment (UU, 2009).). Economic conditions greatly affect the health status of the family. Families that have a low quality of life because their income is low usually have limitations in accessing health services. This causes the family to be minimal to get a diagnosis of preeclampsia from an early age (Hardiyanti et al., 2021)

Characteristics of respondents based on the level of education obtained by respondents as many as 4 respondents who did not attend school (2.7%) and there were as many as 44 respondents (29.3%) who had elementary school education (SD). Even though according to the Constitution of the Republic of Indonesia number 47 of

2008 Indonesian citizens are required to study 12 years (PP, 2008). But on reasearch (Hipni, 2019) education does not have a major effect on mothers with preeclampsia because the education possessed by the mother does not guarantee that the mother suffers or does not suffer from a particular disease.

Characteristics of respondents based on ethnicity showed that the majority of respondents had the Madurese tribe with a total of 69 respondents (46.0%) and the fewest respondents had a mixture of Javanese and Madurese or more commonly known as the Pandalungan tribe with a total of 18 respondents (12.0%). The Madurese are known to like salty food which is high in sodium. Sodium consumption itself is closely related to diastolic and systolic hypertension. This refers to the tradition of their parents which will be passed on to their offspring until now (Musdalifah et al., 2020). Therefore, when pregnant, usually hypertension will be more dominated by pregnant women who have Madurese ethnicity. Therefore a low sodium (Na+) diet must be carried out in mothers with high sodium consumption which is in line with the theory of nutritional deficiency (Na+) (Andriani et al., 2021).

Characteristics of respondents based on language, it was found that the majority of respondents used the Madurese language with a total of 87 respondents (58.0%). The language used by the majority of respondents is Madurese. This is because this research was conducted in the work area of the puskesmas which was indeed dominated by the Madurese people. As previously explained, the intake of micronutrients such as sodium (Na+) is not followed by a balance of potassium (K+). Increased intake of sodium (Na+) can cause fluid retention which will increase blood volume so that the heart has to pump harder to push blood which has the potential for hypertension which is in line with the theory of nutritional deficiency (Zahrotun Ni et al., 2022).

Based on the characteristics of respondents based on antenatal care (ANC) providers, the majority of respondents conducted antenatal care (ANC) examinations for midwives with a total of 132 respondents (88%) and at least 1 respondent had never had a pregnancy check-up (0.7%). Midwives are health workers whose competence refers to providers of maternal and neonatal health services. This makes many pregnant women choose to check their wombs with midwives because they are easy to reach and are familiar with the routine posyandu they attend (Nisa et al., 2019). Antenatal Care (ANC) is a program from the government that is used as an effort to reduce the MMR rate in Indonesia. Antenatal Care (ANC) visits should be carried out 4 times during pregnancy, namely the first to fourth visits. Antenatal Care (ANC) carried out by mothers can usually help monitor and support the health of pregnant women (Ekasari & Natalia, 2019).

According to the characteristics of the respondents based on the place of Antenatal Care (ANC), it was found that the majority of respondents carried out antenatal care (ANC) examinations at the Posyandu, namely 92 respondents (61.3%) and at least 12 respondents (8.0%) who carried out examinations at home. Posyandu is the place most frequently visited by pregnant women and routinely every month and will continue after giving birth until the child is 5 years old (Nisa et al., 2019). Posyandu aims to make it easier for mothers to get access to health services. In addition to having the posyandu program, the puskesmas usually has an Antenatal Care (ANC) program which is carried out every month at the puskesmas. In contrast to Posyandu, which is only in every small area, Antenatal Care (ANC) is attended by all pregnant women who are in

the coverage of the puskesmas.(Febriati et al., 2022).

According to the characteristics of the respondents based on the sex of the fetus, the majority of respondents did not know the sex of the fetus, namely 113 respondents (75.3%). The sex of the fetus itself has nothing to do with preeclampsia or complications in the mother. Gender itself does not affect pregnancy in the mother and there are no journals that discuss this.

Characteristics of respondents based on the age of the mother found that the most respondents had an age range of 21-26 years as many as 55 respondents (36.7%). Age is said to be unhealthy in dealing with pregnancy, namely <20 years and ≥ 35 years. This vulnerable age is usually prone to preeclampsia for pregnant women. Therefore when you are at that age but the mother is already experiencing pregnancy, health workers will usually be directed for routine control at health services to ensure that the mother and baby are safe (Wahyuni & Rahmawati, 2018).

Characteristics of respondents based on parity showed that the most respondents had multipara parity with a total of 100 respondents (66.7%). Out of a total of 100 respondents who have multipara parity, there are 23 respondents who have hypertension and 16 respondents (69.6%) of whom have multipara parity. In terms of pregnancy safety, mothers who have parity 2-3 are the safest parity compared to the first parity because when mothers have parity 2-3 the mother's knowledge is sufficient about pregnancy and childbirth. Meanwhile, if the mother has a parity of more than 3 has a high risk. The distance between pregnancies should also not be too close because it can be dangerous for the mother and at worst can cause death (Ekasari et al., 2019).
Characteristics of respondents based on gestational age found that the most respondents were at gestational age in the

third trimester with a total of 85 respondents (56.7%). Pregnancy is also an indicator of preeclampsia because preeclampsia usually occurs in pregnant women in the second and third trimesters. This is in line with the theory of cardiovascular adaptation where when the pregnancy reaches the age of 20 weeks the pregnant woman will lose refractory blood vessels and can cause hypertension. (Lalenoh, 2018).

An overview of the risk factors for preeclampsia in women with a history of preeclampsia in previous pregnancies in the Jember agricultural area

Based on research data, most mothers have normal blood pressure and do not have signs and symptoms of preeclampsia. Research data on the questionnaire shows that there are 23 respondents who have high blood pressure and complications from the triad of preeclampsia. Questions regarding the consumption of antihypertensives there were 13 respondents who consumed them, questions regarding miscarriage there were 31 respondents who had experienced miscarriages, questions regarding doctor notifications about hypertension there were 23 respondents who had hypertension and were told by doctors, questions about the age at first hypertension during pregnancy showed that there were 23 respondents who had high blood pressure and complications from the triad of preeclampsia, questions during pregnancy hypertension 16 respondents who had signs of the triad of preeclampsia, and questions before pregnancy experienced hypertension there were 19 respondents who had signs of the triad of preeclampsia.

This research is in line with research conducted by (Atalas., 2019) regarding hypertension in pregnancy which shows that hypertension can affect pregnancy which will cause signs and symptoms of preeclampsia. Apart from that, this study is

also in line with research (Andriani., 2021) that primigravida has an effect on the incidence of hypertension for farmers. Therefore strict monitoring and control of pregnant women who have hypertension or a history of hypertension is needed.

Preeclampsia is a complication of pregnancy whose exact cause is not yet known. The causes of preeclampsia can only be known through the theoretical benchmarks that have been put forward such as the theory of placental vascularization disorders, the theory of placental ischemia and free radical formation, the theory of immunological tolerance between mother and fetus, the theory of cardiovascular adaptation, genetic theory, and the theory of nutritional deficiency. Therefore preeclampsia is called the disease of theories (Lelenoh, 2018). There are various factors that cause preeclampsia, such as taking antihypertensives, length of last pregnancy, history of gestational hypertension, age at first hypertension during pregnancy, signs and symptoms of preeclampsia during pregnancy, and signs and symptoms of preeclampsia before first pregnancy (Dieh et al., 2008). Therefore, mothers must be diligent in checking their pregnancies at the nearest health service center to find out the exact condition so they can take prevention as early as possible. Because preeclampsia itself is very dangerous not only for the mother but also for the fetus. The researcher's opinion based on the results of this study, hypertension does affect the mother's pregnancy followed by other risk factors. This condition could have been exacerbated by the presence of a congenital disease by the mother. Therefore, mothers must be able to control their lifestyle by exercising diligently and controlling sodium intake (Na+) that enters the body.

CONCLUSION

Based on the results and discussion of research on the description of the risk factors for preeclampsia in women with a history of preeclampsia in previous pregnancies in the Jember Agricultural Region, it can be concluded that preeclampsia can occur in the normal age range of pregnant women, not only <20 years and > 35 years. This is because preeclampsia itself is called the disease of theories where the exact cause of preeclampsia is not known. In addition, there are many risk factors for preeclampsia such as taking antihypertensives, length of last pregnancy, history of gestational hypertension, age at first hypertension during pregnancy, signs and symptoms of preeclampsia during pregnancy, and signs and symptoms of preeclampsia before first pregnancy. Therefore, you should routinely attend posyandu and Antenatal Care (ANC) activities organized by the puskesmas. This examination is intended so that mothers can be detected early regarding preeclampsia and can be treated more complexly.

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