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RELATIONSHIP BETWEEN MATERNAL AGE WITH SEVERE PREECLAMPSIA IN MARZOEKI MAHDI HOSPITAL BOGOR

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ABSTRACT

Background: Preeclampsia and eclampsia are the leading cause of death after bleeding and infection. Severe preeclampsia is a joint complication and cause of Maternal mortality ranges between 9.8% - 25.5%.

Objective: To determine maternal age relationship with the incidence of severe preeclampsia in Maezoeki Mahdi Hospital Bogor in 2013.

Method: survey with a cross sectional approach. Data was obtained from the patient medical record. The population in this study was all women giving birth at Marzoeki Mahdi hospitals Bogor in 2012, with a sample of 94 people.

Results: The prevalence of mothers delivered with severe preeclampsia in Marzoeki Mahdi Hospital Bogor as much as 24.5%. Mother age who has a significant relationship with the incidence of severe preeclampsia, whereas parity, gestational age and a history of pre-eclampsia do not show a significant association.

Conclusion: Maternal age who has a significant relationship with the incidence of severe preeclampsia.

Suggestion: To examine the ANC regularly, at least four times during pregnancy can prevent severe preeclampsia.

Keyword: Age and Severe Preeclampsia.

Introduction

National development is essentially the integral human development, one of which is development which is aimed at improving the ability of health and quality of life of healthy people in order to manifest optimal health status. One indicator of the health of a country is the Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR). This was due to the mother and baby are groups which have a large degree of vulnerability to disease and death.

The current status of maternal and child health in Indonesia is far from being the expected, characterized by high MMR and IMR. Based on the Indonesian Demographic and Health Survey (IDHS) 2007 MMR data obtained at 228 per 100,000 live births, this figure is still high when compared with neighboring countries such as Malaysia (62 per 100,000 live births), Sri Lanka (58 per 100,000 live births), and the Philippines (230

per 100,000 live births). As for the data IMR in Indonesia for 32 per 1,000 live births (IDHS 2012). But this rate is still relatively high when compared with the ASEAN countries such as Singapore (3 per 1000 live births), Brunei Darussalam (8 per 1000 live births), Malaysia (10 per 1,000 live births), Vietnam (18 per 1,000 live births), and Thailand (20 per 1,000 live births).

From all provinces, West Java ranks first for Maternal Mortality Rate and Infant Mortality Rate, followed by Central Java, East Nusa Tenggara, Banten and East Java. Bogor District Health Office reported that from January to November 2010, there were 60 mothers died during childbirth. According to data from the Child Health Program Reports of West Java Province Year 2010 - 2012, the number of neonatal deaths was reported in West Java reached 3624 and infant mortality reached 4,650.

The main causes of maternal deaths in Indonesia are haemorrhage, infection, eclampsia, obstructed labor and complications of abortion (Anwar, 2010). Eclampsia is the most common disease causing maternal mortality rates ranged from 9.8% -25.5% while the higher infant mortality is 42.2% - 48.9%. (Wiknjosastro, 2006).

The placental ischemia is main cause of preeclampsia, according to theory. However, this theory cannot explain all things related to the disease. Apparently not just one factor, but many factors that leads to preeclampsia and eclampsia (multiple causation). Factors that are often found as a risk factor among others nulliparous, multiple pregnancy, age less than 20 years old or over 35 years, has a history of descent, and obesity (William, 2002)

The incidence of severe preeclampsia in hospital Marzoekei Mahdi Bogor increased by 3.23% in 2010 and increased to 8.04% in 2011. From these data, the authors wanted to determine the relationship of maternal age on the incidence of severe preeclampsia in Marzoekei Mahdi Hospital Bogor.

Method

This study uses an observational study with a cross sectional approach to look at the relationship of independent variables and the dependent variable being measured simultaneously. The data in this study using secondary data from medical records of

patients. The population for this study is all mothers who were hospitalized Marzuki Mahdi in 2012 with a sample size of 94 people are the whole mothers who suffer from severe preeclampsia. The analytical method used univariable and bivariable by using Chi-square.

Research Result
Univariable Analysis

Table 1.
Frequency Distribution of Age, Parity, Age of Pregnancy and History of Preeclampsia Marzoekei Mahdi Hospital Bogor

Nu	Variable	Categories	Frequency
1	Age	High risks	27 (28,7%)
		Low risks	67 (71,3%)
2	Parity	High risk	60(63,8%)
		Low risk	34(36,2%)
3	Gestational age	High risk	84(89,4%)
		Low risk	10(10,6%)
4	History of severe preeclampsia	Yes	8 (8,5%)
		No	84 (91,5%)

Bivariable Analysis

At this stage bivariable analysis to determine the relationship of the independent variables with the dependent variable, external variable freely and external variables with the dependent variable. The statistical test used is Chi-Square. Results of the analysis are presented in the following table.

Table 2.
Relationship Respondent Characteristics with Severe Preeclampsia (n = 94)

Variable	Severe Preeclampsia		χ^2	p	RP	95% CI
	Yes (%)	No (%)				
Maternal Age						
High Risk	15 (55,6)	12 (44,4)	13,32	0,01*	5,73	1,04-1,55
Low Risk	12 (17,9)	55 (82,1)				
Parity						
High Risk	18 (30,0)	42 (70,0)	0,03	0,867	1,19	0,78-1,22
Low Risk	9 (26,5)	25 (73,5)				
Gestational Age						
Aterm	22 (26,2)	62 (75,8)	2,30	0,129	1,41	0,92-1,54
Preterm	2 (20,0)	8 (80,0)				
History of Preeclamsi						
Yes	4 (57,1)	3(42,9)	7,79	0,01*	3,7	1,07-1,57
No	23 (26,4)	64(73,6)				

Information :

χ^2 = Chi-Square

RP = Ratio Prevalens

p = p-value

CI = Confidence Interval

* = significant

From the above data can be seen in the incidence of high-risk severe preeclampsia at the age of 15 people (55.6%) and those who have a history of previous severe preeclampsia (57.1%). Statistical analysis showed significant correlation between maternal age and previous history with events severe preeclampsia with OR of 5.7: 3.7 This case illustrates that mothers who lived (20 years / > 35 years) have a risk of severe preeclampsia 5, 7 times when compared to maternal age 20-35 years, and women who have a history of previous severe preeclampsia had 3.7 times the odds for the severe preeclampsia. Parity variable prevalence as high risk (30%), low risk parity group of (26.5%) and at the gestational age \geq 37 weeks of (26,27%). Statistical analysis showed no significant correlation between parity and gestational age with the incidence of severe preeclampsia.

DISCUSSION

The prevalence of severe preeclampsia.

Based on the overall results of the study found the incidence of birth mothers with severe preeclampsia in 2012 were 112 respondents of 1393 mothers who gave birth at the Hospital Marzoeki Mahdi or by 8.04%. This figure increased compared to the incidence of severe preeclampsia in the previous year 50 people (3.23%) of the 1548 severe preeclampsia mother. High incident at the hospital may be caused Marzoeki Mahdi Marzoeki Hospital is a referral from health centers and private practices surrounding midwives,

Relationship Dependent Variable and Independent Variables

1. Maternal Age

severe preeclampsia highest prevalence by age is at high risk age group is 55.6%. Results of calculation of statistical test showed no association with the incidence of maternal age severe preeclampsia, with OR = 5.73, this illustrates that birth mothers aged <20 years / 35 years had 5.73 times the risk factors for preeclampsia occurs when compared to maternal age 30-35 years. This is according to research conducted by Koeswarsono et al (1991) in the RSU Gunung Wenang, Manado (1991) reported that the highest frequency of patients with eclampsia are at the age of 15-20

years, while the highest frequency severe preeclampsia occurs at age > 35 years, Agus (2001) also reported the results of his research found that age <20 years have a risk of severe preeclampsia 1.75 times and 2.47 times at the age of > 35 years.

Septi (2007) reported in RSUPN Dr. Cipto Mangunkusumo also found the highest proportion of patients with severe preeclampsia was highest at age <20/35 years as much as 37.5% and Sudhaberata (2001) said the same thing. Cunningham also said in his maternal age > 35 years increases the likelihood of severe preeclampsia. severe preeclampsia high incidence in the age group <20 years due to the growth in terms of biological and reproductive development is not yet fully ready or mature, the young woman is not ready to bear the moral burden that the lack of awareness of prenatal care (Astuti, 2002) and contrary on maternal age > 35 the year in which the health condition and reproductive decline and degenerative diseases that already exist.

2. Parity

severe preeclampsia highest prevalence of patients at high-risk groups, namely maternal P1 / $P \geq 4$ as much as 30% compared with maternal P2 / P3 are as much as 26.5%. The test results were not statistically significant relationship. This is not in accordance with the results of research conducted by Agus (2001) reported that the first parity has occurred severe preeclampsia risk was 0.62 times compared to the second and third parity. Research conducted by Septi (2007) in RSUPN Dr. Cipto Mangunkusumo also reported patients with severe preeclampsia in maternal parity first or fifth as much as 21.15% higher than the second and fourth parity is 6.00%. He concluded that the first or fifth parity had 4.2 times the risk of severe preeclampsia occurs. It is also inconsistent with the theory that the first pregnancy increases the risk of preeclampsia ten times more frequently (Chapman, 2006). Cunningham argued renal biopsy results of women with preeclampsia and find glomerulonephritis krinik at 205 nullipara. Manuaba (2007) also found a higher risk primigravid has to happen severe preeclampsia.

Adequate nutrition and regular ANC can reduce the risk of preeclampsia in maternal as

proposed by Manuaba (2007) which says that the provision of adequate calcium in the diet may reduce the occurrence of preeclampsia.

3. Gestational Age

Univariable analysis results obtained severe preeclampsia patients mostly in the age group of high-risk pregnancies (≥ 37 weeks) as many as 22 people (26,27%), while in the group of gestational age < 37 weeks only 2 people (20%). OR = 1.41. This case illustrates that birth mothers with gestational age 37 weeks had 1.41 times the risk of SEVERE preeclampsia when compared with birth mothers with gestational age < 37 weeks. Results of calculation of statistical test showed no significant relationship. This is not in accordance with the theory that the more her pregnancy affects normal placental changes such as thickening of blood vessel walls and villi which accelerate the process of preeclampsia and hypertension that generally occurs in the third quarter (Wiknjosastro, 2005). The theory put forward by Manuaba, et al (2005) that in general. Preeclampsia and eclampsia develop after the 20th week of her pregnancy and increasingly more likely onset of preeclampsia.

4. History of preeclampsia

The result showed the highest severe preeclampsia patients with a history of preeclampsia maternal family in the amount of 57.1% or 4 out of 7 people at risk group. A history of poor labor triggers predisposing factors. Results of calculation of statistical test looks for meaningful relationships with OR = 3.71, maternity with a history of preeclampsia have a risk of 3.71 times occur in preeclampsia compared mothers who no history of preeclampsia.

Results of this research is supported by the theory advanced by Chapman (2006) which states a family history of a genetic relationship, mother or sister increased risk of 4-8 times, also stated that the basic conditions contribute maternal and are the factors that determine the occurrence of preeclampsia. Chesley and Cooper (1986) studied the sister, daughter, granddaughter and daughter-eclampsia than women who give birth, they conclude preeclampsia very likely lowered. Cooper and Liston (1979) found that susceptibility to preeclampsia depend on a recessive gene. (Cunningham, 2006)

Regular antenatal care in accordance with the policy of a minimum program of antenatal visits carried out at least four times during pregnancy can recognize early complications that could be pursued early detect the presence of severe preeclampsia.

Conclusion

1. Prevalence severe preeclampsia occurs at age the age at high risk (71.3%) and the risk parity (P1 / $\geq P4$) which (63.8%), with the highest risk for gestational age (89.4%), while for the variable history of preeclampsia genetically contained the highest proportion in the age group is not at risk.

2. There is a significant relationship mother's age and history of the events severe preeclampsia, parity and gestational age do not have a meaningful relationship.

Suggestion

1. Provide counseling to the EFA to plan a pregnancy on maternal age 20-35 years.
2. Early detection severe preeclampsia at the time of the ANC, especially mothers who have a family history of the severe preeclampsia.

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