O-21

AGE RELATIONSHIP WITH SEVERE PRE ECLAMPSIA PREVALENCE IN SUNDARI HOSPITAL MEDAN

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ABSTRACT

Preeclampsia and eclampsia is the leading cause of death after bleeding and infection. Pre eclampsia is a common severe and cause MaternalMortality Rate(MMR) ranges between 9.8% -25.5%. This study aims to determine the relationship of age with the prevalence of severe preeclampsia in Sundari Hospital Medan. This study was a cross sectional study design with quantitative study. Samples were 94 persons who had severe preeclampsia in Sundari Hospital Medan. Data were then analyzed with chi square test. The results of the study reported that the prevalence of mothers delivered with severe preeclampsia in Sundari Hospital, Medan is as much (24.5%).Bivariate analysis results obtained maternal age has a significant relationship with the occurrence of pre-eclampsia, while parity, gestational age and a history of preeclampsia did not show a significant association. Recommendation for pregnant women to antenatal least four times during pregnancy can prevent severe preeclampsia.

Keywords : maternal age and preeclampsia.

BACKGROUND

One indicator of the health of a country is the level of maternal and infant mortality, this was due to the mother and baby are groups that have a large degree of vulnerability to disease and death. MMR in Indonesia is still higher other ASEAN countries such as Singapore which is only 3 /100,000 live births (LB), Brunei Darussalam 24 / 100,000 LB, Philippines 99, Malaysia 29, Vietnam 59, Thailand 46. Even Indonesia is the highest in MMR compare countries poor Asia such as Cambodia, Myanmar, Nepal, Sri Lanka, India, Bhutan, Bangladesh and East Timor[1].

The mortality rate in Indonesia is still high compared to other ASEAN countries. Based on the survey Demographic and Health (IDHS) in 1997 the MMR of 373 per 100,000 LB and a decrease of 307 per 100,000 LB in 2003 and in 2007 the maternal mortality rate in Indonesia reached 228 per 100,000 LB and IMR 34 per 1000 LB. However this is not in accordance with the target to be achieved nationally in 2010, amounting to 125 per 100,000 LB[2].

While in North Sumatra province in maternal mortality in the last 5 years, which was in 2006-2010 showed a declining trend, consecutive years of 360 / 100,000 LB in 2002, 345, 330, 320, 315, 328/100 000 LB. This figure is estimated will not decline until 2013[3]

The main causes of maternal death there is no special surveys, but nationally is caused because of childbirth complications 45%, retained placenta 20%, rips through the birth canal or lacerations 19%, obstructed labor 11%, bleeding and eclampsia each - each 10% of complications during the postpartum 5% and 4% of puerperal fever[3].

Severe preekslampsi is a complication of pregnancy characterized by hypertension (170/90 mmHg), edema and protein urine. The cause severe preeclampsia is not known with certainty, but a predisposing factor for preeclampsia is the first pregnancy weight, age, pregnancy spacing, social status, hydatidiform mole, history of hypertension, diabetes

mellitus, kidney disorders, family history and obesity suffer from preeclampsi. The prevalence of preeclampsi is more common in the age <20 years[4,5].

Results of preliminary studies conducted in hospitals Sundari Medan, the prevalence of severe preeclampsia had increased which in 2011 amounted to 3.23% increase to 8.04% in 2012 and found cases of severe preeclampsia in all age groups. From these data the authors wanted to know the relationship of age with severe preeclampsia prevalence at Sundari Hospital, Medan.

Formulation of the problem the prevalence of severe preeclampsia in Medan Sundari Hospital showed an increase from 2011 to 2012 amounted to (4.81%), namely (3.23%: 8.04%) and severe preeclampsia cases found in all age groups. For that to know the relationship of maternal age with the prevalence of severe preeclampsia in Sundari Hospital Medan.

Methode

The research instrument used, namely sheet the identity of the subject of research and Quesioner. Study Design: This study is a cross sectional analytic approach. The population of this research is all mothers delivered in RS Sundari Medan, with a sample of 94 people.

Data obtained from the medical record of the patient using data collection forms medical record and interviews with respondents. After determination of survey respondents, then researchers explain the intent and purpose of the research and subject of research are asked willingness to become respondents, along with the signing of informed consent as evidence of a willingness to be respondent.

To find out the identity of respondents researchers conducted interviews with respondents. The results of the interview included in the sheet identity of respondents. Sheets respondents' identities were coded respondents to further facilitate researchers in the implementation of data processing. Data were then analyzed with chi square test.

RESULT

Table 1: Frequency Distribution of Severe Preeclampsia, Age, Parity, Age Preeclampsia in Pregnancy And History at Sundari Hospital, Medan

Variable	Frequency (%)	
PEB		
Yes	8	(25,5%)
No	84	(74,5%)
Age		
High Risk	27	(28,7%)
Low Risk	67	(71,3%)
Parity		
High Risk	60	(63,8%)
Low Risk	34	(36,2%)
Pregnancy Age		
High Risk	84	(89,4%)
Low Risk	10	(10,6%)
Severe preeclampsia History		
Yes	8	(8,5%)
No	84	(91,5%)

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The above table shows that mothers delivered with severe preeclampsia as much 25,5%, the proportion Severe Preeclampsia mostly inlow-risk age is 67 people (71.3%), high risk parity of 60 people (63.8%) with gestational age ≥37 weeks is 84 people (89.4%). There is a family history of suffering Severe Preeclampsia for 8 people (8.5%).

Analysis Bivariable

Tabel 2: Respondent CharacteristicsAnalysis ResultsrelationshipwithSevere Preeclampsia (n =94)

Variabel	Severe Preeclampsia		χ^2	*p*	RP	95% CI
	Yes (%)	No (%)				
Mothers Age						
High Risk	15(55,6)	12 (44,4)	13,32	0,012	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)				
Pregnancy Age						
Aterm	22 (26,2)	62 (75,8)	2,30	0,129	1,41	0,92-1,54
Not aterm	2 (20,0)	8 (80,0)				
Preeclampsia History						
Yes	4(57,1)	3(42,9)	7,79	0,01	3,7	1,07-1,57
No	23(26,4)	64(73,6)				

Keterangan :
χ^2 = *Chi-Square* *p* = *p-value*
RP = *Ratio Prevalens* CI = *Confidence Interval*

From the above data it can be seen prevalence of severe Preeclampsia at high risk age of 15 people (55.6%). Mothers who have a high risk for the occurrence severe preeclampsia chance of 5-6 times compared with low-risk maternal age. Statistically age had a significant relationship with the occurrence of severe preeclampsia. The prevalence of severe preeclampsia in high risk parity as many as 18 people (30%). The prevalence of severe preeclampsia was greatest in the group with gestational age ≥ 37 weeks at 22 people (26,27%).

DISCUSSION

Preeclampsia is a condition that is typical in pregnancy characterized by symptoms of edema, hypertension and protein urine that occurs after 28 weeks gestation and unknown causes. The prevalence of severe preeclampsia Based on the overall results of the study found the prevalence of mothers delivered with severe preeclampsia in the period January-December 2013 there were 112 respondents from the 1393 mothers who gave birth at the Hospital Sundari, Medan or 8.04% higher than the prevalence of severe preeclampsia in maternal years in 2012 as many as 50 mothers (3.23%) of the 1548 birth mothers. The high prevalence of severe preeclampsia was heavy in the hospital is probably due Hospital Sundari is a referral hospital of the health center and the maternity hospital that is around, but research is only done within the scope of small, only one hospital alone so the results may not be generalizable to other hospital.

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Relationship Dependent Variable and Independent Variables

Maternal age with the prevalence of severe preeclampsia

Maternal age with the prevalence of severe preeclampsia From the results of the univariate analysis of the prevalence of severe preeclampsia distribution by age showed that the prevalence of severe preeclampsia highest proportion found in high-risk age group is 55.6% compared with low-risk age group (20-35 years) is 17.9%. The results of calculations with the Chi-Square statistical obtained an association between maternal age at which the prevalence of severe preeclampsia OR = 5.73, this case illustrates that maternal age, <20 years / 35 years had 5.73 times the risk factors for preeclampsia occurs when compared with maternal age 30-35 years.

It is there conformity with research conducted by Koeswarsono et al (1991) in the RSU GunungWenang, Manado (1991), which reported the highest frequency of patients with eclampsia are at the age of 15-20 years, while the highest frequency of 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 was 1.75 times and> 35 years had 2.47 times the risk of preeclampsia compared maternal age 20-35 years. In the study conducted by Septi (2007) in RSUPN Dr. CiptoMangunkusumo also found that the highest proportion of people with severe preeclampsia was highest at age <20 / .35 years by 37.5% compared to the 20-35 years age as much as 9.30%. According Sudhaberata (2001) based on the weight distribution of the prevalence of preeclampsia was found in the age group of maternal age <20 years> 35 years. (5) also said in his mother's age> 35 years increases the risk of severe preeclampsia. Women are encouraged pregnant at the age of 20-35 years. The high prevalence of preeclampsia was heavy in the age group <20 /> 35 years because this group is included in the high risk group, it is caused when viewed in terms of biological growth 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 conscientiousness prenatal care (Astuti, 2002) andmaternal age> 35 years in which the health condition and reproductive gone downhill.

Age is an important part of the reproductive status. Age associated with increased or decreased function of the body that affect a person's health status. A good age for pregnant women is 20-35 years. Cunningham states that pregnant teenagers aged women for the first time and who was pregnant at the age of> 35 years would have a high risk to develop preeclampsia (Indriani, 2012). Sumarni research results (2014) showed that most respondents aged 28-35 years. According to Lamminpa (2012)9 in Finlandi show pregnant women aged over 35 years had 1.5 times more likely to have pre-eclampsia compared to women under 35 years old. Pregnant women with pre eklampsia have a more severe risk of pregnancy such as premature labor and delivery by caesarean section. Other risk pregnancies that occur asphyxia 50% and 40% need NICU care.

In addition to the life of other factors such as smoking, obesity, diabetes and hypertension before pregnancy becomes motivating factors occurs preeclampsia.

Furthermore, Lamminpa states that maternal age become independent obstetric risk factors for early onset preeclampsia and fetal growth impaired. It has also been suggested that the risk of chronic and pregnancy-related hypertension increase, the increasing low birth weight and premature birth.

Parity

Parity with the prevalence of severe preeclampsia From the results of the univariate analysis showed that patients with the most severe preeclampsia in high risk groups, namely maternal P1 / P≥4 as much as 30% compared with maternal P2 / P3 is as much as 26.5%. Statistical analysis showed no significant relationship. This is not in accordance with the results of research conducted by Agus (2001) reported that the first parity occurred preeclampsia have a risk weight of 0.62 times compared to the second and third parity. Research conducted by Septi (2007) in RSUPN Dr. CiptoMangunkusumo also reported patients with severe preeclampsia in maternal parity first or fifth as much as 21.15% higher than the second and fourth parity ie 6.00%. He concluded that the first or fifth parity had 4.2 times the risk of severe preeclampsia occurs. The results of this study do not fit well with the theory that the first pregnancy increases the risk of preeclampsia was ten times more frequently(6). Cunningham in his book suggests McCartney (1964) have studied the results of renal biopsies from women with preeclampsia and find gromerulonefritis at 205 nullipara(5). Primigravida have a higher risk for severe preeclampsia occurs(7). With adequate nutrition and regular inspection of antenatal care can reduce the risk of preeclampsia in maternal and the administration calcium diet reduces the occurrence of preeclampsia(7).

Gestation with the prevalence of severe preeclampsia The results obtained from the univariate analysis, patients with severe preeclampsia highest proportion was found in the age group of high-risk pregnancies (≥ 37 weeks) as many as 22 people (26,27%), whereas in the group of gestational age <37 weeks, of two people (20%). OR = 1.41, this case illustrates that maternal age ≥ 37 weeks' gestation have severe preeclampsia risk of 1.41 times compared with birth mothers with gestational age <37 weeks. The results of calculations by the Fisher exact statistical test obtained no association between the occurrence of gestational age with severe preeclampsia. This is not in accordance with the theory that the more her pregnancy affect normal placenta changes such as thickening of blood vessel walls and villi that accelerate the process of preeclampsia and hypertension that generally occur in the third quarter(8). Furthermore in general preeclampsia and eclampsia develop after the 20th week of her pregnancy and increasingly more likely onset of preeclampsia(7).

Gasvarovic (2015) (13) found that many significant differences were apparent between early-onset preeclampsia and late-onset preeclampsia. Groups were significantly different in maternal characteristics according to maternal parity, grade of hypertension, liver enzyme levels and maternal BMI. It is unclear why the primigravid state is such an important predisposing factor. Hypertension is generally the earliest clinical finding of preeclampsia and is the most common clinical clue to the presence of the disease.

A History of Preeclampsia

The result is patients severe preeclampsi largest at birth mothers with a history of preeclampsia (genetic) that is equal to 57.1% or 4 of 7 risks groups. A history of poor labor triggered a predisposing factor. The results of calculations with fisher exact statistical test can be concluded there is no significant relationship between a history of preeclampsia (genetic) and the prevalencepreeclampsi, OR = 3.71. This illustrates that the birth mothers with a history of preeclampsia have a risk of preeclampsia compared with 3.71 times occur mothers who do not have a history of preeclampsia (genetic).

Our research found discrepancies with the theory advanced by (6) which states a family history of a genetic relationship, mother or sister increased risk of 4-8 times, in his

book also stated that the basic conditions contribute to 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 concluded preeclampsia very likely lowered. Cooper and Liston (1979) observed that susceptibility to preeclampsia depend on a recessive gene. (5). With regular inspection of Antenatal Care in accordance with the policy program where antenatal visit should be done at least four times during pregnancy which aims to recognize early complications or abnormalities can be pursued early detect the presence of severe preeclampsia.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Most respondents who suffered preeklampsi on low-risk age groups, as big as (71.3%), Parity is the group most at risk parity (P1 / ≥P4), as big as(63.8%), Gestational age group most at risk of gestational age is 84 respondents (89.4%). Variable history of preeclampsia are at less risk groups as big as (91.5%). There is a significant association between maternal age with the prevalence of severe preeclampsia. Variable parity, gestational age, and history of preeclampsia did not show any significant relationship with the occurrence of severe preeclampsia.

Suggestion

For health workers are expected to provide health education for pregnant brides to plan a healthy reproductive age. The midwife may make early detection of preeclampsia on each visit ante natal care and documenting midwifery care properly for observed condition of pregnancy pregnant women.

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