

**THE RELATIONSHIP OF AGE AND PARITY WITH THE INCIDENCE OF
PREECLAMPSIA ON PREGNANT WOMEN AT DR. M YUNUS HOSPITAL,
BENGKULU**

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ABSTRACT

Preeclampsia is a disorder that is found during pregnancy which is characterized by various clinical symptoms such as hypertension, proteinuria, and edema that occur in pregnancy. In 2016 the Maternal Mortality Rate in Bengkulu reached 224 per 100,000 live births. One of the causes of maternal mortality in Bengkulu is preeclampsia (6.6%). The purpose of this study is to know the relationship of age and parity with the incidence of preeclampsia in pregnant women at dr. M. Yunus Hospital in Bengkulu year 2018. This research method is analytic survey with case control study design. The population in this study were all pregnant women in dr. M. Yunus Hospital in Bengkulu year 2018. The sampling of this study was carried out 1:1 of all case variables (preeclampsia sufferers) of 68 respondent, taken by Total sampling, while the control variable (not preeclampsia) was taken Systematic Random Sampling, technique that is sampling using multiples recorded in the hospital register. The results of this study there is no relationship between age and the incidence of preeclampsia in pregnant women at RSUD dr. M. Yunus in 2018. With the value of $p = 0.424 > \alpha = 0.05$ and the value of Odds Ratio or Risk Estimate = 1.496 and there is a significant relationship between parity and the incidence of preeclampsia in pregnant women at RSUD dr. M. Yunus Bengkulu in 2018. With the value of $p = 0.011 < \alpha = 0.05$ with the medium category. It is expected that the results of this study can be a program development and service improvement in reducing the prevalence of preeclampsia.

Keywords: *Incidence, Pregnancy, Age, Parity, Preeclampsia*

INTRODUCTION

The mother's death refer to on death due to complication of pregnancy or delivery. According to WHO in year 2015, the number of AKI as many as 216 death per 100,000 live births. More than 800 pregnant women were passed away every day caused by pregnancy complication and delivery due to bleeding (27%), hypertension or preeclampsia (14%), infection (11%), abortion (8%), emboli (3%), indirect death (10%). (UNICEF, 2017)

AKI in Indonesia is currently still high. Based on the result of the Directorate of Women Health that the direct cause of mother's death was bleeding reached (31%), preeclampsia as many as (13%), infection as many as (6%), metabolic (3%) and others (35%). (Profil of Indonesia, 2018)

Pregnancy is physiology process but many of constituent which caused the number of maternal death is still high, one of them is preeclampsia. About 13% of women aged 15-20 years old or more, have high risk on mother's or fetus, women aged 35 years old are showing the increasing in incidence of hypertension or preeclampsia. The number of mother's death is

higher on women aged <20 and >35 years old. And 85% preeclampsia occurred on primigravida. Parity 2 to 3 are safest parity refer to incidence of preeclampsia and risk will increase again on grandemultipara. (Erlita, 2017)

Pregnant women aged more than 35 years old will have physiology alteration such as vasospasm, activation of coagulation system and hormonal disorder that will affect reduced the production of prostacyclin as vasodilator. Moreover, it will be occurred the aggregation of thrombocytes on endotel cells are damage and causes the vasoconstrictor are producing the thromboxane excessively. Thromboxane levels much higher than prostacyclin levels, thus occurred the vasoconstriction continuously and increasing of blood pressure. (Martadiansyah, 2019)

Women are aged less than 20 years old risked have preeclampsia, because of the reproduction organ are not yet perfectly formed. Too young to undergo the process of pregnancy will be affecting to the maturity of reproduction organ and will make various complications one of them is preeclampsia. (Retnawati, 2017)

Women on primipara parity will be occurred the formation of Human Leucocyte Antigen Protein G (HLA) that are important role in immune response modulation, thus women reject the result of conception (placenta) or happened the intolerance of women towards the placenta, thus occurred preeclampsia. Whereas, women with grandemultipara parity will have been through the decreasing of function reproductive system, thus causes the preeclampsia. (Veftisia, 2018)

Efforts that can be conducted to decrease the number of morbidity and mortality of pregnant women that are early detection of signs and warning in pregnancy. Through the clinical signs on antenatal care by monitoring of blood pressure, proteinuria, weight gain during pregnancy and nutritional status then avoid the preeclampsia risk factors during pregnancy. (Yuniarti, 2017)

In Bengkulu Province on years 2016, AKI were reached 224 per 100,000 live births. The causes of the increasing number of AKI in Bengkulu that are bleeding (53.33%), hypertension (6.6%), and others (40%). On years 2017, the number of mortality of pregnant women that are 28 persons, consist of mother's death during pregnancy as many as 6 persons, mother's death during delivery process as many as 10 persons and mother's death during postpartum are 12 persons. The number of mortality of pregnant women in Bengkulu province on years 2017 have reached the target that was specified that were 79 per 100,000. (the Profile of Department of Health).

Based on the result of data the last 3 years in Department of Health, Bengkulu City. The incidence of preeclamsia on pregnant women in Bengkulu City as many as 64 persons, on 2016 as many as 31 persons and 2017 as many as 27 persons. (Profile of Department of Health, 2019)

The comparison data of the incidence of preeclamsia in 3 hospital in Bengkulu city, on 2018 the highest number was on dr.M.Yunus Hospital as many as 68 cases, number 2 was bhayangkara TK III Hospital Bengkulu city as many as 33 cases and number 3 in Harapan dan Doa hospital as many as 20 cases. The total number of preeclamsia were 103 cases.

The study about preeclamsia on pregnant women at Dr.M.Yunus hospital years 2018 was based on the incidence of preeclamsia, because preeclamsia is one of the pathology problems the most at Dr. M.Yunus hospital, years 2018

Method

The study had conducted on July 5 to 11 at Dr. M.Yunus hospital, years 2019. The design of this study used contingency coefficient method and processed by computer with the confidence level is 95% or α 0.005. To know the risk factors from the number of disease incidence on risked group compared the number of non –risked group used ODD Ratio (OR).

Result

1. Univariate

Univariate analysis conducted to know about distribution and frequency of each variable that were independent variable (age and parity) and dependent variable (preeclamsia) After study was conducted, then obtained the following data:

Table 1 : Overview Preeklamsia at dr. M. Yunus hospital, Bengkulu City month Januari to Desember Tahun 2018

No	Preeclamsia	Frequency	Percentage (%)
1	Yes	68	50
2	No	68	50
Total		136	100

Based on table no 1 known that from 136 pregnant women in dr.M.Yunus Hospital years 2018, there was 68 pregnant women have preeclamsia as samples of cases and 68 pregnant women who have no preeclamsia as control sample.

Table 2 : Overview Usia at dr. M. Yunus hospital, Bengkulu City Years 2018

No	AGE	Frequency	Percentage (%)
1	<20 or > 35 years old	33	24.3
2	20 – 35 years old	103	75.7
TOTAL		136	100

Based on table 2 known that 136 pregnant women at dr. M. Yunus hospital, Bengkulu City years 2018 there were 33 pregnant women aged <20 or >35 years old whereas 103 pregnant women aged 20 – 35 tahun.

Table 3 : Overview Parity at dr. M. Yunus hospital, Bengkulu City Years 2018

No	Parity	Frequency	Percentage (%)
1	Grande multigravida	44	32.4
2	Primigravida	33	24.3
3	Multigravida	59	43,4
Total		136	100

Based on table 3 known from 136 pregranant women at Dr. M. Yunus Bengkulu city month january to December years 2018 there were 44 pregnant women with grande multigravida, whereas 33 pregnant women with primigravida parity and 59 pregnant women with multigravida parity

Table 4 : The result of analysis the relationship between age and incidence of preeclamsia at dr. M. Yunus hospital, Bengkulu City Years 2018

Age	Preeclamsia				Total		X ²	P	C	OR
	Preeclamsia		Not preeclamsia		F	%				
	F	%	F	%						
<20 or >35 years old	19	27,9	14	20,6	33	24,3	0,640	0,424	0,085	1.496
20-35 years old	49	72,1	54	79,4	103	75,7				
Total	68	100	68	100	136	100				

From table 4 shows the cross tabulation between age and the incidence of preeclamsia. From 33 pregnant women aged <20 or >35 years old there were 19 persons who have preeclamsia and 14 persons were not preeclamsia. From 103 pregnant women aged 20-35 years old there were 49 persons who have preeclamsia and 54 persons were not preeclamsia.

From the result of Chi-Square test was obtained the value of Continuity Correction (X²) = 0,640 by Asymp.sig (P) = 0,424 > α = 0.05 meaning not significant, then H₀ accepted and H_a rejected, meaning there is no significant relationship between age and incidence of preeclamsia at dr. M. Yunus hospital, years 2018 by the result of analysis was obtained the value of Odds Ratio or risk estimate as much as 1.496 that means pregnant women who aged, <20 or >35 years risked 1.496 times risked to exposed preeclamsia compared with pregnant women who aged 20 -35 years old.

Table 5 : The result of analysis the relationship between parity and the incidence of preeclamsia at dr. M. Yunus Hospital, years 2018

Parity	Preeclamsia				Total		X ²	P	C
	Preeclamsia		Not preeclamsia		F	%			
	F	%	F	%					
Grande Multigravida	30	44,1	14	20,6	44	32,4	9,103	0,011	0,250
Primigravida	12	17,6	21	30,9	33	24,3			
Multigravida	26	38,2	33	48,5	59	43,4			
Total	68	100	68	100	136	100			

From table 5 shows the cross tabulation between parity and incidence of preeclamsia, from 44 pregnant women with grande multigravida there were 30 persons who have preeclamsia and 14 persons who not preeclamsia. From 33 pregnant women with primigravida there were 12 persons who have preeclamsia and 21 persons who not preeclamsia. From 59 pregnant women with multigravida there were 26 persons who have preeclamsia and 33 persons who not preeclamsia.

From the result of pearson Chi-square test (X^2) = 9.103 and the value Asymp.sig (p) = 0,011 < α = 0,05, meaning significant, then H₀ is rejected and H_a is accepted, meaning there is significant relationship between parity and incidence of preeclamsia at dr. M. Yunus hospital, years 2018.

The result of contingency coefficient were obtained the value of C = 0.250 with the P-value (Asymp.sig) = 0,011 < α = 0.011 < α = 0.05 meaning significant. Based on the P - value (Asymp.sig) = 0,011 < α = 0,05, then there is significant relationship between parity and incidence of preeclamsia. Because the value of C=0,250 not far of the value of C_{max} =0,577 from the value of C_{max}=0,577 then the relationship is moderate category.

DISCUSSION

Based on the result of this study known that from 33 pregnant women aged <20 or >35 years old there were 19 persons who have preeclamsia and 14 persons who not preeclamsia. From 103 pregnant women aged 20-35 years old there were 49 persons who have preeclamsia and 54 persons who not preeclamsia.

On age <20 or >35 years old there were 19 pregnant women who have preeclamsia. On at a young age <20 years old is not the reproductive organ to preparing the pregnancy and delivery, whereas >35 years old occurred decreasing the function of organs and there were parity which risked. The age ,<20 or 35 years old there were 14 pregnant women who not

praeklamsia Based on this study there were other diagnosis such as: KPSW, Anemia, hypertension chronic, and abortus incomplete.

Based on the result of this study on productive age 20-35 years old is still maish there were 49 pregnant women who have preeclamsia due to women have other risk factor which is can be cause of preeclamsia such as anemia, molahidatidosa, hyperemesis gravidarum, polyhidramnion, oligodhiramnion, HBSAG+, KPSW, abortus inkomplit Hipertensi chronic and CKD. This study consistent with the research of Retnawati and friends 2017 that explained that pregnant women who aged <20 and > 35 years old have risked to exposed to preeclamsia compare with the pregnant women who aged between 20 to 35 years old.

Based on the result of the study and analysis known that between parity an incidence of preeclamsia from pregnant women with grande multi gravida there were 30 persons who have preeclamsia, whereas from pregnant women who with primigravida there were 12 persons who have preeclamsia and from 59 pregnant women with multigravida there were 26 pregnant women who have preeclamsia

Pregnant women with grande multigravida with incidence of preeclamsia due to parity that risked and age risked, consistent with the study of veftisia and friends (2018) one of the risk factors that related to preeclamsia that is high parity (more than 3), have decreased of reproductive system function, more over usually mother's too busy minding house hold. Thereby, often fatigue and lack of attention to nutritional fulfillment.

Primigravida can be happened preeclamsia appropriate with the theory that the first pregnancy are occurred formation of Human Leucocyte Antigen Protein G (HLA) that have important role in immune responses modulation thus pregnant women is rejected the result of conception (plasenta) or occurred mother's intolerance towards plasenta thus, occurred preeclamsia.

Based in this study consisten with the study of Rahmawati (2019) with the title of the research age and parity risk of pregnant women on incidence of preeclamsia. obtained the result there is significant relationship between parity and incidence of preeclamsia. Therefore, should the pregnant women conduct early screening so as not occoured complication on obstetric condition that can make preeclamsia and follow the pregnant women class, subsequent according to retnawati 2017 stated that there is relationship between parity and preeclamsia especially on primipara. Because on primipara often stress due to facing delivery.

Stress will be making emotion that uncontrolled, thus can disturb the performance of heart organ in pumping blood to whole body.

CONCLUSION

From 136 pregnant women there were 68 cases pregnant women have preeclampsia and 68 persons were not preeclampsia. There were 33 pregnant women with aged <20 or >35 years old and 103 pregnant women with aged 20 to 35 years old. There were 44 pregnant women with parity with grande multigravida, 33 pregnant women with primigravida parity and 59 pregnant women with multigravida parity.

There is no relationship between age and incidence of preeclampsia on pregnant women at Dr. M. Yunus hospital, year 2018

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