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Influence Hypertension Factors and History of Preeclampsia/Eclampsia in Pregnancy Previous of Degrees Preeclampsia/Eclampsia in Gresik

Lilis Fatmawati[a]*, Agus Sulistyono[b], Hari Basuki Notobroto[c]

[a]*Master Program in Public Health School of Public Health specialization maternal and child health Airlangga University Surabaya*

[b]*RSU Dr. Soetomo Department of Obstetrics and Gynecology*

[c]*Department of Biostatistics and Population of Public Health Faculty Airlangga University Surabaya*

[a]*Email: lilisfatmawati_sst@yahoo.com*

[b]*Email: agussulpogi@gmail.com*

[c]*Emai: haribasuki_nb@yahoo.com*

Abstract

Preeclampsia/eclampsia is one of the main causes of death in women, as well as bleeding and infection. Preeclampsia/eclampsia is a disease which is unique in that it only occurs in pregnant women. Preeclampsia/eclampsia is known as the "disease of theories" because a lot of theories that explain the cause of preeclampsi /eclampsia and until now inni not known with certainty the cause. Several risk factors have been identified can increase the risk of preeklampsai/eclampsia. Increased incidence of 2013-2015 in hospitals Gresik. This study aimed to analyze the influence of maternal health, the degree of preeclampsia/eclampsia in Gresik. The study was cross sectional analytical survey. Subjects were maternal preeclampsia/eclampsia were 190 people and a large sample of 77 people comprising 11 eclamptic mothers, 22 mothers mild preeclampsia, severe preeclampsia and 44 mothers, using simple random sampling. The variables in the study were history of preeclampsia/eclampsia and hypertension.

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* Corresponding author.

Analysis of data using ordinal regression test. Data were obtained from interviews and medical records. The study showed a significant relationship between history of preeclampsia/eclampsia (p=0.007), hypertension (p=0.000). The incidence of preeclampsia/eclampsia is affected by the hypertension. These risk factors are expected to be of particular concern for health professionals and mothers in pregnancy counseling.

Key words: degrees of preeclampsia/eclampsia; hypertension factors; history of preeclampsia/eclampsia in a previous pregnancy.

1. Introduction

One indicator of the degree of health of women is through the MMR, MMR in Indonesia is still high in ASEAN [1]. It is estimated that in the world every minute women die due to complications related to pregnancy and childbirth, in other words, 1,400 women die every day or approximately 500,000 women die each year due to pregnancy and persalina [2]. United Nations International Children's Emergency Fund (UNICEF) states that each year nearly 10,000 women die due to pregnancy problems and persalinan [3]. AKI in some developed countries ranges from 20/100,000 live births (KH), whereas in some developing countries this figure is almost 20 times higher ranged between 440/100.000KH. In the region of Southeast Asia there were an estimated 240,000 maternal deaths each year, in order to obtain the maternal mortality rate of 210/100.000KH [4].

Preeclampsia is a hypertensive disease that occurs in pregnant women that affects 2-10% of pregnancies around the world and include the world's problems. The incidence of hypertension as many as 839 million cases. 2025 higher incidence as much as 1.15 billion, about a quarter of the population dunia [5]. More than 4 million women become pregnant each year occur preeclampsia. An estimated 50,000 to 70,000 women per year die because of preeclampsia and 500,000 infants die. Even preeclampsia is the leading cause of mortality and morbidity in the fetus, as well as the cause of 15-20% of deaths of pregnant women around the world [6]. Indonesia one of the developing countries with maternal and perinatal high enough, which is the third highest in the Association of South East Asian Nation (ASEAN) and the second highest in the region of South East Asian Nations Regional Organization (SEARO) [7]. SDKI (2012) maternal mortality rate in Indonesia increased significantly around 359/100.000KH or about 57%, an increase from 2007 of 228/100.000KH. The figure is still far from the expected to achieve the target of National Medium Term Development Plan (RPJMN) 2010-2014 in the amount of 118/100.000KH and MDG's (Millennium Development Goals) by 2015 ie 102/100,000 KH, while SDG's mentarjetkan 2030 AKI of 70/100,000 KH [8]. AKI in East Java province in 2012 amounted to 97.41/100.000KH, then fell in 2013 to 97.39/100.000KH, and in 2014 amounted to 93.52 / 100.000KH [9]. The cause of maternal deaths in 2010-2012, an increase in preeclampsia / eclampsia (PE/E). In 2010 as much as 26.92%, in 2011 was 27.27%, and increased in 2012 by 34.88%. Factors PE/E is still a dominant factor in the causes of maternal death Timur Java. Gresik number of maternal deaths in 2013 were 22 cases of 19 614 the number KH or approximately 112.16/100.000KH, increased in 2014 by 23 cases from 19,499 the number KH or about 117,94KH, 2015 decreased, ie 19 cases 20,288 number KH or about 93.65/100.000KH. The cause of AKI in 2015 was dominated by preeclampsia/eclampsia 10 cases, 4 cases of bleeding, heart 3 cases, and others 2 kasus [10]. Regional General Hospital (Hospital) Ibn Sina Gresik in 2013 the incidence of PE/E as many as 78 cases out of 1,525 deliveries, in 2014 a total of 120 cases of PE / E of 978 deliveries, an increase in 2015 of

PE/E 190 from 928 deliveries, with as many as 143 cases of severe preeclampsia, mild preeclampsia and eclampsia 36 cases 11 cases. From the incidence of PE/E seven mothers die [11]. Until now, preeclampsia/eclampsia is still the "the disease of theories", due to the still high incidence and causes of high MMR and MMI [12]. Mothers who experience pregnancy-induced hypertension ranges from 10%, 3-4% of them experienced preeclampsia, 5% had hypertension and 1-2% had chronic hypertension [13]. Preeklampsi/eclampsia occurs because of the complex immunological mechanisms and blood flow to the the placenta is reduced [14]. As a result, the supply of nutrients needed fetus is reduced. The cause is narrowing of vessels darah [15]. Early detection can prevent the development of preeclampsia diagnosis of preeclampsia to eclampsia with appropriate care so as to reduce the incidence of morbidity and complications in the mother and fetus. Early diagnosis can only be made by the antenatal care through the monitoring and assessment as well as the history of special examination on ANC which is one way to decrease MMR and is expected perinatal maternal morbidity and mortality can be prevented [16].

2. Statement of the problem

Problems in this study departed from the problem still high maternal mortality rate, especially about preeclampsia/eclampsia, which makes the handling of priority in order Tidar be a complication in childbirth. So it is important to investigate factors preeclampsia/eclampsia by hipertension factor and history of preeclampsia/eclampsia in a previous pregnancy. As it is known that the risk factors for a disease is dependent on geographical conditions and the environmental characteristics of the local area.

3. Objective of the study

Analyze the influence of a hypertension factors and history preeclampsia/eclampsia in a previous pregnancy of the degree of preeclampsia/eclampsia .

4. Limitations of the study

There are respondents who do not have the book KIA so that researchers have difficulty in collecting data. This can be overcome by in-depth interviews to respondents related to pregnancy tests and to check the books Register Midwives. And some respondents are referral patients who do not conduct examination of the ANC at the hospital and did not have the data ANC of health services that refer.

5. Materials and Methods

5.1 Study setting and design

The type and design of this research is analytic survey is a study in a way to explore how and why these health problems can occur , then analyzing the interconnections among issues , both among the risk factors (factors that influence the effect) with effect factor (factors that are affected by the risk) [17] . The effect factor is the impact of the risk, while the risk factor is an event that gave rise securities or pengaruh [17]. The design is a cross sectional study design that connects between risk factors and the effects of factors which make observations or

data collection in the same time. This means that each research subject was observed only one [17] . This research was conducted at Ibn Sina Hospital Gresik.

5.2 population and sample size

The population in this study were all mothers of pre-eclampsia/eclampsia in Ibn Sina Hospital Gresik in 2015 amounted to 190 people with mild preeclampsia proportion of a total of 36, a total of 143 severe preeclampsia and eclampsia by 11. The sample in this study is a part of the mother preeclampsia / eclampsia in Ibn Sina Hospital Gresik 2015. Was calculation using the following formula:

$$n = \frac{NZ^2 1-\propto/2P(1-P)}{(N-1)d^2+Z^2 1-\propto/2P(1-P)}$$

Based on calculations using the formula , then the required minimum sample size in this study was 53 maternal preeclampsia/eclampsia . In order for a large proportion of samples of the same amount which will be represented at each preeclampsia/eclampsia , then the sample is needed as much as 77 maternal preeclampsia/eclampsia with a proportion of 22 women with mild preeclampsia. 44 women with severe preeclampsia and 11 women with eclampsia.

5.3 sampling procedures

The sampling technique in this study using simple random sampling based on data from maternal preeclampsia / eclampsia in Ibn Sina Hospital Gresik. This technique is used to capture members of the sample and the population was randomly without regard to strata that exist in the population.

5.4 Date collection instruments

Collecting data in this research using primary data obtained through interviews with informants (mother who was diagnosed with preeclampsia/eclampsia), primary data if the data in the medical record of the mother is not complete and therefore the need for a search to the respondents, the primary data collection is done by conducting home visits. Researchers explain beforehand to potential informants research purposes and benefits in accordance with the explanation sheet. Candidates informants as respondents understand and agree by signing a consent form in the presence of accompanying family. Further interviews were conducted for 5-10 minutes at the respondent's house. Secondary data is data obtained from a medical record maternal preeclampsia/eclampsia in Ibn Sina Hospital of Gresik in 2015, data from the book KIA mother, and supported by the Registry book midwife when the mother has no book KIA.

5.5 data analysis

This analysis is used to analyze the data in a way know the description and distribution of frequency characteristics used to describe each variable studied. This analysis is used to analyze the sample data and the results applied to population based on sample data. This analysis was conducted to see the effect of the independent variables and the dependent variable. The statistical test used is Regression Ordinal/Logistic

Regression Multinomial at 95% confidence level (α= 0.05), when it is found the results of statistical analysis p < 0.05 (statistical tests significant/insignificant) means these variables affect the dependent variable.

5.6 Etichal considerations

The research will be conducted with the approval of the hospital ethics committee. All of the respondents in this study gave written informed consent (informed consent) expressed willingness to participate in research, witnessed by the husband/family/health workers and researchers. All of the patient's identity is not completely written yet by initials or medical record number to maintain patient confidentiality. Researchers guarantees the confidentiality of the results, both information and other issues related to the respondent. The data obtained in this study only used for research purposes, except for scientific purposes (scientific publications) and only the group specific data that will be reported on the results of the research.

6. Findings and discussion

6.1 Findings

Overview distribution factor of hypertension and a history of preeclampsia / eclampsia in a previous pregnancy on the degree of preeclampsia/eclampsia (Table 1) it can be seen that the majority of respondents did not have a history of hypertension and had a history of preeclampsia/eclampsia in a previous pregnancy. The bivariate analysis was conducted to determine an exposure (independent variable) on the occurrence of the disease degrees of preeclampsia/eclampsia. The steps are to test bivariate independent variables and if the analysis shows a P value of <0.05 and has significance, then the independent variables can be included in the multivariate model. All variables candidates put together for reconsideration to be a model, if the results of the analysis showed a significant P value is P<0.05. This can be seen in ordinal regression multivariate analysis (Table 2,3,4,5,6).

Table 1: The frequency distribution of respondents by factors of hypertension and a history of preeclampsia/eclampsia in Ibn Sina Hospital Gresik 2015

No.	Category	Amount	Percentage (%)
1	History of PE/E		
	There is a history	49	63,6
	No history	28	36,4
2	Hypertension		
	There hypertension	35	45,5
	No hypertension	42	54,5

Table 2: Effect of factors of hypertension and a history of preeclampsia/eclampsia in a previous pregnancy against Degrees Preeclampsia/Eclampsia in Ibn Sina Hospital Gresik 2015

No.	Category	Degrees Preeclampsia / Eclampsia						Value	Sig
		PER		PEB		Eclampsia			
		n	%	N	%	n	%		
1	History of PE/E								
	There is a history	20	26	23	29,9	6	7,8	9.920	0.007
	No history	2	2,6	21	27,3	5	6,5		
2	Hypertension								
	There hypertension	20	26	12	15,6	3	3,9	25.667	0.000
	No hypertension	2	2,6	32	41,6	8	10,4		

Table 3: Factors Affecting the Degree of preeclampsia / eclampsia in Ibn Sina Hospital Gresik 2015

No.	Category	Estimate	Std. Eror	Wald	Sig	95% CI
1	History of PE/E					
	There is a history	0.578	0.547	1.118	0.290	1.650 – 0.494
	No history	Kelompok Pembanding				
2	Hypertension					
	There hypertension	2.231	0.607	13.505	0.000	3.421 – 1.041
	No hypertension	Kelompok Pembanding				

Link function: Logit.

a. This parameter is set to zero because it is redundant.

In this study, the results of the analysis indicate that the model used is significant with siginifikansi value of 0.000 < 0.05, which means that models with independent variables better than the model without independent variables in other words suitable model used is the model that menganndung independent variables (final models).

Table 4: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig
Intercept Only	51.059			
Final	27.364	23.695	2	0.000

Link function: Logit.

Table 5: Goodness-of-Fit

	Chi-Square	df	Sig
Person	12.014	4	0.117
Deviance	10.160	4	0.138

Link function: Logit.

The analysis showed that the model fit (significantly) with a significance value of 0.117 > 0.05, which means that the model is consistent with predictions ordinal logistic regression models were used and this means that the model used is the regression model fit/good. Deviance shows how much variation cannot be explained by the regression model. Which means that the higher the value the less accurate deviance model. Value deviance in this study for 0.138.

Tabel 6: Pseudo R-Square

COx and Snell	0.265
Nagelkerke	0.311
McFadden	0.161

Link function: Logit

The analysis showed that the value Nagelkerke amounted to 0.311 (3.11%). This indicates that the dependent variable is able to explain the variation in the independent variable is only 3.11%. This value is very large, it is possible because independent variables are being used more.

6.2 Discussion

Relationship history of preeclampsia/eclampsia in a previous pregnancy on the degree of preeclampsia/eclampsia in Ibn Sina Hospital Gresik in 2015 is the majority of women with a history of preeclampsia/eclampsia in a previous pregnancy. The analysis showed no effect signifkan between a history of preeclampsia/eclampsia in a previous pregnancy on the degree of preeclampsia/eclampsia (p=0.007). Variable

history of preeclampsia/eclampsia in a previous pregnancy in this study is a risk factor for preeclampsia/eclampsia. These results are consistent with studies Rozikhan (2007) that a pregnant overlying who have a history of preeclampsia have a tendency to experience severe preeclampsia (p=0.001) [21]. Cunningham (2006) says that women at risk of preeclampsia in women who have had preeclampsia in pregnancy advance or who have had hypertension approximately 4 tahun [15] .

Results of this research is that the number of preeclampsia/eclampsia in Ibn Sina Hospital Gresik 2015 beerdasarkan history of hypertension almost all respondents no history of hypertension. The analysis showed no significant effect on the degree of hypertension, preeclampsia/eclampsia (p=0.000). Variable hypertension in this study is a risk factor for preeclampsia/eclampsia. The results of the study according to research conducted by Winda (2012) indicates that there is a significant relationship between a history of hypertension and preeclampsia (p=0.000) [23]. Some studies show that women who have the greatest risk of experiencing superimposed preeclampsia are those who have a history of hypertension is more adri 4 years and evidence of abnormalities that underlie the increase in blood pressure before pregnancy. Chronic hypertension is a risk factor for preeclampsia. Chronic hypertension is hypertension that occurred before 20 weeks 'gestation or hypertension was first diagnosed after 20 weeks' gestation and settled to 12 weeks post persalinan [24].

7. Conclusion and recommendations

7.1 Conclusions

The following, conclusions have been drawn from the finding of the study:

From this study it can be concluded that the factor of hypertension (p=0.007) and a history of preeclampsia/eclampsia in a previous pregnancy (p=0.000) had a significant association to the degree preeklampsia/eclampsia. The most influential factor on the degree of preeclampsia/eclampsia is a factor in hypertension (p=0.000).

7.2 Recommendations

Based on the findings and the conclusions drawn from thm, the following recommendations are forwarded:

1. Their related policies and improve socialization program ANC reducing mortality among mothers and infants through the enforcement ANC service delivery 10T to every pregnant women and the importance of prenatal care.
2. To better improve the quality of health services to reduce maternal mortality and infant , for example, conduct special programs for pregnant mothers as do PKM RS , so that treatment as early as possible in this case to do and the risk of severe preeclampsia can be suppressed to be smaller again
3. The need for improved information and insight into the health of the pregnancy, it aims to anticipate in order avoiding delays in the prevention of complications in pregnancy. And the necessity of a good attitude pregnant women, so that pregnant women are more concerned about the condition of the blood pressure during pregnancy. Expected pregnant women were routinely doing a check of blood pressure

during pregnancy, to avoid increasing blood pressure. As well as pregnant women should routinely in antenatal visits until the time of delivery.

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