

The Effect of Age and Parity on Hypertension during Pregnancy

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Abstract

Background: Age and parity are one of the predisposing factors of hypertension in pregnancy. The decline in maternal mortality in Indonesia is still too slow to achieve the millennium development goals of reducing the mortality rate.

The Objective: This study aims to determine the relationship between age and parity with the incidence of hypertension in pregnancy at the General Hospital Kraton Pekalongan, Indonesia.

Method: The independent variable in this study is age and parity, while the dependent variable is hypertension in pregnancy. This study used a descriptive correlative design with a population of 367 people and used the total sample.

Result: The result of correlation test using Spearman Rank shows there is a correlation between age with the incidence of hypertension in pregnancy with p -value 0.029 and value of r -0.114. In the other hand, the relationship between parity with the prevalence of hypertension in pregnancy obtained p -value 0.006 and the value of r -0.143.

Conclusion: There is a relationship between age and parity with the incidence of hypertension in pregnancy. This way, the health service is expected to increase the extension activities, especially about hypertension in pregnancy and parity to pregnant women so that the incidence of hypertension in pregnancy and maternal mortality rate may decrease.

Keywords: Age, Parity, Hypertension in Pregnancy

1. INTRODUCTION

In general, the measure used to assess the service quality of maternity care in a country or region is maternal mortality. Maternal death is the death of a woman during pregnancy or within 42 days after the end of gestation by any cause.

Mortality and morbidity in pregnant and maternal women is a major problem in developing countries, around 25-50% of women of childbearing age are due to pregnancy. Maternal mortality is usually a major factor in the death of young girls during peak productivity (Prawirohardjo, 2009).

According to Indonesia Demographic and Health Survey, maternal mortality rate in Indonesia is still high at 228 per 100,000 live births. The decline in maternal mortality rate in Indonesia is still too slow to reach the millennium development goals target of

reducing the maternal mortality rate by three-quarters during pregnancy and childbirth.

In Indonesia, mortality and morbidity of hypertension in pregnancy are also still high enough that is about 5-15%. Pregnancy complication is one of the factors leading to maternal mortality and morbidity (Prawirohardjo, 2008).

According to data of outpatient medical record at Kraton Pekalongan General Hospital, the maternal mortality rate from 2009 to 2011 has increased with the highest case due to pre-eclampsia. The cause of maternal mortality in Pekalongan Kraton General Hospital include: bleeding 4 cases, Eclampsia 16 cases, Sepsis 4 cases and 6 cases due to other causes.

Hypertension in pregnancy is one of the causes of maternal death. Factors of age and parity are also factors that can support the occurrence of hypertension in pregnancy. Therefore, researchers are interested in examining the

relationship between age and parity with hypertension occurrence in pregnancy at the general hospital of Kraton, Pekalongan, Indonesia.

2. MATERIALS AND METHODS

The independent variables in this study were age and parity. Age is the length of life counted from birth to the present. Age is a period of new life patterns; the increasing age will reach the age of reproduction. Age 20-30 years is the safest time to pregnancy or childbirth, in women aged over 40 years, the incidence of hypertension in pregnancy tripled compared with the ladies aged 20-30 years. Parity is the number of live births a woman has.

Parity classification is as follows:

1. Nullipara: A woman who has never delivered a baby viable.
2. Primipara: The woman who gave birth to a baby for the first time.
3. Multipara: A woman who has given birth viable baby several times (up to 5 times).
4. Grande multipara: Women who have given birth to babies six or more times live or die.

The dependent variable in this study was hypertension in pregnancy. Pregnancy is defined as fertilization or unification of spermatozoa and ovum then followed by nidation or implantation. Healthy pregnancy usually lasts nine calendar months, or 40 weeks or 280 days. The length of pregnancy is calculated from the first day of the last menstrual period. The definite signs of pregnancy are apparent findings of fetal existence, and this can not be explained by other health conditions. Hypertension in pregnancy is an increase in blood pressure before 20 weeks of gestation accompanied by headaches, blurred vision, convulsions, and decreased consciousness. Pregnancy-induced hypertension is a disorder with an unknown etiology that is specific to pregnant women characterized by high blood pressure, comprehensive edema and urine protein occurring after 20 weeks of gestation.

This research is a type of the investigation with a quantitative approach which emphasizes the analysis of numerical data (number) processed using a statistical method. With this method, it will be obtained significance of group differences or importance of relationships among variables studied. This research uses descriptive correlative design to find out the relationship between two or more variables.

The population in this study is all pregnant women who do the examination in gynecology as much as 367 people. This study took the entire population to be sampled as many as 367 people.

After data collection, the analysis applies computer software of SPSS 16. The analysis in this research using Spearman rank statistical test. This study uses an alternative hypothesis (Ha) which states the relationship between two or more variables, namely:

1. There is a relationship between age with the incidence of hypertension in pregnancy
2. There is an association between parity with the prevalence of hypertension in pregnancy.

3. RESULT AND DISCUSSION

Result

Characteristics of respondents are presented in the following tables.

Table1. Frequency distribution of pregnant women's of age

Ages	Frequency (n)	Percentage (%)
< 20 years	11	3.0
20-35 years	262	71.4
< 35 years	94	25.6
Total	367	100.0

Table 1 shows that the highest number of pregnant women in the 20-35 years age group which is 262 (71.4%).

Table2. Frequency distribution of pregnant women' parity

Parity	Frequency (n)	Percentage (%)
Nullipara	140	38.1
Primipara	110	30.0
Multipara	106	28.9
Grande multipara	11	3.0
Total	367	100.0

Table 2 shows that most pregnant women's parity is Nullipara as many as 140 people (38.1%).

Table3. Frequency distribution of hypertension in pregnancy

Hypertension	Frequency (n)	Percentage (%)
Yes	32	8.7
No	335	91.3
Total	367	100

Table 3 shows that pregnant women with hypertension were 32 (8.7%).

Table4. *The relationship between maternal age and hypertension during pregnancy*

Ages	Hypertension		Total	r-value	p-value
	Yes	No			
< 20 years	0	11	11	-	0.029
20-35 years	19	243	262	0.114	
> 35 years	13	81	94		
Total	32	335	367		

Table 4 shows that out of 367 pregnant women, the age group of 20-35 years old had hypertension of 19 people (7.81%), while in the age group > 35 years with hypertension of 13 people (16.04%). In the other hand, in the age group <20 years, no one had hypertension. Spearman Rank statistical test results obtained the p-value of 0.029 and r values of -0.114 which is smaller than 0.05 indicating there is a relationship between age with the incidence of hypertension in pregnancy.

Table5. *The relationship between parity and hypertension during pregnancy*

Parity	Hypertension		Total	r-value	p-value
	Yes	No			
Nullipara	5	135	140	-	0.006
Primipara	12	98	110	0.143	
Multipara	13	93	106		
Grande multipara	2	9	11		
Total	32	335	367		

Table 5 shows that of 367 pregnant women, in the Nullipara group of 5 people (6.65%), in primipara group of 12 (12.24%), in the multipara group with hypertension of 13 (13.97%), while in the grande-multipara group a total of 2 people (22.22%). Spearman Rank statistical test results obtained the p-value of 0.006 and r values of -0.143 smaller than 0.05 indicating there is a relationship between parity with the incidence of hypertension in pregnancy.

Discussion

Based on research that has been done, out of 367 pregnant women who do the outpatient examination in clinical birth, 71.4% are expectant mothers with age between 20-35 years, 25.6% are expectant mothers with age > 35 years, while 3 % is <20 years old.

According to Fraser (2009), women whose age is less than 20 years have reproductive organs which are not functioning correctly, and the strength of abdominal muscles has not worked optimally. This condition will make the pregnancy and birth will be easy to experience complications. Furthermore, at the age above 35 years, the women have risk three times higher

difficulty compared with average age group reproduction.

The research also revealed that from 367 pregnant women who do the outpatient examination in clinical birth, the most parity is Nullipara that is 38,1%, primipara 30,0%, multipara 28,9% and grande multipara 3.0%.

According to Radjamuda & Montolalu (2014), the safe parity without complications is under the number of birth 1-3 times. This condition means that Nullipara parity is at risk for complications of pregnancy that may cause pregnant women too often experience complaints, so they are more likely to have their pregnancies checked.

Based on the research, 367 pregnant women who had outpatient in clinical birth, 32 people (8.7%) had hypertension, and 335 (91.3%) had no hypertension.

According to Kamaliah (2010), pregnancy is a process of reproduction that needs attention to run well. Pregnancy is the life of the mother and fetus, the risk of pregnancy is dynamic because pregnant women who initially healthy suddenly can be at risk for complications. According to Llewellyn & Jones (2002), complications of hypertension in pregnancy occur about 5-8 percent.

Spearman Rank statistical test results obtained the p-value of 0.029 and r value of -0.114 with a significance level of 5%. So it can be concluded that the value of p 0.029 <0.05 which means Ho is rejected and Ha accepted, or there is a relationship between age with the incidence of hypertension in pregnancy. R value of -0.114 shows the level of shallow relationship and the presence of a negative correlation, or the lower the age, the higher the risk of hypertension in pregnancy.

This study is inconsistent with the theories written by Djannah (2010) which says that hypertension in pregnancy is more common in early and late reproductive years of adolescence or over 35 years. The age of pregnant women <20 years is easy to increase blood pressure and faster cause seizures, while the age of pregnant women > 35 years is also a predisposing factor for the occurrence of hypertension in pregnancy. Also, age is also the more susceptible incidence of increased incidence of chronic hypertension and face a greater risk of suffering from hypertension in pregnancy.

In the correlation test results, this study is by the results of Jamli (2007), which states that there is a relationship between the age of pregnant women with hypertension. According to Suprihatiningsih (2009), this is because age between 20-35 years may be more prone to pregnancy complications 2-5 times more than those aged between 20-29 years.

Based on the results of the study showed there is a shallow relationship between parity with the incidence of hypertension in pregnancy at the General Hospital Kraton Pekalongan. The value of r -0.143 and p -value of 0.006 with a significance level of 5%. Besides, the r value in this study also showed a negative relationship or the lower the parity, the greater the risk of experiencing hypertension in pregnancy. So the results of this study following the results of research Harefa (2010), which states that there is a relationship between parity with hypertension in pregnancy.

4. CONCLUSION

- Most of the pregnant women at General Hospital of Kraton Pekalongan is the age group between 20-35 years as many as 262 people (714%).
- Most of the pregnant women in General Hospital of Kraton Pekalongan is nullipara group as many as 140 people (38.1%).
- The incidence of hypertension in pregnancy at the General Hospital of Kraton Pekalongan is as many as 32 people (8.7%).
- There is a relationship between age with the incidence of hypertension during pregnancy at the General Hospital of Kraton Pekalongan with p -value 0.029 and value of r 0.114.
- There is an association between parity with the impact of hypertension during pregnancy at the General Hospital of Kraton Pekalongan with p -value 0.006 and value of r -0.143.

The premises of health services need to increase the extension activities on every examination of pregnant women in clinical birth that can be done by health workers. The service is especially about hypertension in pregnancy so that the incidence of complications of hypertension in pregnancy and maternal mortality can decrease.

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