

Risk Factors of Preeclampsia and Eclampsia in Surabaya

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Abstract

Risk factors for preeclampsia include: nullipara, multiple pregnancy, <20 th or >35 years, preeclampsia and eclampsia history in previous pregnancies, family history of preeclampsia and eclampsia, renal disease, hypertension, diabetes mellitus pre-pregnancy, obesity, anxiety, antenatal care, contraceptive use, educational level, knowledge, occupation and socioeconomic factors. This study was a descriptive study with case control design. Population was all pregnant women treated in Dr Soetomo Hospital and some Public Health Center in Surabaya during 2015. The incidence of preeclampsia-eclampsia (PE-E) was 91 cases and 89 controls. The results of 91 PE-E mothers found that all the risk factors of PE-E: 50.5% were older than 35 years, 17.5% were over 3, 12.1% had PE-E, 3.4% with multiple pregnancies, 41.7% had a history of PE-E, 49.5% had a history of hypertension, 14.3% had a history of DM, 80.2% were obese, 81.3% were anxious, 51.6% well antenatal care, 33% had a history of using hormonal contraceptives, 33% working, 14.3% had good knowledge, 32% had less income.

Keywords: risk factor, Preeklampsia and Eklampsi

I. INTRODUCTION

Preeclampsia / eclampsia is one of the causes of perinatal morbidity and mortality in Indonesia. The incidence of preeclampsia is influenced by various the risk factors include primigravidae status (first pregnancy), pregnancy, diabetes, preexisting hypertension, preeclampsia in a previous pregnancy, history of preeclampsia in the family (Heffner & Schust, 2014).

Preeclampsia is a pregnancy-specific syndrome usually occurs after 20 weeks gestation, is characterized by increased blood pressure, edema and proteinuria (Mammaro, et al., 2009). Preeclampsia affects 4% of all pregnancies (Creasy, 2013; Ananth, et al., 2013) and is a major cause of maternal, fetal, and neonatal morbidity and mortality worldwide. In Indonesia is the third leading cause (13%) the highest maternal mortality after bleeding (45%) and infections (15%). The trend of increasing incidence of preeclampsia is 40% per year, and 80% of pre-eclampsia is associated with hypertension in pregnancy (Jeffrey, 2008).

Maternal Mortality Rate (MMR) is one indicator to see the degree of women's health. The maternal mortality rate is also one of the targets set in the Millennium Development Goals is goal 5, improving maternal health where the target to be achieved by 2015 is to reduce to $\frac{3}{4}$ the risk of maternal mortality. The main cause of death is defined as a condition that can cause maternal and perinatal death. There are several factors that cause and become the basis in the classification of maternal deaths, namely: maternal deaths with direct causes, maternal deaths with indirect causes, accidental / incidental or fortuitous maternal deaths. Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) is very important to be considered as an indicator of the success of development in the health sector, which refers to the number of maternal deaths associated with pregnancy, childbirth and child birth, and to see the level of welfare of a community (Depkes RI, 2008).

Preeclampsia is a major cause of worldwide maternal and perinatal morbidity and mortality (WHO, 2006). According to WHO, UNFPA and UNICEF, preeclampsia-eclampsia is a major cause of health problems in developing countries. Each year, an estimated 50,000 maternal deaths worldwide and affect 5%-7% of pregnancies worldwide. Occurrence of preeclampsia is an event that varies according to the population under study (Depkes RI, 2008). The deaths caused by preeclampsia in developed countries have fallen. However, it is different in developing countries such as Colombia which account for 42% of maternal deaths due to preeclampsia. However, it is still the main reason for premature babies. Risk factors of preeclampsia includes: 1) reproductive factors: age, parity, gestational distance, PE-E offspring, multiple pregnancy, 2) health status factors: history of hypertension, history of PE-E, history of DM, nutritional status, anxiety / stress, 3) healthy behavior factors: antenatal care, history of family planning acceptors, 4) supporting factors: educational level, knowledge, occupation, socioeconomic.

The purpose of this research was to analyze the risk factors of preeclampsion which include: reproduction factor, health status factor, healthy behavior factor and socioeconomic factor that can influence preeklampsi occurrence in pregnant mother.

II. METHODS

This research was a descriptive study with case control design, this research was done to study the difference of risk factor of preeclampsion in PE-E mother and normal pregnant women. The population of this study were all pregnant women with preeclampsia and eclampsia and normal pregnant women treated in Dr Soetomo Hospital and some Public Health Center in Surabaya during 2015. The sample size of mother with PE-E was 91 people and normal pregnant women was 89 people.

The variables studied were risk factors of preeclampsia in pregnant women, consisting of: 1) Reproductive factors: age, parity, gestational distance, PE-E offspring, multiple pregnancy, 2) Health status factors: history of hypertension, history of PE-E, History of DM, nutritional status, anxiety / stress, 3) Healthy behavior factors: antenatal care, history of family planning acceptors, 4) Supporting factors: education level, knowledge, occupation, socioeconomic. The risk factors for preeclampsia were characteristics or conditions in pregnant women that may cause an opportunity or the possibility of preeclampsia. Risk factors for preeclampsia in pregnant women, consisting of: 1) Reproductive factors: age, parity, gestational distance, PE-E offspring, double pregnancy, 2) Health status factors: history of hypertension, history of PE-E, history of DM, Nutrition, anxiety / stress, 3) Healthy behavior factors: antenatal care, history of family planning acceptors, 4) Supporting factors: educational level, knowledge, work, socioeconomic. The data were collected by interview, than analyzed by using descriptive statistics analysis.

III. RESULT

A. Reproductive factors

- Among pregnant women with PE-E, 50.5% were over 35 years old, while among normal pregnant women 20.9% were over 35 years old.
- Among pregnant women with PE-E, as many as 17.5% whose parity is more than 3, while normal pregnant women as much as 4.6% paritasnya more than 3.
- Among pregnant women with PE-E, 12.1% had PE-E, while normal pregnant women were 7% with PE-E offspring.
- Among pregnant women with PE-E, as many as 3.4% with multiple pregnancies, while normal pregnant women did not have multiple pregnancies.

Table 1. Distribution of age, parity, progeny PE_E and multiple pregnancy in pre-eclampsia mothers and normal pregnant women in Surabaya

No	Risk Factors	PE	Normal
1	Age over 35 years	50.5%	20.9%
2	Parity more than 3	17.5%	4.6%
3	PE-E offspring	12.1%	7%
4	Multiple pregnancies	3.4%	0

B. Health status factors

- Among pregnant women with PE-E, 41.7% had a history of PE-E, while normal pregnant women were 1.1% with a history of PE-E.
- Among pregnant women with PE-E, 49.5% had a history of hypertension, while normal pregnant women had no history of hypertension.
- Among pregnant women with PE-E, 14.3% had a history of DM, while normal pregnant women had a history of hypertension of 1.2%.
- Among pregnant women with PE-E, as many as 80.2% were obese, while normal pregnant women were obese as much as 27.9%.
- Among pregnant women with PE-E, as many as 81.3% experienced anxiety, while normal pregnant women no one experienced anxiety.

Table 2. Distribution of history of PE_E, history of hypertension, history of DM, nutritional status and anxiety

No	Risk Factors	PE	Normal
1	History PE-E	41,7%	1,1%
2	History of hypertension	49,5%	0%
3	History DM	14,3%	1,2%
4	Obese	80.2%	27.9%.
5	Anxious	81.3%	0%

C. Health behavior factors

- a. Among pregnant women with PE-E, 51.6% performed ANC well, while normal pregnant women as much as 96.5% emalakukan ANC well.
- b. Among pregnant women with PE-E, as many as 33% had a history of using KB Hormonal, while normal pregnant women who had a history of using hormonal KB as much as 44.7%.

Table 3. Distribution of antenatal care and history of hormonal contraceptive use

No	Risk Factors	PE	Normal
1	ANC	51.6%	96.5%
2	KB Hormonal	33%	44.7%.

D. Supporting Factors

- a. Among pregnant women with PE-E, 33% worked, while normal pregnant women accounted for 25.6%
- b. Among pregnant women with PE-E, 14.3% had good knowledge, while normal pregnant women had good knowledge of 65.1%.
- c. C. Among pregnant women with PE-E, 32% had less income, while normal pregnant women who had less than 22.4%.

Table 4. Distribution of occupational knowledge and income of Pre Eklampsi patients in Surabaya in Surabaya

No	Risk Factors	PE	Normal
1	Works	33%	25.6%.
2	Good knowledge	14.3%	65.1%.
3	Earnings less	32%	22.4%.

IV. DISCUSSION

At maternal age, 36% of preeclamptic outcomes occur at the age of more than 36 years, according to the theory that in pregnant women aged over 35 years have a greater risk of preeclampsia than younger ages. This happens because at the age of more than 35 years of degenerative diseases have started often found. Whereas parity is almost evenly distributed between 1-3, this is not compatible with the theory that most preeclampsy occur in mothers with first pregnancy, but in this study occurs evenly in pregnancies 1 to more than 3. This occurs because when data collection is done randomly . Pregnant women who have preeklampsi progeny are very risky to experience preeclampsia compared with women who do not have preeklampsi keturunan. Whereas in the number of children conceived, recluse often occurs in women with multiple or more pregnancies, this is related to the magnitude of the placenta.

In accordance with the theory that a mother who has suffered from preeclampsia or eklampsi in previous pregnancy will be at risk again in the next pregnancy. Similarly, other pnyakit, the results of this study showed 9.10% of pregnant women suffer from DM and 3.60% there are other diseases. Pregnant women who suffer from chronic diseases or degenerative diseases will be very easy to experience preeklampsi. Obesity in pregnancy is also experienced by 8.20% of pregnant women in this study. This is consistent with the theory that obesity will facilitate the occurrence of preeclampsy. Anxiety that occurs in pregnancy will increase maternal blood pressure, high blood pressure during pregnancy is one factor that can cause preeclampsy.

In accordance with the theory that researchers have described that low income, low knowledge and work that can not guarantee the fulfillment of daily life needs is a very influential factor to the occurrence of preeclampsy. Low knowledge causes pregnant women can not receive correct information about pregnancy care such as nutrition fulfillment during pregnancy. Low income makes pregnant women unable to fulfill nutrition during pregnancy and can not do antenatal care properly.

V. CONCLUSIONS AND SUGGESTIONS

A. Conclusion

1. Reproductive factors of mothers who have experienced eklampsi: more than half of the age of more than 35 years, a small parity of more than 3, a small part have preeklampsi descent and a small portion of pregnant double

2. Maternal health status factors that have experienced eclampsy: Almost half have a history of preeclampsis and hipeternsi, almost half are obese and have anxiety, some have a history.
3. Healthful behavior factors of mothers who have experienced eclampsy: More than half do Ante natal care well, and almost half have used hormonal contraception
4. Maternal support factors that have experienced eclampsy: almost half of the work, some have knowledge and almost half have less income.

B. Suggestion

1. The need to improve women's education so that they understand the causes of preeclampsia
2. Provide counseling to pregnant women how to prevent the occurrence of preeclampsy
3. Improving pregnancy care services in all pregnant women.

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