

## Research Article

### PROGNOSTIC FACTORS IN SEVERE PREECLAMPSIA

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#### ABSTRACT

Preeclampsia heavy be marked with existence pressure blood systolic 160 mmHg or diastolic 110 mm Hg present after age 20 weeks pregnant accompanied by proteinuria >5 g/24 hours. Occur enhancement incident hypertension in pregnancy globally from 1990 to 2019 as much as 10.92% which is influenced by various factor risk. Governance preeclampsia is heavy in the form of control blood pressure in the range 110-140/80-85 mmHg, administration of drug antihypertensive, prophylaxis seizures, as well purposeful birth for preventing or reduce risk emergence complications in mother and fetus. Complications that occur will has a poor prognosis for both mother and fetus. Factors influencing maternal prognosis including age mother, age pregnancy, gravida, history antenatal care, as well as results laboratory. Factors affecting fetal prognosis that is age mother and age pregnancy.

**Keywords:** preeclampsia weight, factor prognostic mother, factor prognostic fetus.

#### INTRODUCTION

Severe preeclampsia is an increase in systolic blood pressure 160 mmHg or diastolic 110 mmHg on two blood pressure checks at least 4 hours apart, appears after 20 weeks of gestation, accompanied by proteinuria > 5 grams/24 hours or qualitative +3, oliguria, thrombocytopenia, pulmonary edema, hemolysis elevated liver enzyme low platelets syndrome (HELLP), severe headache, vomiting, visual disturbances, and epigastric pain.<sup>1</sup> Incident hypertension in pregnancy increase from 16.30 million to 18.08 million globally, with a total increase of 10.92% from 1990 to 2019.<sup>2</sup> In 2019 in Indonesia the causes Maternal dead consequence hypertension in pregnancy totaled 1,066 cases.<sup>3</sup> Risk factors are maternal age above 35 years and under 20 years; primigravida or nulliparity; multiparas with a previous history of preeclampsia; multiparas whose previous pregnancies were 10 years or more apart; multiple pregnancies; a history of preeclampsia in the mother or sister; Body Mass Index >35 or obesity before pregnancy; history of chronic hypertension; IDDM (Insulin Dependent Diabetes Mellitus); Kidney illness; antiphospholipid syndrome (APS); pregnancy by insemination of donor sperm, oocyte or embryo; smoke; consumption of salty foods.<sup>4</sup> Management of severe preeclampsia is to control blood pressure in the range of 110-140/80-85mmHg. Antihypertensive drugs that may be used include labetalol, exprenolol, methyl dopa, nifedipine, and diltiazem, while prazosin and hydralazine are generally used as second- and third-line agents. In addition, MgSO<sub>4</sub> can be given as seizure prophylaxis at a dose of 4g IV or 10g IM, followed by 5g IM every 4 hours or infusion of 1g/hour until delivery and at least 24 hours postpartum.<sup>1</sup> Delivery can be done immediately if the gestational age has reached 37 weeks, to prevent complications for both mother and fetus. Complications in the mother can include cardiovascular disorders (ischemic heart disease and DVT), eclampsia, HELLP syndrome, cerebral hemorrhage, placental detachment, pulmonary edema, visual disturbances to blindness and even death.<sup>5,6,7</sup> While complications in the fetus can be in the form of stunted fetal growth, prematurity and death.<sup>5</sup>

Because of the various complications, patients with severe preeclampsia have a poorer prognosis than pregnant women without severe preeclampsia. <sup>8</sup> Based on the above background, this literature review aims to determine the prognostic factors in severe preeclampsia.

#### MOTHER'S PROGNOSTIC FACTORS

##### Mother's Age

Age of pregnant women with preeclampsia heavy above 35 years and under 20 years have a worse prognosis to death compared to maternal age between 20-35 years.<sup>9</sup> Mothers under 20 years old \_ risky experience eclampsia, temporary mothers who are >34 years old risky for experience eclampsia, fail kidney acute pulmonary oedema.<sup>10</sup>

##### Age Pregnancy

Pregnancy < 34 weeks has a poorer prognosis accompanied by complications such as syndrome HELLP, eclampsia, retroplacental hematoma, acute renal failure and death.<sup>10</sup> Gestational age between 28 weeks to 36 weeks has a worse prognosis until death.<sup>9</sup>

##### Gravida

Mothers with multiparas have more complications than primiparas, namely HELLP syndrome is more common.<sup>10</sup> Mothers with multipara > 4 have the prognosis tends to be worse and can end with death. <sup>9</sup>

##### Antenatal Care History

Antenatal history of cancer (ANC) less than 4 times and the mother missed the opportunity to have a preeclampsia screening examination, tended to have a worse prognosis.<sup>11,12</sup> Giving information and compliance to suggestions regarding preeclampsia as well as prevention could lower number morbidity and mortality in the incidence severe preeclampsia.<sup>13</sup> The more often do ANC check then risk caught preeclampsia the more small as well as prevent preeclampsia Becomes heavier.<sup>12</sup>

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## Laboratory Results (Bilirubin, SGOT, SGPT, LDH, Platelets)

The levels of bilirubin, SGOT, SGPT, LDH and platelets are prognostic factors for maternal death in severe preeclampsia. This is shown by studies that increase in bilirubin, SGOT, SGPT, LDH and platelets are more commonly found in severe preeclampsia which indicates maternal complications.<sup>14</sup> The increase in laboratory levels is a marker of the occurrence of HELLP syndrome which has a 12.5 times higher risk of death.<sup>9</sup> Another study also showed that the risk for maternal mortality in severe preeclampsia with HELLP syndrome was 4.319 times higher than in severe preeclampsia without HELLP syndrome.<sup>15</sup> In addition, proteinuria levels are also associated with the prognosis of maternal mortality with severe preeclampsia. Pregnant women with severe preeclampsia with proteinuria +2 had a 2.1 times higher risk of death, proteinuria +3 had a 4.2 times higher risk of death, and proteinuria +4 had a 3.2 times higher risk of death compared to proteinuria +1.<sup>9</sup> Another study showed that hyperglycemia was clinically correlated with the occurrence of HELLP syndrome, eclampsia and disseminated intravascular coagulation (DIC) in patients with severe preeclampsia.<sup>16</sup>

## FETAL PROGNOSTIC FACTORS

### Mother's Age

The fetus has a poor prognosis in women with preeclampsia who are >34 years old. A study on 401 preeclampsia patients at Ibn Rochd University Hospital of Casablanca in 2010-2011 showed a significantly higher frequency of prematurity in preeclamptic women with age >34 years compared to preeclamptic mothers aged 24-34 years or aged <24 years.<sup>10</sup>

### Age Pregnancy

Patients with preeclampsia at early gestational age (<34 weeks) have a worse fetal prognosis than patients with preeclampsia at gestational age 34 weeks. The frequency of neonates experiencing fetal hypotrophy, prematurity, neonatal distress, neonatal respiratory distress and perinatal death was higher in preeclampsia patients with gestational age <34 weeks.<sup>10</sup> Preeclampsia that occurs at the beginning pregnancy related with height small age pregnancy (small for gestational age) and birth at pregnancy young with more mortality and morbidity tall compared to with preeclampsia in late pregnancy.<sup>17</sup>

## CONCLUSION

Preeclampsia heavy could cause complications that affect outside mother and fetus. Various complications could has a poor prognosis for both mother and fetus. Factors that determine maternal and fetal prognosis is age mother, age pregnancy, gravida, history of ANC, and outcome laboratory in the form of bilirubin, SGOT, SGPT, LDH and platelets.

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