

**ORIGINAL RESEARCH**

# Assessment of neonatal outcomes of eclamptic mothers

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**ABSTRACT**

**Background:** Preeclampsia is currently recognized as a pregnancy-specific illness that manifests as proteinuria and new-onset hypertension in a previously normotensive woman after 20 weeks of gestation. The present study was conducted to assess neonatal outcomes of eclamptic mothers. **Materials & Methods:** 90 mothers with eclampsia or with pre-eclampsia were selected. Parameters such as parity, socio-economic status according to modified Kuppaswamy scale, weight, height, blood pressure, low birth weight, pre-term, and other neonatal outcomes were recorded. **Results:** Age group 17-19 years had 28, 19-21 years had 30 and 21-24 years had 32 patients. Parity 0 was seen in 65 and 1 in 25 patients. SES was upper seen in 21, middle in 30 and lower in 39. The mean weight was 40-50 kgs in 17, 50-60 kgs in 36 and 60-70 kgs in 37. The mean height was 132-140 cms in 20, 141-149 cms in 38 and 150-158 cms in 32. The difference was significant ( $P < 0.05$ ). In cases and controls, the outcome was preterm in 32 and 11, low birth weight in 38 and 4, birth asphyxia in 12 and 3, intrauterine growth retardation in 7 and 2, hypoxic ischaemic encephalopathy in 4 and 1, early neonatal death in 5 and 2 and stillbirth in 3 and 1 respectively. **Conclusion:** To avoid and lessen major difficulties in newborns, antenatal care of eclampsia and preeclampsia is crucial. Common complications for babies born to eclamptic moms include preterm and low birth weight, intrauterine growth restriction, birth asphyxia, and an increased frequency of late preterm deliveries.

**Key words:** intrauterine growth retardation, early neonatal, stillbirth

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**INTRODUCTION**

Eclampsia, which translates to "shining forth" in Greek or, more accurately, "bolt from the blue," is a severe and potentially fatal hypertensive pregnancy disorder that is typically experienced in the second half of the pregnancy and is not related to other conditions like epilepsy or pre-existing or organic brain disorders, usually in a woman who has been diagnosed with preeclampsia.<sup>1</sup> Preeclampsia is currently recognized as a pregnancy-specific illness that manifests as proteinuria and new-onset hypertension in a previously normotensive woman after 20 weeks of gestation (a systolic blood pressure of  $>140$  mm Hg or a diastolic blood pressure of  $>90$  mm Hg).<sup>2</sup>

Though the etiopathogenesis is still hypothetical, the development of complications like placental insufficiency, placental abruption and foetal bradycardia in pre-eclampsia/eclampsia syndrome may affect perinatal morbidity and mortality adversely.<sup>3</sup> The defining feature of eclampsia is the occurrence of seizures in a woman with pre-

eclampsia. These seizures can vary in severity and may involve convulsions. Eclampsia is preceded by pre-eclampsia, which is characterized by high blood pressure, proteinuria (presence of excess proteins in the urine), and sometimes other organ dysfunction. Pre-eclampsia can lead to complications such as impaired liver function, kidney failure, and clotting problems. The exact cause of eclampsia is not fully understood, but certain risk factors increase the likelihood of its occurrence.<sup>4</sup> These include a history of pre-eclampsia in a previous pregnancy, first-time pregnancies, multiple pregnancies (e.g., twins or triplets), maternal age younger than 20 or older than 40, and pre-existing conditions such as chronic hypertension, diabetes, or kidney disease.<sup>5</sup> The present study was conducted to assess neonatal outcomes of eclamptic mothers.

**MATERIALS & METHODS**

The present study consisted of 90 mothers with eclampsia or with pre-eclampsia. All gave their

written consent to participate in the study. Control mothers were also enrolled.

Data such as name, age, etc. was recorded. Parameters such as parity, LMP, and socio-economic status according to modified Kuppaswamy scale was

recorded. Examination including weight, height, blood pressure etc. Low birth weight, pre-term, and other neonatal outcomes was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

## RESULTS

**Table I Distribution of patients**

Age group (years)	Number	P value
17-19	28	0.86
19-21	30	
21-24	32	

Table I shows that age group 17-19 years had 28, 19-21 years had 30 and 21-24 years had 32 patients.

**Table II Socio-demographic profile**

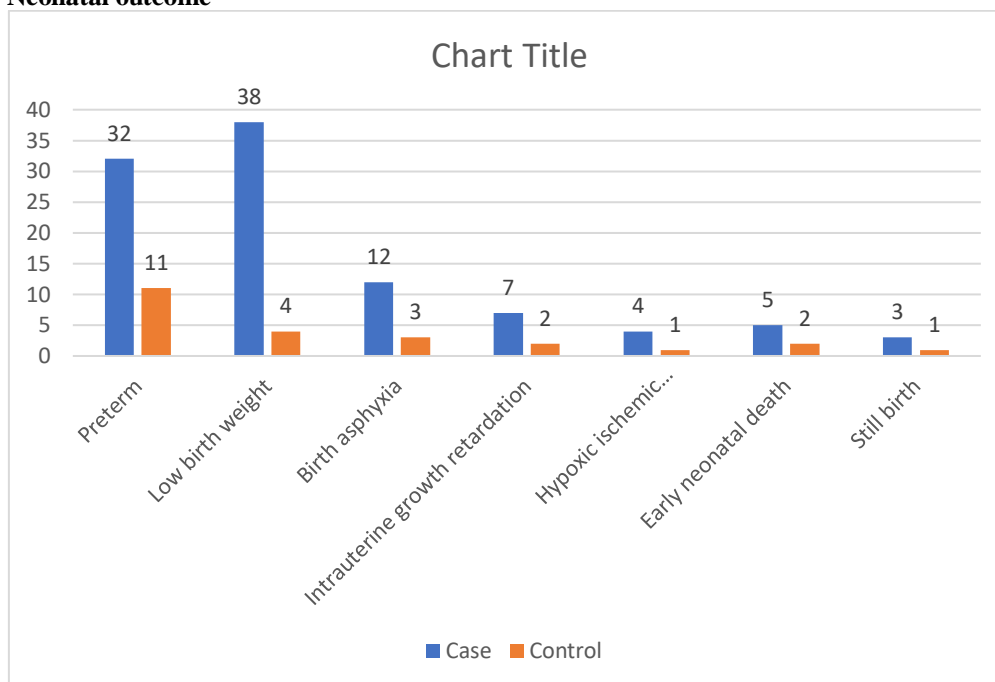
Parameters	Variables	Number	P value
Parity	0	65	0.01
	1	25	
SES	Upper	21	0.05
	Middle	30	
	Lower	39	
Weight (Kgs)	40-50	17	0.17
	50-60	36	
	60-70	37	
Height (cms)	132-140	20	0.56
	141-149	38	
	150-158	32	

Table II shows that parity 0 was seen in 65 and 1 in 25 patients. SES was upper seen in 21, middle in 30 and lower in 39. The mean weight was 40-50 kgs in 17, 50-60 kgs in 36 and 60-70 kgs in 37. The mean height was 132-140cms in 20, 141-149cms in 38 and 150-158cms in 32. The difference was significant (P< 0.05).

**Table III Neonatal outcome**

Outcome	Case	Control	P value
Preterm	32	11	0.05
Low birth weight	38	4	
Birth asphyxia	12	3	
Intrauterine growth retardation	7	2	
Hypoxic ischemic encephalopathy	4	1	
Early neonatal death	5	2	
Still birth	3	1	

Table III, graph I show that in cases and controls, outcome was preterm in 32 and 11, low birth weight in 38 and 4, birth asphyxia in 12 and 3, intrauterine growth retardation in 7 and 2, hypoxic ischemic encephalopathy in 4 and 1, early neonatal death in 5 and 2 and still birth in 3 and 1 respectively.

**Graph I Neonatal outcome****DISCUSSION**

Eclampsia is a serious and potentially life-threatening complication of pregnancy characterized by the development of seizures or convulsions in a woman with pre-eclampsia.<sup>6,7</sup> Pre-eclampsia itself is a condition that typically occurs after the 20th week of pregnancy and is characterized by high blood pressure (hypertension) and signs of damage to other organ systems, most commonly the liver and kidneys. If pre-eclampsia is not effectively managed, it can progress to eclampsia.<sup>8,9</sup> The present study was conducted to assess neonatal outcomes of eclamptic mothers.

We found that age group 17-19 years had 28, 19-21 years had 30 and 21-24 years had 32 patients. Santanu et al's<sup>10</sup> study comprised newborn babies born to 100 consecutive mothers admitted with eclampsia or with preeclampsia but subsequently developing eclampsia along with those born to 100 consecutive non-eclamptic mothers with normal blood pressure. The non-eclamptic mothers were selected after statistically matching the socio-demographic and nutritional profile like religion, caste, age, socio-economic status, parity, body weight and height with those of eclamptic mothers. Eclampsia among rural population of India still remains a significant risk factor for neonatal morbidities like preterm and low birth weight, intrauterine growth restriction and birth asphyxia. Increased incidence of late preterm births is also significantly associated with eclampsia.

We observed that parity 0 was seen in 65 and 1 in 25 patients. SES was upper seen in 21, middle in 30 and lower in 39. The mean weight was 40-50 kgs in 17, 50-60 kgs in 36 and 60-70 kgs in 37. The mean height was 132-140 cms in 20, 141-149 cms in 38 and 150-158 cms in 32. Singhal et al<sup>11</sup> evaluated the maternal and perinatal outcome in patients of severe

pre-eclampsia and eclampsia and found that the majority of the patients was unbooked (82%), belonged to lower socioeconomic status (84%) and had rural background (84%). Headache was the most common antecedent symptom (44%) followed by epigastric pain (20%), oliguria (9%), blurring of vision (8%) and ascitis (5%). There was high incidence of maternal complications like PPH (31%), abruption placentae (11%), renal dysfunction (8%), pulmonary edema (8%), pulmonary embolism (4%), HELLP syndrome (2%) and DIC (2%). Maternal mortality was 8% and the causes were pulmonary embolism in four women, DIC in two, HELLP and pulmonary edema in one each. Perinatal complications were also high 71.43% were low birth weight, 66% had preterm delivery, 52.4% babies had birth asphyxia and 28.57% were still born. Maternal and perinatal outcome was much poorer in eclampsia as compared to severe pre-eclampsia.

We found that in cases and controls, outcome was preterm in 32 and 11, low birth weight in 38 and 4, birth asphyxia in 12 and 3, intrauterine growth retardation in 7 and 2, hypoxic ischemic encephalopathy in 4 and 1, early neonatal death in 5 and 2 and still birth in 3 and 1 respectively. Ajah et al<sup>12</sup> determined the prevalence, the risk factors and fetomaternal outcome of preeclampsia with severe features and eclampsia. A total of 13,750 deliveries were recorded within the study period. The prevalence of preeclampsia with severe features and eclampsia were 136(0.99%) and 104(0.76%) respectively. Preeclampsia with severe features and eclampsia was more common among adolescents, rural dwellers, poorly educated, unemployed, unbooked and nulliparous women. It was more associated with

preterm delivery, cesarean section, low birth weight babies, maternal and perinatal mortality.

The limitation of the study is the small sample size.

### CONCLUSION

Authors found that to avoid and lessen major difficulties in newborns, antenatal care of eclampsia and preeclampsia is crucial. Common complications for babies born to eclamptic moms include preterm and low birth weight, intrauterine growth restriction, birth asphyxia, and an increased frequency of late preterm deliveries.

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