

Original Research Article

# To study the incidence & demographic profile of preeclampsia and eclampsia

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## Abstract:

**Background & Method:** The aim of present study is to study the incidence & demographic profile of preeclampsia and eclampsia. All possible effects were made to get a detailed family history as regards to affected sisters, mothers and mother in-law and most of the data is based on the verbal account given by the patient or attendants.

**Result:** Maximum no. was found in Hemoglobin <10 56.67% in Preeclampsia whereas in Eclampsia 56.15%.

Maximum no. was found in vaginal 71.6% in Preeclampsia whereas in Eclampsia 70%.

**Conclusion:** The major health problem drastic changes are needed which required active participation of the community, government and non-government organization, Doctors and Nurses for various strategies addressing health education of the community, provision of proper antenatal care to all pregnant woman by implementation of mother and child health care system, proper training of medical staff regarding emergency care of eclampsia and early referral to the tertiary health care center.

**Keywords:** incidence, demographic, preeclampsia & eclampsia.

**Study Designed:** Observational Study.

## 1. INTRODUCTION

Eclampsia manifests as 1 seizure or more, with each seizure generally lasting 60-75 seconds. The patient's face initially may become distorted, with protrusion of the eyes, and foaming at the mouth may occur. Respiration ceases for the duration of the seizure. Eclamptic seizures may be divided into 2 phases. Phase 1 lasts 15-20 seconds and begins with facial twitching. The body becomes rigid, leading to generalized muscular contractions[1].

Phase 2 lasts about 60 seconds. It starts in the jaw, moves to the muscles of the face and eyelids, and then spreads throughout the body. The muscles begin alternating between contracting and relaxing in rapid sequence[2].

A coma or period of unconsciousness, lasting for a variable period, follows phase 2. After the coma phase, the patient may regain some consciousness, and she may become combative and very agitated. However, the patient will have no recollection of the seizure. A period of hyperventilation occurs after the tonic-clonic seizure[3]. This compensates for the respiratory and lactic acidosis that develops during the apneic phase.

Genetic predisposition, immunology, endocrinology, nutrition, abnormal trophoblastic invasion, coagulation abnormalities, vascular endothelial damage, cardiovascular maladaptation, dietary deficiencies or excess, and infection have been proposed as etiologic factors for preeclampsia/eclampsia[4]. Imbalanced prostanoid production and increased plasma antiphospholipids have also been implicated in eclampsia[5].

## 2. MATERIAL & METHOD

Present study was conducted at Index Medical College Hospital & Research Centre, Indore, M.P. from June 2020 to May 2021. The cases were studied according to the following proforma.

**Blood pressure recording:** Blood pressure was recorded in lateral recurrent position. The point of muffing of Korotkoff's sound was taken as diastolic pressure when the sound failed to disappear till zero, otherwise the point of disappearance of Korotkoff's sound was taken as diastolic BP. At least two recording six hours apart were taken.

**Family history of PIH:** All possible effects were made to get a detailed family history as regards to affected sisters, mothers and mother in-law and most of the data is based on the verbal account given by the patient or attendants.

**Proteinuria:** A test tube was two third filled with a midstream sample of urine. The top 2 cm of the urine was boiled over a flame. Turbidity of urine which did not disappear even on addition of 10% acetic acid was considered to be indication of proteinuria. For practical purposes the amount of protein was exposed as a haze (+), cloud (++) or granular precipitate (+++).

### Inclusion Criteria

1. All cases of pre eclampsia and eclampsia admitted in the Department of Obstetrics & Gynaecology.
2. All the cases of imminent eclampsia.

### Exclusion Criteria

1. Known case of epilepsy.
2. Convulsion occurring as a complication of uremia.
3. Convulsion or coma due to cerebral disease, eg. Encephalitis, meningitis, cysticercosis, ruptured cerebral Aneurysm.

## 3. RESULTS

**Table 1: Age wise Distribution of Cases of Preeclampsia & eclampsia**

Age Groups (Years)	Preeclampsia				Eclampsia			
	No.	%	Death	Percentage mortality	No.	%	Death	Percentage mortality
<20	07	11.67	0	0.00	09	6.92	01	5.55
21-25	33	55.00	03	10.60	69	53.08	05	7.24
26-30	14	23.33	02	10.71	29	22.31	03	12.06
>30	06	10.00	01	16.66	23	17.69	02	10.86
Total	60	100%	06	10%	130	100%	11	8.84%

**Table 2: Distribution of pre-eclampsia & eclampsia in relation to Booked/Unbooked status**

Status	Preeclampsia				Eclampsia			
	No.	%	Death	Percentage mortality	No.	%	Death	Percentage mortality
<b>Booked</b>	14	23.33	01	3.57	06	4.6	01	7.69
<b>Un-booked</b>	46	76	05	11.95	124	95.4	11	8.90
<b>Total</b>	60	100%	06	10%	130	100%	12	8.84%

**Table 3: Distribution of cases showing hemoglobin level on admission**

Hemoglobin (gm%)	Preeclampsia		Eclampsia	
	No.	%	No.	%
<10	34	56.67	73	56.15
> 10	26	43.33	57	43.85
<b>Total</b>	<b>60</b>	<b>100%</b>	<b>130</b>	<b>100%</b>

Maximum no. was found in Hemoglobin <10 56.67% in Preeclampsia whereas in Eclampsia 56.15%.

**Table 4: Distribution of eclampsia & Severe preeclampsia in relation to Mode of Delivery**

Mode of Delivery	Preeclampsia		Eclampsia	
	No.	%	No.	%
Vaginal	43	71.6	91	70
LSCS	16	26.6	35	26.9
Died Undelivered	01	1.6	04	3.1
<b>Total</b>	<b>60</b>	<b>100%</b>	<b>130</b>	<b>100%</b>

Maximum no. was found in vaginal 71.6% in Preeclampsia whereas in Eclampsia 70%.

#### 4. DISCUSSION

Incidence of eclampsia varies from country to country. In general eclampsia is preventable and it less common in the developed countries (UK, USA) of 11625 admission during the period of the study (Aug. 2011 to July 2012), 120 and 260 patients were diagnosed as preeclampsia and eclampsia respectively. This indicates a frequency of 1.03 % for preeclampsia and 2.23% for eclampsia.

S wains et al reported the incidence of eclampsia as 2.2% of all hospital deliveries[6]. Choudhary P in a retrospective study observed the incidence of eclampsia as 2.9 per 1000 deliveries[7]. In our study it was found that 76 % preeclampsia patients and 95% eclampsia in the present study were unbooked.

Ali BS et al. (2004)[8] in their study, have found the incidence of disease to be higher in unbooked cases 67% and 27% of the eclampsia and Preeclampsia patients respectively, had received no antenatal care. Booking criteria includes atleast 3 antenatal visits under a registered medical practioner.

Mohamed AM et al (2005) found that 75% of eclampsia cases didn't receive antenatal care and 60% of severe preeclampsia received inadequate antenatal care[9]. Abubkar Ali et al noted that in unbooked cases, case fatality rate was 24% compared to 15% among the booked cases[10]. This indicated a lack of awareness regarding antenatal care in these patients, hence proper quantity and quality of antenatal care is required for preventing preeclampsia & eclampsia.

## 5. CONCLUSION

The major health problem drastic changes are needed which required active participation of the community, government and non-government organization, Doctors and Nurses for various strategies addressing health education of the community, provision of proper antenatal care to all pregnant woman by implementation of mother and child health care system, proper training of medical staff regarding emergency care of eclampsia and early referral to the tertiary health care center.

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