EPIDEMIOLOGY OF ECLAMPSIA IN A TERTIARY HEALTH CARE CENTERSwarnapriya K¹, Sathyadharan P², Vasantha N. Subbiah³**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: OBJECTIVE: To analyse the cases of eclampsia admitted in Sri Avittom Thirunal Hospital, Thiruvananthapuram, Kerala, India a tertiary health care hospital over a period of two years. **MATERIALS AND METHODS:** This is a retrospective descriptive study in which 88 cases of eclampsia who satisfied the inclusion criteria were enrolled in the study and the distribution of age, gravidity, booking status, type of eclampsia, socioeconomic status, period of gestation, blood pressure at admission were studied. **RESULTS AND CONCLUSION:** There were 88 cases of eclampsia analyzed over a period of two years. 79.6% of cases were in the age group of 20-29 years and 81.8% of them belonging to low socioeconomic status. Out of 88 patients who came for admission, majority (89.8%) were booked outside, mostly being referred from primary health centers and district hospitals. Primigravida were almost 52.3%. Antepartum eclampsia occurred in 79.5% of cases who visited to our hospital. Postpartum eclampsia was seen in 18.2%. 75.7% were between 29 to 37 weeks of gestation. 45.5% had systolic blood pressure between 160 and 180 mm Hg. 51.2% had diastolic blood pressure more than 110mm Hg. We concluded in the study that most of the cases were from rural areas. Hence antenatal care in the primary health centres and district hospitals should be ensured. Early detection of pre-eclampsia and start of anti-hypertensives along with administration of Pritchard regimen can prevent dreaded complications.

KEYWORDS: Eclampsia, hypertensive disorder, incidence, antepartum, postpartum, epidemiology, socioeconomic status.

INTRODUCTION: Eclampsia is a potentially lethal disorder of pregnancy which is about 2-10 times more common in our country than in the West. Eclampsia is defined as the occurrence of convulsions not caused by coincidental neurological diseases (eg. Epilepsy) in a woman whose condition meets the criteria for preeclampsia. The incidence of eclampsia is approximately 1 in 1600 pregnancies in developed countries, where as in developing countries, it is 1 in 100 to in 1700.¹

Maternal mortality from eclampsia is high in patients who had no regular antenatal care. Maternal mortality was in the range of 5-10% of all cases (Lewis, 1965). Now due to improved Antenatal care and early detection of preeclampsia and control with drugs, mortality has come down to 1%.²⁻⁵

The incidence of eclampsia is still high in referral hospitals though it is a preventable complication of pregnancy. Proper Antenatal care undoubtedly is the important part of prevention.

MATERIALS AND METHODS:

Study Design: Descriptive study.

Settings: Department of Obstetrics and Gynecology, Sree Avittom Thirunal (SAT) Hospital, Medical College, Thiruvananthapuram, Kerala, India.

Duration: Two years (Nov. 2006 to Nov. 2008).

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Inclusion Criteria: All antepartum, intrapartum cases irrespective of the period of gestation and postpartum cases (up to 48 hrs of delivery) ³ that satisfy the following criteria are enrolled in the study.

1. Blood pressure $\geq 140/90$ mmHg
2. Proteinuria
3. Convulsions, antepartum, intrapartum, postpartum (upto 48 hrs of delivery).³

Exclusion Criteria: Presence of any preexisting neurological or renal disorders.

METHODOLOGY: The patients who satisfy the inclusion and exclusion criteria are included in the study and the following data were retrieved from the proforma for analysis:

1. Age
2. Socio-economic status
3. Gravidity
4. Booking status
5. Type of eclampsia
6. Period of gestation
7. Systolic BP and Diastolic BP. at admission.

OBSERVATIONS AND RESULTS: The table 1 represents the distribution of eclampsia according to age, maximum number of cases around 45.5% is between the age group 20-24 years and only 1.1% patients are seen above age of 35 years comparable with results of Gaddisuman et al., 2007 study.⁶

The table 2 represents that eclampsia is more common among low socio-economic status group. Around 81.8% patients were belonging to low socio-economic status group.

The table.3 shows that around 89.8% of eclampsia were booked outside and 3.4% were unbooked.

The table 4 shows that distribution of eclampsia according to gravidity. 52.3% of patients were primigravidae.¹ The distribution of eclampsia among multigravida is increasing as observed by Mostello and coworkers.³

The table 5 shows that 79.5% patients had antepartum eclampsia and 18.2% had postpartum eclampsia comparable with the study of Gaddisuman et al.,⁶ 2007.

The table 6 shows the distribution of 75.7% antepartum eclampsia patients between 29 and 37 weeks.

The table 7 shows that 65% of patients had systolic BP > 160 mm Hg and 20.5% had systolic BP > 180 mm Hg.

The table 8 shows that 51.2% of patients had diastolic BP of > 110 mm Hg.

DISCUSSION: Hypertensive disorders are among the commonest medical disorders during pregnancy and continue to be a major cause of maternal and perinatal morbidity and mortality worldwide. In developing countries, they rank second only to anemia, with approximately 7-10% of are pregnancies.¹

Approximately 1 in 2000¹ deliveries is complicated by eclampsia in developed countries, whereas the incidence in developing countries is estimated around 1 in 100 to 1 in 1700 cases.¹

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Although the incidence and mortality from eclampsia has fallen dramatically over the past several decades due to better antenatal care, the associated maternal and fetal morbidity and mortality is significant.

In the present study, 88 cases of eclampsia are evaluated and various variables are studied.

Age: Maximum number of patients with eclampsia in this study belonged to the age group of 20-24 years (45.5%) followed by 25-29 years (34.1%).

The results are comparable to study by Gaddisuman et al.⁶ which showed around 47% distribution of eclampsia in women <25 years and the mean age of distribution 17-36 years.

Socio-Economic Status: In this study, 81.8% of patients with eclampsia were belonging to low socio-economic status.

Some investigators concluded that socio-economically advantaged women had lesser incidence of preeclampsia although Lawlor and colleagues (2005) did not observe this.³

Lack of socio-economic status leads to poor antenatal check up, dietary deficiencies like folic acid and calcium, probably causing increased chance of having eclampsia.

Booking: In this study, only 6.8% of patients with eclampsia were booked and 89.8% were booked outside and 3.4% were unbooked.

The surety of antenatal checkup of the patients who were booked outside was not known.

Gravidity: In this study, 52.3% of patients with eclampsia were primi gravidae as comparable to the studies done by Mostello and coworkers (2002).³

The disease is more common in young primigravidae and elderly primi gravidac.¹

Type of Eclampsia: In this study, 79.5% of patients had antepartum eclampsia, 18.2% had postpartum eclampsia.

The results are comparable with the study conducted by Gaddisuman et al.⁶ in 2007.

Duration of Gestation: This study shows that around 34.3% cases occurred in gestational age of 35 – 37 weeks and 41.4% patients were between 29 and 34 weeks. The incidence of eclampsia < 29 weeks was 8.6% only.

The study shows that majority of cases with eclampsia occurred between 29 and 37 weeks for gestation.

Systolic BP at Admission: The study shows that 65.9% of eclampsia patients had BP >160 mm Hg at the time of admission and 20.4% had systolic BP >179 mmHg.

This shows that end organ damage and complication are more common in patients with severe preeclampsia with systolic BP > 160 mmHg.³

Diastolic BP at admission: The study shows that 51.2% of eclamptic patients had diastolic BP > 110 mmHg. The diastolic BP of > 110 mmHg is associated with loss of auto-regulation of blood flow to the cerebrum and hence leading to cerebral edema and convulsions.³

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CONCLUSION: There were 88 patients with eclampsia from November 2006 to November 2008 who satisfied the inclusion and exclusion criteria. The following are the results obtained:

1. 79.6% of patients were in the age group of 20 to 29 years
2. 81.8% of patients belonged to low socio-economic status.
3. 89.8% of patients were booked outside and 3% were unbooked
4. 52.3% of all eclampsia were primigravida
5. 79.5% of eclampsia were antepartum and 18.2% were in postpartum
6. 75.7% of antepartum eclampsia were between 29 and 37 weeks
7. 45.5% patients had systolic blood pressure between 160 and 180mmHg and 51.2% had diastolic blood pressure more than 110mmHg.

We concluded in the study that most of the cases were from rural areas. Hence antenatal care in the primary health centres and district hospitals should be ensured. Early detection of pre-eclampsia and start of anti-hypertensives along with administration of Pritchard regimen can prevent dreaded complications.

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Age (yrs)	Frequency	Percent
< 20	9	10.2
20 - 24	40	45.5
25 - 29	30	34.1
30 - 34	8	9.1
≥ 35	1	1.1

Table 1: Age group wise distribution

Socio-economic Status	Frequency	Percent
Low	72	81.8
Medium	13	14.8
High	3	3.4

Table 2: Distribution according to socio-economic status

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Booking	Frequency	Percent
Booked	6	6.8
Booked outside	79	89.8
Unbooked	3	3.4

Table 3: Distribution according to booking

Gravida	Frequency	Percent
Primi	46	52.3
Second	19	21.6
Third	4	4.5
Fourth	4	4.5
Fifth	1	1.1
Nil	14	15.9

Table 4: Distribution based on gravidity

Type of eclampsia	Frequency	Percent
Antepartum	70	79.5
Intrapartum	2	2.3
Postpartum	16	18.2

Table 5: Distribution according to type of eclampsia

Period of antepartum eclampsia (wk)	Frequency	Percent
24 – 28	6	8.6
29 – 34	29	41.4
35 – 37	24	34.3
> 37	11	15.7
Total	70	100

Table 6: Distribution according to period of gestation: antepartum eclampsia

Systolic BP (mm Hg)	Frequency	Percent
140-159	30	34.1
160-179	40	45.5
> 179	18	20.4

Table 7: Distribution according to systolic BP

Diastolic BP (mm Hg)	Frequency	Percent
< 100	4	4.5
100 - 109	39	44.3
> 110	45	51.2

Table 8: Distribution based on diastolic BP

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Fig.1. Age-wise distribution

Fig.2 Distribution according to socio-economic status

Fig.3. Distribution according to booking

Fig.4. Distribution based on gravidity

Fig.5. Distribution according to type of eclampsia

Fig.6. Distribution according to period of antepartum eclampsia

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