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Original Research Article

Sociodemographic factors in Eclampsia at a tertiary care centre in Southern Odisha

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Abstract: Eclampsia is one of the leading causes of maternal and infant morbidity and mortality in the developing world. The aetiopathogenesis of this condition involves combination of genetic predisposition and environmental factors. The aim of the study was to determine the sociodemographic and other risk factors of Eclampsia. This study was conducted in the tertiary care hospital attached to a medical institution in Southern Odisha. Duration of study was one year from January 2014 to September 2015. A total of 218 cases were selected for the study. Maximum cases of eclampsia were in age group 20-24 yrs (63.3%) and minimum in age group >35 yrs(0.46%). Eclampsia was more common among mothers from rural areas (97.5%).Maximum incidence of Eclampsia is in Illiterate group (37.61%) followed by primary education (27.08%) and high school (31.19%). 83.94% of the cases belong to lower socioeconomic status while only 0.92% of the cases belonged to upper socioeconomic status. 83.48% of the cases were primigravida. Maximum patients were in between 35-37 weeks of gestation (43.12%) and 44.04% of the cases had no antenatal check-up. Awareness regarding socio-demographic risk factors for Eclampsia shall be helpful in reducing the incidence of eclampsia and the related morbidity and mortality.
Keywords: Eclampsia, socioeconomic status, literacy, Primigravida, Gestational age.

INTRODUCTION

The term Eclampsia is derived from the greek word meaning “like a flash of lightening”. According to Green Armytage “Incidence of Eclampsia is an index of civilization in a country”. Though the disease is mentioned by ancient authors in Atharva Veda [1] and by sushruta in his famous script sushrutasamhita, yet it remains a disease of theories and the cause is still unknown despite intensive research.

Globally hypertensive disorders of pregnancy complicates approximately 5-10% of pregnancies [2]. In Africa and Asia Hypertensive disorders accounted for 9% maternal deaths [3].

Incidence of hypertensive disorders in INDIA is found to be 10.08% as observed through the data collected by the National Eclampsia Registry. Eclampsia prevalence among registry patients is 1.9%. Number of cases of Eclampsia is more than the cases of imminent Eclampsia. This points to lack of prevention and lack of identification of risk factors.

Globally, over half a million women die each year of pregnancy related causes and 99% of these deaths occur in developing countries [4]. Although rare, eclampsia which is a complication of preeclampsia accounts for 50,000 maternal deaths a year [5].

Eclamptic convulsions leading to maternal and perinatal morbidity and mortality could be prevented by adequate antenatal care and identification of risk factors. The reduction in both maternal and perinatal mortality remains the yard stick of success in the management of eclampsia.

There are many studies in developed and some developing countries to assess the association between socio demographic factors and pre-eclampsia. But very few studies have been conducted in Southern Odisha related with socio demographic profile of Eclampsia. Studies of such nature will be a useful tool to take appropriate interventional measures. In this context, this study was conducted to study sociodemographic profile of the Eclampsia cases in Southern Odisha.

MATERIAL AND METHODS

The study was carried out in the department of Obstetrics and gynaecology, MKCG Medical College, Berhampur from Jan 2014 to September 2015. In this study 218 cases of Eclampsia were included.

All antepartum, Intrapartum and postpartum eclampsia were included in the study and convulsions from other causes like cerebral malaria, epilepsy, meningitis, encephalitis, cerebro vascular accident etc. were excluded.

Patients with gestational age of 20 weeks or more and patients with post partum convulsions, raised blood pressure, protienuria with or without edema were recorded. A detailed information was taken from each case and antenatal records of the woman was also scrutinized for completeness of history and related information. Information relating to maternal socio-demographic information as well as obstetric history was obtained, which included age, parity, body mass index (BMI), multiple pregnancy, and history of chronic hypertension, history of diabetes, history of renal disease, family history of hypertension, and history of hypertensive disorders in earlier pregnancy etc. A predefined and pretested questionnaire was used.

Data was compiled in Microsoft excel and analysed. Data was represented in tabular form and appropriate statistical tests were applied.

RESULT

It is observed in Table 1, that maximum cases of eclampsia were in age group 20-24 yrs (63.3%) and minimum in age group >35 yrs (0.46%) . This shows that as the age of mother increases chances of Eclampsia reduces. It is also observed that eclampsia was more common among mothers from rural areas (97.5%) in comparison to urban areas (2.75%).

Table 2 shows distribution of cases according to the literacy status. Maximum incidence of Eclampsia is in Illiterate group (37.61%) followed by primary education (27.08%) and high school (31.19%).

According to table 3, 83.94% of the cases belong to lower socioeconomic status while only 0.92% of the cases belonged to upper socioeconomic status. This distribution is done according to Kuppuswamy's socio economic scale.

Table 4 shows distribution of cases according to parity. 83.48% of the cases were primigravida and only 1.37% of the cases were third gravida. Maximum patients were in between 35-37 weeks of gestation (43.12 %) and least were above 40 weeks of gestation(4.12 %). 44.04% of the cases had no antenatal check-up. 40.36% of the cases had irregular antenatal checkup and only 15.60% had regular antenatal check-up.

Table 1: Distribution of Eclampsia Cases according to age and residence

Characteristic	No. of cases	Percentage
Age Group		
20-24	138	63.3
25-29	58	26.6
30-34	14	6.42
>35	01	0.46
Residence		
Urban	06	2.75
Rural	212	97.5

Table 2: Distribution of Eclampsia Cases according to education

Literacy	No. Of Cases	Percentage
Illiterate	82	37.61
Primary	59	27.08
Highschool	68	31.19
Intermediate	04	1.83
Graduate	05	2.29

Table 3: Distribution of Eclampsia Cases according to socioeconomic status

Socioeconomic status	No. of cases	Percentage
Upper	2	0.92
Middle	33	15.14
Lower	183	83.94

Table 4: Distribution of Eclampsia Cases According to Maternal Factors

Characteristic	No. of cases	Percentage
Parity		
Primigravida	182	83.48
Secondgravida	26	11.92
Thirdgravida	03	1.37
Fourthgravida and above	07	3.23
Gestational age		
20-28	12	5.50
29-34	48	22.03
35-37	94	43.12
38-40	55	25.23
>40	09	4.12
Antenatal care		
Irregular	34	15.60
Regular	88	40.36
No antenatal care	96	44.04

DISCUSSION

Eclampsia continues to be a major health care related problem in pregnant women even after advancement in the field of medical sciences. Our study suggests that the chances of a woman having Eclampsia are more common with young age, low socioeconomic status, primiparity, low educational level and no antenatal checkups.

In our study maximum incidence was between 25-29 years age group which is similar to other studies. Oluwarotimi Akin *et al* reported mean age 23.8 years and 76.4% of the patients were below 30 years old [6]. Saima Aziz Siddiqui *et al,* in their study found that, mean age was 26.6 years ± 3.70 S.D. ranging from 19 to 35 years [7]. Akhtar *et al* reported in their study 77% of patients were in age group of 20 - 25 years [8]. Aisha Abdullah et al (2010) in their study found that, majority of cases (47%) were seen in the age group of 20-30 years [9]. Shakya B *et al*, in their study 42.2 % of patients were in age group of 20 - 25 years and 28.8% in 17-20 years age group[10] . Aparna Khan *et al*, in their study 84 % of patients were in age group of< 25 years among them 34.42 % were teen age[11]. Sunita T. H. *et al*, in their study majority of patients were in young age (85%) [12]. Manjusha S *et al*, in their study majority of patients were in age group of 20-25 years (69.56%) [13].

In our study 97.5% patients belonged to rural area. Maximum number of people of Odisha lives in rural area. As the MKCG Medical College is a main referral centre of South Odisha, all periphery patients are referred here. Most people in rural area are uneducated and from lower socioeconomic group.

A relatively high incidence was seen in uneducated people and it gradually decreased as the literacy level increased. Tayyiba Wasim *et al* found that the majority of patients were uneducated (85%) and belonged to the lower socioeconomic class (90%) [14]. Oluwarotimi Akin *et al* in their study found that most of the patients (86.7%) were from low educational status [6]. Lack of adequate education has effect on health seeking behavior.

Our study also shows a higher incidence in people belonging to lower socioeconomic class. Tayyiba Wasim *et al* in their study found 90% of the patients belonged to the lower socioeconomic class and 10% belonged to the middle class [14]. Kumar *et al* reported maximum incidence in low socio economic population [15].

According to our study majority of cases were primigravida. This is confirmed by various other past studies [6-12]. There is an increased association of preeclampsia and eclampsia in first pregnancy, this may be related to immunological mechanism.

In our study 44.04% patients had no antenatal care. Rowshan Akhtar *et al* in their study found that 60 % patients had no ANC [8]. Saima Aziz Siddiqui *et al*, 49 found in their study, Unbooked patients were 92.4% Booked patients were 7.5% [7]. Shakya B *et al*, in their study found unbooked patients 80% with no ANC [10]. Sunita T.H. *et al*, in their study found that 45% patients had no ANC [12].

This underscores the interplay between socio economic status, lack of knowledge and uptake of available health resources. Majority of the patients were from rural area, where antenatal service is poor.

Most eclamptic patients were between 35 and 37 weeks of gestation at presentation (43.12%), 25,23% were between 38-40 week a and 22.03% were between 29-34 weeks. Dr. Tayyiba Wasim *et al*, found Out of 136 patients, 18 (15%) were at less than 28 weeks of gestation at presentation, 58(50%) presented at 28 to 36

weeks of gestation and 42(35%) presented after 36 weeks of gestation [14]. Shakya B *et al*, in their study found majority of patients at 36-40 weeks (46.6%) [10]. Sunita T.H. *et al* in their study found 55% of cases seen at term and 43 % near term pregnancy [12]. As observed in different studies eclampsia is observed in late second and third trimester.

CONCLUSION

To conclude, incidence of eclampsia is more common among lower socioeconomic strata of rural primigravida with low literacy in early age group during later weeks of gestation. Awareness regarding Eclampsia and availability of easily accessible and affordable health care services to rural population and poor people is important which shall be helpful in reducing Eclampsia and related morbidity and mortality. Although this being a hospital based study; the results may not be applicable to the general population at large. Therefore, there is further need to elaborate the study using larger population including more study subjects and sociodemographic parameters to establish better statistical correlation in this southern Odisha region.

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