ORIGINAL ARTICLE

Incidence of eclampsia in low socio economic class.

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ABSTRACT... Objective: To find out if there is a relationship among the expectant mother's 'socioeconomic position' and eclampsia, and evaluate if various 'socioeconomic levels' have an impact on the progression or seriousness of eclampsia. **Study Design:** Cross-sectional Research study. **Setting:** Health Net Hospital, Peshawar. **Period:** Jan 2024 to July 2024. **Methods:** The Sample size were 147 determined with a '95% Confidence Level' (CL) using the 'G Power Programme'. There are four parts to the investigation. The data was collected through a structured questionnaire that included questions about 'individual', 'medical', 'obstetrical', 'clinical examinations' for the identification of eclampsia, laboratory tests to verify the finding, and 'socioeconomic status' details created using the updated 'Fahmy and El-Sherbini scale 2012', which consists of 'seven domains'. **Results:** There was a 'significant statistical relationship between the severity of eclampsia and bronchial asthma' (p=0.029), but there was 'no significant statistical difference between the severity of eclampsia and maternal age' (p=0.980), obstetric history, previous history of eclampsia (p=0.086), or other medical conditions like 'essential hypertension' (p=0.456) and 'diabetes mellitus' (p=0.427). Additionally, there is a 'statistically significant correlation between the severity of eclampsia and family possessions' (p=0.032), 'education level' (p=0.035), home cleanliness (p=0.025), and financial situation (p=0.041). However, 'there is no statistically significant correlation between the severity of eclampsia and the family', health care, or occupation domains (p=0.222, p=0.272, and p=0.328). **Conclusion:** Academic level, familial goods, house hygiene, and economic standing are all associated with the severity of eclampsia and socioeconomic position.

Key words: Preeclampsia, Socioeconomic Status.

INTRODUCTION

Social scientists refer to a person or relatives total position in the structure of society and the economy as their socioeconomic status.[1] In health research, the terms socioeconomic status are utilised frequently.[2] The term "socioeconomic status" typically refers to the aspects of a person's social and economic standing that set them apart.[3] Over the past 50 years, the relationship between socioeconomic position and health has drawn more attention, but not much has been focused on defining socioeconomic status, confirming current definitions, or assessing existing measurements. The measurement of socioeconomic status has been delayed by a lack of conceptual clarity and the eschewing of conventional procedures.[4] The purpose of socioeconomic status indicators is to represent the availability of financial and social assets, which can change as time passes.[5] Three factors are typically used to measure socioeconomic status: income, occupation, and education.[6]

Eclampsia is a complex illness influenced by seasonal, social, and environmental factors.[7] It is also linked to a number of additional risk factors, 'such as obesity, multifetal gestation, maternal age, and metabolic syndrome'.[8] 'Roughly 5–7% of pregnancies result in eclampsia'.[9] Furthermore, it continues to be the primary factor in maternal and foetal illness and death.[10] Maternal respiratory distress syndrome and brain haemorrhage are the two primary causes of mother fatality in eclampsia.[11] Among the diagnostic standards for severe eclampsia are[12]: - 'Blood pressure at rest ≥ 160 mmHg'. ≥110 mmHg is the diastolic blood pressure. – 'Edoema of the lungs'. – 'Pain in the epigastrium'. – 'Persistent proteinuria' ('>_+2

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dipstick or 2 grammes per 24 hours'). - Oliguria and progressive renal insufficiency. Increased enzymes in the liver. 'A recent onset of visual or brain problem. Low platelet count' ('less than 100,000/ml').

Nonetheless, it is now recognised that some women with the eclampsia syndrome may not have obvious proteinuria.[13] Eclampsia 'accounts for 5% of stillbirths', '8–10% of preterm births overall', 'and 15-20% of foetal development retardation and extremely low birth weights in relation to the foetus and newborn'.[14]

The baby stage of gestation, baby presentation, cervix position, and the mother's and fetus's wellbeing should all be taken into consideration while choosing the mode of delivery for women with eclampsia. Therefore, a caesarean delivery is not required. When possible, 'after 32 weeks of gestation, cervical softening with inducement of labour should be taken into consideration'. It is possible to 'achieve a 60% vaginal birth rate'.[15] the aim of our research is to find out if there is a relationship among the expectant mother's 'socioeconomic position' and eclampsia, and evaluate if various 'socioeconomic levels' have an impact on the progression or seriousness of eclampsia.

METHODS

A cross-sectional investigation that took place over the course of 6months at Health Net Hospital Peshawar after approval from ethical committee of research (Ref:1016-10-01-24). The study recruited 147 women as participants. Eclampsia ('blood pressure >140/90 mmHg plus proteinuria after 20 weeks of pregnancy') needs to be detected.

Every patient was assessed based on their 'personal, medical, and obstetrical history', which included 'their name, age, last menstrual cycle, parity, history of essential hypertension, history of eclampsia in the past, history of any current medical conditions', and 'information about headache and epigastric pain', 'which are symptoms of eclampsia'.

Each individual will go through a medical evaluation to look for indicators of eclampsia, which will involve taking blood pressure readings and looking for oedema in the lower limbs. All cases need to undergo laboratory testing in order to confirm the diagnosis of eclampsia. 'Urine protein detection, serum uric acid detection', 'platelet count and CBC', 'liver and renal function tests', 'abdominal ultrasound', and 'non-stress test are all included in this laboratory inquiry'. Assessing the socioeconomic condition of a family: 'The modified Fahmy and El-Sherbini socioeconomic scale is used in the questionnaire to get the family's socioeconomic status score'. The 'scale has seven domains totaling 84 points and each domain has numerous items that when added together allows the scale to determine a family's socioeconomic standing'.

RESULTS

Table-I demonstrates a statistically significant relationship (p=0.035) between the mother's age and socioeconomic position. Table-II presents a statistically significant (p=0.044) association between the length of pregnancy and socioeconomic position. There is no statistically significant correlation between the degree of socioeconomic status and the severity of eclampsia, as Table-III indicates. The obstetric history of cases and socioeconomic status did not show any statistically significant correlation. Furthermore, no statistically significant correlation was found between risk variables or medical conditions including essential hypertension, diabetes mellitus, or bronchial asthma and socioeconomic status.

The present research discovered that eclampsia was more prevalent in younger ages, particularly in those under the age of 22, and that the rate decreased with age, yet the results were not statistically significant. The length of pregnancies and the extent of eclampsia had a statistically significant correlation (p=0.015). The severity of eclampsia and obstetric history, as well as medical conditions including essential hypertension and diabetes mellitus, did not significantly correlate statistically. However, there is a statistically significant correlation (p=0.029) between the severity of bronchial asthma and eclapmsia.

The degree of eclampsia and the parents' academic achievement showed a statistically significant correlation (p=0.035); eclampsia is more severe in the group with lower educational attainment and milder in the group with higher educational attainment. Additionally, a statistically significant correlation (p=0.025) has been seen between the severity of eclampsia and the home sanitation category; eclampsia is more severe in households with poor sanitation. Additionally, we found that there is a statistically significant correlation between the degree of severity of eclampsia and the family assets domain (p=0.005) and the domain of finances (p=0.030); eclampsia is more severe in low-income households. Additionally, there is a statistically significant correlation between the overall socioeconomic level score and the severity of eclampsia. The degree of eclampsia and the parents' occupations, the family domain, or the health care domain do not statistically significantly correlate.

DISCUSSION

The current study demonstrated a relationship between the mother's age and the family's socioeconomic position (SES); the older mother is, the lower the case's socioeconomic status.

Furthermore, eclampsia is more common in younger age groups, particularly in those under twenty-five and its rate decreases with age; however, there is no statistically significant correlation between the severity of eclampsia and age. Both 'Direkv and Moghadam et al'[16] and Ganesh et al.,[17] were supported by this study. They all demonstrated that there was no meaningful correlation between eclampsia and mother age.

In contrast, research by 'Ramesh et al'[18] demonstrated that being under 20 years old poses a substantial risk of developing eclampsia. 'Carty'[19] also took into account the fact that women with eclampsia tended to be younger than those without the illness.

Conversely, it has been observed by Bilano et al.[20] and Sekkarie et al.[21] that a higher age is linked to a higher risk of eclampsia. The current investigation demonstrates a strong relationship among the severity of eclampsia and the age of conception.

These results were consistent with those of Carty[19], who established that newborns with smaller sizes and earlier deliveries were more common among women with eclampsia.

Socioeconomic Status					
Age (years)	Very low (n=31)	Low (n=37)	Middle (n=41)	High (n=38)	P-Value
<22 years	24 (74.6%)	23 (62.2%)	18 (45.6%)	6 (19.1%)	
22-28 years	2 (9.9%)	11 (28.9%)	14 (40.2%)	29 (68.5%)	0.035*
≥28 years	5 (18.8%)	3 (12.2%)	9 (16.1%)	3 (14.1%)	

Table-I. Relationship between socioeconomic status and mother age

Socioeconomic Status					
Duration of Pregnancy	Very low (n=31)	Low (n=37)	Middle (n=41)	High (n=38)	P-Value
<33 weeks	12 (39.1%)	19 (51.2%)	13 (29.1%)	4 (14.1%)	
33-35 weeks	10 (33.1%)	6 (20.2%)	7 (24.2%)	15 (38.5%)	0.044*
>31 weeks	9 (30.2%)	12 (31.5%)	21 (48.5%)	19 (49.7%)	

Table-II. Relationship between Socioeconomic Status and Duration of Pregnancy

Severity of Eclampsia			
Level of Socioeconomic Status	Mild (n=89)	Severe (n=58)	P-Value
Very low	14 (48.2%)	20 (52.9%)	
Low	19 (54.7%)	15 (44.4%)	
Middle	27 (62.4%)	13 (36.8%)	0.092
High	29 (76.2%)	10 (24.3%)	

Table-III. Relationship between Severity of Eclampsia and Level of Socioeconomic Status

The current investigation demonstrated a statistically significant correlation between parental education and the severity of eclampsia. Eclampsia is more prevalent and severe in women with lower levels of schooling. Thus, a lack of education is believed to increase the risk of eclampsia. The present research supports the findings of 'Abubakar Attahir et al'[22] as well as 'Gahwai and Badgaiyan'[23], who found that mothers with lower educational levels were more likely to develop preeclampsia. There is a strong correlation between mothers' educational attainment and the toxaemia of pregnancy. On the other hand, 'El-Moselhy et al' study[24] showed that the cases 'low educational level' (illiterate and read-and-write) was a negligible risk factor.

Regarding profession, the current study found no difference in the prevalence of eclampsia between women who did not work and women who worked in physically demanding or strenuous jobs. This was in line with research by 'Nugteren et al'[25] and 'El-Nakhal'[26], which found no statistical connection between the development of eclampsia and the occupation of mothers. In contrast, research published by 'Mozurkewich et al'[27] revealed that a meta-analysis based on four studies indicated a strong correlation between physically hard job and eclampsia and PIH. Furthermore, 'Haelterman et al'[28] proposed that eclampsia risk is increased when pregnant women are exposed to physical difficult and stressful work environments. The current study shown that eclampsia is widespread in women with low incomes and that the severity of eclampsia increases with a fall in earnings, with regard to the financial domain, which is representative of the income of the household. These findings were in line with studies by 'Fadia'[29] and 'Mujawar and Patil'.[30]

Eclampsia is more common in primigravidas, and as gravidity increases, the likelihood of eclampsia decreases. The results of the research corroborated those of 'ElNakhal'[26], 'Guerrier et al'[31], and 'El-Moselhy et al'[24], who found that primigravida status is an indicator that raises the likelihood of developing eclampsia. On the other hand, an investigation by 'Abubakar Attahir et al'[22] revealed an adverse relationship between eclampsia and parity.

Regarding abortion, the current study discovered no link between first-trimester abortion and eclampsia. Our results corroborated those of 'ElMoselhy et al'[24], who concluded that first-trimester abortions are not substantial risk factors. According to research by 'Parker et al'[32] & 'Trogstad et al'[33], women who have had one induced abortion are marginally less likely to develop eclampsia than women who have not. On the other hand, an increased risk of eclampsia was linked to an increase in abortions, according to a different study by 'Xiong et al'.[34]

CONCLUSION
The current study's findings suggest that little familial assets, lack of education in the family, unhygienic living conditions, and low socioeconomic status are risk factors for eclampsia. Severe eclampsia is also linked to bronchial asthma and low gestational age. The severity of eclampsia, however, is unrelated to the 'mother's age', 'her obstetric history', 'her prior history of eclampsia', 'her medical conditions', including 'essential hypertension and diabetes mellitus', 'her work', 'her family's status', or 'her access to healthcare'.

CONFLICT OF INTEREST
The authors declare no conflict of interest.

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