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ANALYSIS OF RISK FACTORS AND MANAGEMENT OF PREECLAMPSIA AND ECLAMPSIA PATIENTS

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Abstract:

Introduction: *Preeclampsia and eclampsia (PE) are major pregnancy specific syndromes that contribute to maternal and fetal morbidity and mortality in India. The incidence of PE ranges from 2% to 10%, depending on the population studied and criteria used for diagnosis.* ***Aims and objectives:*** *The basic aim of the study is to analyze the risk factors and management of preeclampsia and eclampsia patients.* ***Methodology of the study:*** *This study was conducted at Services Institute of Medical sciences, Lahore during 2018. For this purpose we collected the data from 100 female participants. We collected the demographic data as well as family history of participants. Data was gathered using a pre-tested questionnaire. The questionnaire was administered to both cases and controls by the first author.* ***Results:*** *We collected the data from 100 participants. In this study, the mean age of cases and controls were 24.4 ± 4.2 years and 23.9 ± 3.6 years respectively. In bivariate analysis nulliparity, primigravida, twin pregnancy, bad obstetrics history and history of abortion were not significantly associated with development of PE.* ***Conclusion:*** *It is concluded that those who have been diagnosed with severe preeclampsia are more likely to experience recurrence in their next pregnancy; however, the phenotype is typically less severe, with presentation approximately 2–3 weeks later in gestation.*

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INTRODUCTION:

Preeclampsia and eclampsia (PE) are major pregnancy specific syndromes that contribute to maternal and fetal morbidity and mortality in India. The incidence of PE ranges from 2% to 10%, depending on the population studied and criteria used for diagnosis. PE are gestational hypertensive disorders develop after 22 weeks of pregnancy, in which there is an increase in blood pressure and proteinuria. Preeclampsia causes abortion, prematurity, intra-uterine growth retardation and still birth [1]. It is believed to be of multifactorial origin. Pre-eclampsia (PE) is a major cause of maternal and fetal mortality and morbidity. In general, the incidence of PE ranges between 2 and 10% worldwide. In an average UK population, the incidence of PE is less than 1 in 20 women. According to the National Institute of Clinical Excellence (NICE) antenatal guidelines, a woman's level of risk for PE in a given pregnancy should be assessed at the first antenatal visit by identifying the presence of one or more predisposing historical risk factors, and they should be supervised more vigilantly and managed at centers with facilities for specialized neonatal and maternal intensive care B[2].

Preeclampsia and eclampsia (PE) are major pregnancy specific syndromes that contribute to maternal and fetal morbidity and mortality in India. The incidence of PE ranges from 2% to 10%, depending on the population studied and criteria used for diagnosis [3,4]. PE are gestational hypertensive disorders develop after 22 weeks of pregnancy, in which there is an increase in blood pressure and proteinuria. Preeclampsia causes abortion, prematurity, intra-uterine growth retardation and still birth. It is believed to be of multifactorial origin [5]. Proper antenatal care remains the important part of prevention. Estimating each woman's individualized risk allow antenatal surveillance to be directed at those women, who are most likely to develop preeclampsia [6].

Objectives of the study

The basic aim of the study is to analyze the risk factors and management of preeclampsia and eclampsia patients.

METHODOLOGY OF THE STUDY:

This study was conducted at Services Institute of Medical sciences, Lahore during 2018. For this purpose we collected the data from 100 female participants. We collected the demographic data as well as family history of participants. Data was gathered using a pre-tested questionnaire. The questionnaire was administered to both cases and controls by the first author. The questionnaire included demographic and socio-economic information. The history of gravidity, parity, abortion, bad obstetrics history, past history of eclampsia, diabetes mellitus and hypertension were elicited. Both cases and controls were asked about their food intake patterns during pregnancy (cereals, pulses, egg, meat, fish, sugar, milk and dairy products and fruits) by using food frequency questionnaire.

Statistical analysis

Student's t-test was performed to evaluate the data. The relations of BP to other variables were analyzed by linear regression and Pearson correlation coefficients. Multiple regression analysis studied the interdependence of these relations among variables found to correlate significantly with BP. Data are expressed as the mean ± SD.

RESULTS:

We collected the data from 100 participants. In this study, the mean age of cases and controls were 24.4 ± 4.2 years and 23.9 ± 3.6 years respectively. Socio-economic risk factors such as maternal age, paternal age, education level, family income, occupation, type of family were not significantly associated with development of PE. In bivariate analysis nulliparity, primigravida, twin pregnancy, bad obstetrics history and history of abortion were not significantly associated with development of PE (table 01).

Table 01: Bivariate analysis showing obstetric risk factors for PE

Obstetric factors	Case *n* (%)	Control *n* (%)	OR (95% CI)	*P* value
Parity				
0	73 (59.8)	76 (62.3)	0.90 (0.52-1.56)	0.375
≥1	49 (40.2)	46 (37.7)	1.00	
Gravidity				
1	56 (45.9)	66 (54.1)	0.72 (0.42-1.23)	0.162
≥2	66 (54.0)	56 (46.0)	1.00	
Number of infants				
Twins	8 (6.6)	2 (1.6)	4.21 (0.8-29.36)	0.05
Singleton	114 (93.4)	120 (98.4)	1.00	
Duration between present and previous pregnancy				
<1 years	8 (6.5)	14 (11.2)	0.56 (0.21-1.5)	0.21
1-5 years	107 (88.6)	105 (89.3)	1.00	
≥5 years	6 (4.9)	3 (2.5)	1.96 (0.42-10.20)	0.49
History of abortion before this pregnancy				
Yes	8 (6.5)	14 (11.2)	0.54 (0.2-1.45)	0.18
No	114 (93.5)	108 (88.8)	1.00	
Bad obstetrics history				
Yes	37 (30.3)	27 (22.1)	1.53 (0.83-2.84)	0.146
No	85 (69.7)	95 (77.9)	1.00	

[1]NA;Not applicable; PE:Preeclampsia and eclampsia; OR:Odds ratio; CI:Confidence interval

DISCUSSION:

The risk factors identified that influence the development of preeclampsia included extremes of maternal age, race, socio-economic factors, change of paternity, twin pregnancy, nulliparity, increased birth interval, increased BMI, increased systolic and diastolic blood pressure early in pregnancy, increased rate of weight gain during pregnancy and the presence of gestational diabetes [8].

The management of preeclampsia has not changed significantly over time, possibly as a result of the poor progress being made in our understanding of the condition. Effective management of preeclampsia may be divided into three categories; prevention of preeclampsia, early detection, and treatment [9]. Women considered being at high risk of preeclampsia (such as those with chronic hypertension, coexisting renal disease, or antiphospholipid syndrome should be referred for pre-pregnancy counseling to identify modifiable risk factors). This management may involve cessation of smoking advice, dietary advice, adjustment of medications to optimize medical conditions such as preexisting renal disease, and cessation of potentially teratogenic agents such as warfarin and angiotensin-converting enzyme (ACE) inhibitors. Baseline levels for blood pressure, platelet function, renal function (plasma creatinine and urinary protein/creatinine ratios), and liver function should be recorded [10].

CONCLUSION:

It is concluded that those who have been diagnosed with severe preeclampsia are more likely to experience recurrence in their next pregnancy; however, the phenotype is typically less severe, with presentation approximately 2–3 weeks later in gestation. Women who have experienced severe early onset preeclampsia, especially if complicated by growth restriction or late fetal loss, should undergo testing for antiphospholipid syndrome. It may be necessary to discuss the implications of these results on future pregnancies.

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