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KNOWLEDGE OF PREECLAMPSIA AND ITS ASSOCIATED FACTORS AMONG PREGNANT WOMEN: A POSSIBLE LINK TO REDUCE RELATED ADVERSE OUTCOMES

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Background-

Preeclampsia (PE) is a multisystem disorder associated with pregnancy without a definite etiology. The primary cause of PE is still under investigation. However, it is believed to occur in two stages. The first stage includes involvement of trophoblastic invasion of the fetus into the decidua and local placental hypoxia. The second phase is the release of placental blood factors into the maternal circulation and aberrant expression of pro-inflammatory, anti-angiogenic and angiogenic factors.

PE is usually characterized by elevated blood pressure and proteinuria, with clinical manifestation usually occurring during the 20th week of gestation or late in pregnancy and resolving after delivery. It is divided into two main types: early-onset PE (occurring before 34 weeks of gestation) and late-onset PE (occurring after 34 weeks of gestation). Although the presenting features of early and late PE may overlap, early-onset PE is associated with an increased likelihood of complications, particularly preterm birth, fetal growth restriction, and maternal morbidity and mortality compared with late-onset PE. Women with PE also present with a variety of signs and symptoms associated with multiple organ systems. Headaches, visual disturbances, abnormal renal function, severe hypertension, chest pain, pulmonary edema and low oxygen saturation, nausea, and abnormal liver function are common outcomes of multiorgan system dysfunction in PE. Risk factors for PE include first pregnancy, age (pregnancy at an advanced age or

under 18), family history of PE, personal history of PE, obesity, gestational diabetes, multifetal pregnancy, and preexisting medical conditions such as chronic hypertension.

PE remains one of the leading causes of maternal mortality and morbidity, complicating an estimated 2–8% of pregnancies worldwide and up to 10% in developing countries. the prevalence of PE is estimated to be 6.55 to 7.03%. It is one of the five leading causes of maternal and newborn death. PE can progress to eclampsia and cause adverse fetal outcomes such as preterm birth, small-for-gestational-age infants, placental abruption, perinatal death, and increase the risk of cardiovascular and cerebrovascular disease and venous thromboembolism later in life. In addition, women who suffer from PE are prone to mental health problems such as shame, guilt, feelings of failure, loss of control, personal inadequacy and postpartum depression.

Adequate knowledge about the disorder contributes significantly to its prevention, control and management. Reports suggest that patients' knowledge of the disease has significant benefits for treatment adherence and helps reduce complications associated with the disease. One of the main obstacles in the fight against PE is the late reporting of women to health centers after signs or symptoms have appeared. PE is a disease with signs and symptoms that require immediate attention. Women who experienced PE, equipped with knowledge, reported to the hospital earlier, received early medical intervention, and had fewer adverse outcomes. This highlights the need for women to have sufficient knowledge about the disease.

To achieve this, basic knowledge about PE needs to be evaluated, especially in high-risk groups such as pregnant women. show that knowledge of PE among women is generally low. However, there is currently no study that evaluates knowledge about PE.

Methods

Study design/area

This cross-sectional study conducted at the Antenatal Care hospital. The sample size for this study 351 pregnant women, it was calculated using the MedCalc Statistical Software version 18.9. Based on the most estimated prevalence of preeclampsia (7.03%) , at 95% confidence level, response distribution of 50, 5% margin of error, a study power of 80%,

and design effect of 1, the minimum sample size required for this study was 186. However, in an effort to enhance statistical power, a total of 351 consecutive consenting pregnant women were recruited for the study. All pregnant women who consented after the aim and objectives had been explained to them were eligible to participate in the study. Excluded participants were pregnant women who were in critical condition.

Questionnaire administration and data collection

Investigator-administered validated well-structured questionnaire was used to collect data from all enrolled participants. The questionnaire was designed by reviewing previous studies of similar objectives, after which experts consultation was sought to ascertain its validity in public health perspective. Required modifications were made and the questionnaire was administered in the language the participants understand. Information collected include socio-demographic information and history of PE (age, gestational age, marital status, employment status, residence, educational status, parity, personal and family history of PE). Knowledge of PE was assessed based on a series of question regarding the awareness, signs/symptoms, risk factors and complications of PE. The questionnaire was close-ended with predefined choices. For instance, "What are some of the signs/symptoms of PE?" with response choices of "High blood pressure (during pregnancy) [Yes], [No] and [I don't know]". A scoring system, where a correct answer attracts a score of one (1) and a wrong or no response (or I don't know) attracts a score of zero (0) was used to scale participants' knowledge of PE. The scores were expressed as percentages and Bloom's cut-off point was employed to classify knowledge of PE into three levels: low (< 60%), moderate (60–80%) and high (80–100%). We then re-stratified the knowledge score into adequate (having a % score of ≥60%) and inadequate knowledge of PE (having a % score of < 60%).

Reliability assessment

In order to evaluate the reliability of the questionnaire, we conducted a pilot study on 35 participants. The questionnaire's internal consistency was assessed based on the Cronbach alpha coefficient for questionnaire scales. The Cronbach's alpha coefficient for knowledge of PE was 0.81.

Data analysis

Categorical and continuous variables were expressed as frequencies (percentages) and means ± SD, respectively. Univariate logistic regression analysis was used to evaluate factors associated with adequate knowledge of PE. Variables with *p*-values < 0.25 from univariate analysis were selected for multivariate logistic regression analysis. A *p*-value < 0.05 was considered statistically significant. Statistical analyses were performed using GraphPad Prism 8 version 8.02.

Results

A total of 351 pregnant women with mean age and gestational age of 30.2 years and 24.6 weeks, respectively, were included in this study. A higher proportion of the participants were married (87.5%), employed (81.2%), resided in urban centers (90.0%) and had secondary education or below (61.5%). Four percent (4.0%) had experienced PE before and 6.6% had family history of PE (Table 1). The prevalence of inadequate and adequate knowledge of PE was 88.6% (mean score = 55.5 ± 4.3) and 11.4% (mean score = 76.3 ± 5.9), respectively (Fig. 1a). For participants with adequate knowledge of PE, 9.1% (mean score = 67.4 ± 6.9) and 2.3% (mean score = 85.2 ± 5.1) had moderate and high knowledge, respectively, based on Bloom's cut-off point

Conclusions

The knowledge of preeclampsia among pregnant women is low. The prominent factor that facilitates adequacy of knowledge of PE is a higher level of education. This underscores the need for intensified effort to improve knowledge of PE among women for improved pregnancy outcomes. Education could be through contextual health education at ANC, media channels or through national education programmes.

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