Lorestan University of Medical Sciences
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A Thesis

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Degree of Master of Sciences

In Midwifery

Title

Assessment of Maternal and Fetal Complications of Preeclampsia–Eclampsia and Their Association with Different Seasons during the Years 2020–2024 at Shahid Akbarabadi Hospital, Tehran.

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Abstract

Background and Objective: Preeclampsia remains a leading cause of maternal and fetal morbidity and mortality worldwide. Given the hypotheses regarding the influence of environmental factors on this condition, the present study aimed to investigate maternal and fetal complications, as well as neonatal outcomes in preeclamptic pregnancies, with an emphasis on seasonal variations at Akbarabadi Women's Hospital.

Materials and Methods: In this descriptive-analytical study, the records of 672 mothers with preeclampsia who referred to Akbarabadi Hospital in 2020-2025 were reviewed using a census method. Data regarding the season of delivery, maternal complications (HELLP syndrome, cerebral edema), mode of delivery, and fetal outcomes (IUGR, Apgar score, NICU admission, and fetal death) were extracted and analyzed using SPSS version 25.

Findings: Out of 672 cases, 38.1% underwent cesarean sections and 5.8% had twin pregnancies. Maternal complications included a significant prevalence of HELLP syndrome, which was significantly higher in the spring. Notably, no cases of cerebral edema were observed. Regarding fetal outcomes, 19% of neonates suffered from Intrauterine Growth Restriction (IUGR), and 16.8% were born with an Apgar score below 7. The NICU admission rate was a striking 95.2%. Furthermore, the fetal mortality rate was 4.2%, with the highest incidence observed during the autumn.

Conclusion: The results indicate that the panorama of preeclampsia complications is influenced by seasonal changes; spring is associated with acute maternal complications (HELLP) and increased cesarean rates, while colder seasons are linked to a higher risk of fetal mortality. The high rate of NICU admission (95%) emphasizes the necessity of preparedness in neonatal intensive care infrastructure at referral centers. Timely clinical management at this center successfully prevented the occurrence of cerebral edema.

Keywords: Preeclampsia, HELLP Syndrome, NICU Admission, Fetal Death, Seasonal Variations, Cesarean Section.