IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Maternal And Perinatal Prognosis Of Severe Pre-Eclampsia At The Mother And Child Health Center (Mchc) Of Zinder In Niger.

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Abstract

Severe preeclampsia is an obstetric complication that leads to significant maternal and perinatal morbidity and mortality. The objective was to determine the maternal and perinatal prognosis of severe preeclampsia at the Zinder Maternal and Child Health Center (MCHC) in Niger. **Methodology:** This was a prospective cross-sectional descriptive study conducted from January 1st to December 31st, 2024. All cases of severe preeclampsia, whether antepartum or postpartum, admitted to and treated at the Zinder CSME, and for which the pregnancy outcome was known, were included. **Results :** During the study period, we recorded 3,764 obstetric admissions, including 254 cases of severe preeclampsia, representing a frequency of 6.74%. The patients were primiparous, followed by grand multiparous women in 39.77% (n=101) and 27.95% (n=71), respectively. 70.07% (n=178) of the women were not enrolled in school, and three out of four pregnant women (74.80%, n=190) were referred. Pregnancies were monitored with one prenatal visit in 51.96% (n=132) of patients. Cesarean section was the most common mode of delivery (51.96%, n=132). Maternal complications included eclampsia (32.28%, n=82), placental abruption (10.62%, n=27), postpartum hemorrhage (7.08%, n=18), HELLP syndrome (2.75%, n=7), and 6 maternal deaths (2.36%, n=6). Hysterectomy for hemostasis was observed in 2.75% of cases (n=7). Perinatal complications were dominated by prematurity (53.93%, n=137), respiratory

distress (24.40%, n=62), fetal growth restriction (17.71%, n=45), peripartum asphyxia (10.23%, n=26), intrauterine fetal death (6.69%, n=17), and a perinatal mortality rate of 13.77% (n=35).

Conclusion : Severe preeclampsia is common at the Zinder Maternal and Child Health Center (MCHC), affecting both primiparous and multiparous women. It is complicated in poorly monitored pregnancies, resulting in high maternal and perinatal morbidity and mortality rates.

Keys words : prognosis, pre-eclampsia, MCHC, Zinder

INTRODUCTION :

Severe preeclampsia is a pregnancy-related condition. It is one of the major causes of maternal and fetal mortality and morbidity worldwide [1, 2]. It complicates 4 to 18% of pregnancies worldwide. Its frequency is 3 to 5% in Western Europe. In sub-Saharan Africa, its prevalence is 25%. In Niger, the rate of preeclampsia/eclampsia is 14.4% [3]. The risks of severe preeclampsia are maternal and fetal. In the mother, it can progress to eclampsia, placental abruption, HELLP syndrome, acute kidney injury, acute pulmonary edema, and stroke. In the fetus, it can lead to intrauterine growth restriction (IUGR), acute or chronic fetal distress (AFD/CFS), and prematurity. These complications are responsible for high maternal and fetal morbidity and mortality [4] due to several factors: difficulties in accessing care for pregnant women; suboptimal application of the protocol by healthcare professionals; and association with other pathologies such as anemia and malaria in sub-Saharan countries [5]. It is therefore essential to prevent them through quality prenatal care (PNC), as this allows for the prevention and early detection of complications and ensures better maternal and fetal care. The Zinder region in Niger is the most populated region with a health coverage rate of 48.05%, an assisted delivery rate of 37.61%, and accounts for 16% of maternal deaths in Niger, the main causes of which are antepartum and postpartum hemorrhage, preeclampsia, and anemia [6]. The CPN4 coverage rate is 29.8%, which means that in 70.2% of pregnant women in Zinder, it would be difficult to detect certain complications during pregnancy, particularly preeclampsia, anemia, etc. This is why the present study focuses on severe preeclampsia, which remains a progressive and deadly complication, with the objective of determining the maternal and perinatal prognosis of severe preeclampsia at the CSME in Zinder, Niger.

Patients and Methods :

The study was conducted at the maternity ward of the CSME in Zinder from January 1st to December 31st, 2024. It was a descriptive cross-sectional study with prospective data collection. Included were cases of severe preeclampsia managed at the CSME with a known pregnancy outcome. Severe preeclampsia was defined as severe hypertension (diastolic blood pressure [DBP] ≥ 110 mmHg and/or systolic blood pressure [SBP] ≥ 160 mmHg) associated with proteinuria ≥ 3 g/24 h or ≥ 3 crosses on urine dipstick, after 20 weeks of amenorrhea [4]. However, hypertension can be moderate, and severity will be determined by the occurrence of clinical and/or paraclinical complications. Cases of chronic or gestational hypertension, diabetes, or kidney disease, as well as pregnant women whose pregnancy outcome was unknown, were excluded.

RESULTS :

We recorded 254 cases of severe preeclampsia out of 3764 deliveries, representing a frequency of 6.74%.

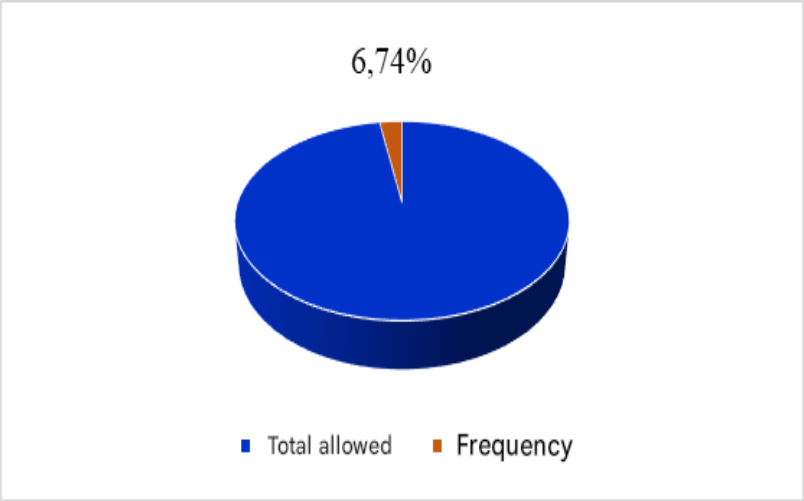


Figure 1 : Distribution of patients according to frequency

The under 25 age group was the most represented, accounting for 80.31% (n=204)

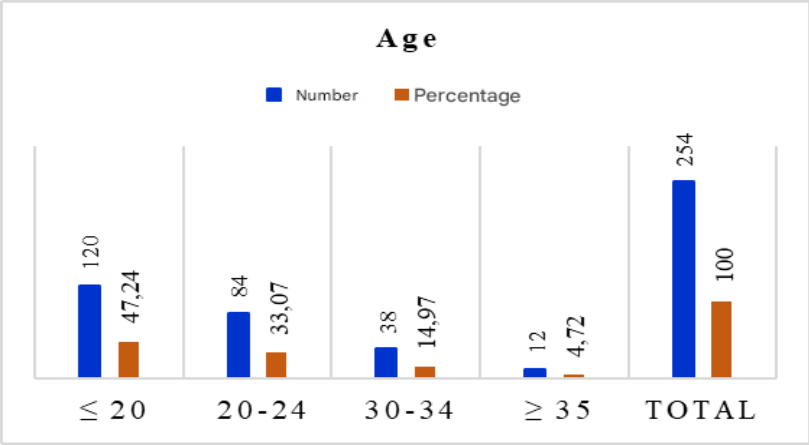


Figure 2 : Distribution of patients according to age

Primiparous women and women who had given birth many times before were represented in 39.77% (n=101) and 27.95% (n=71) respectively.

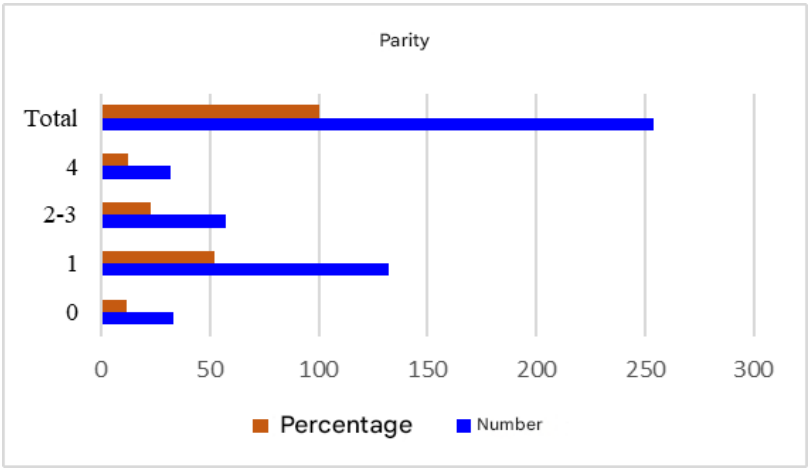


Figure 3 : Distribution of patients according to parity

Patients who had only one prenatal consultation represented 51.96%

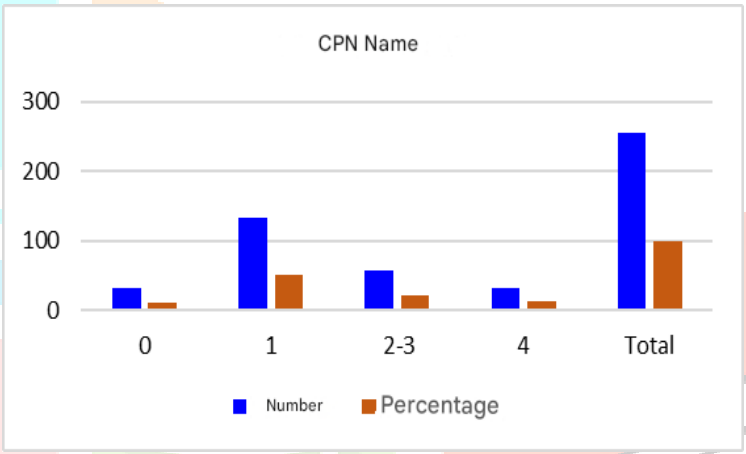


Figure 4 : Distribution of patients according to the number of prenatal consultations

70.07% of the patients (n=178) were not enrolled in school.

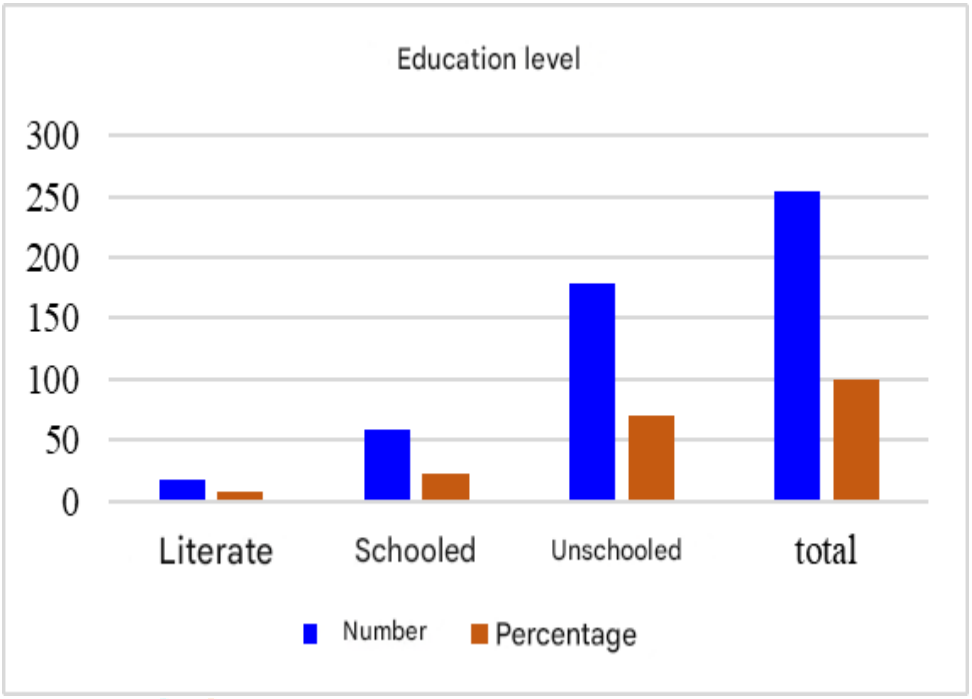


Figure 5 : Distribution of patients according to educational level

Patients were referred in 75% of cases (n=190)

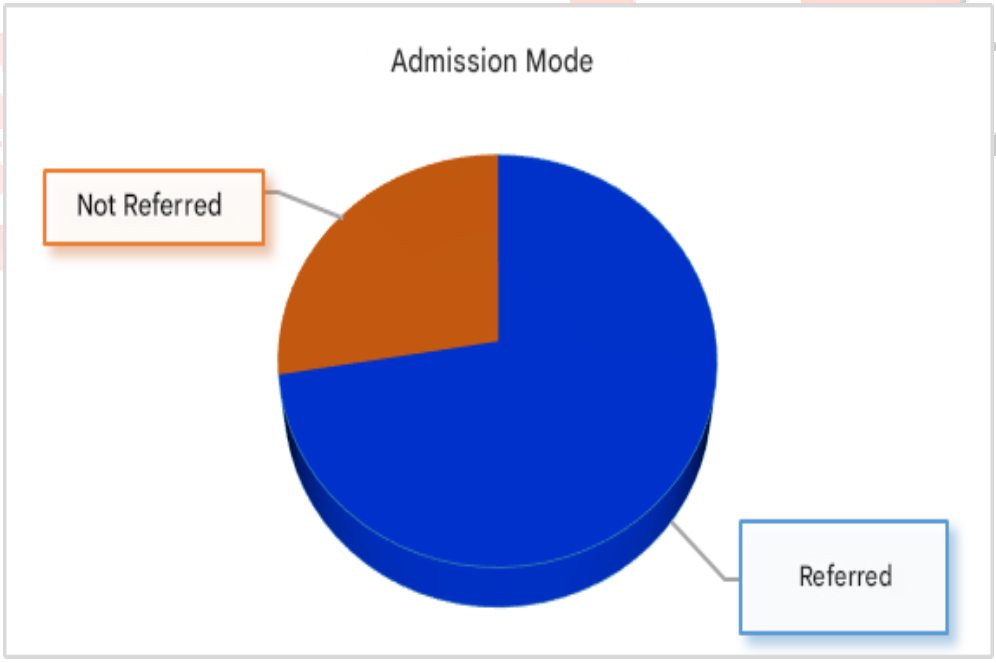


Figure 6 : Distribution of patients according to the mode of admission

Cesarean section is the most common mode of delivery (72.44%).

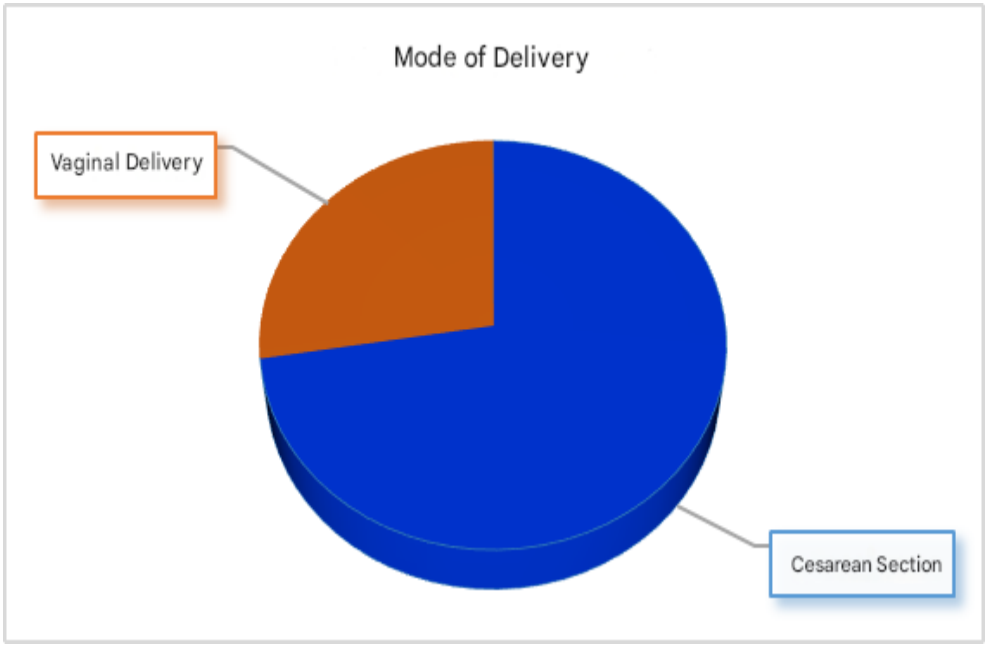


Figure 7 : Distribution of patients according to mode of delivery

Eclampsia and retroplacental hematoma were the most frequent maternal complications, occurring in 32.28%, 10.62%, and 4.72% of cases respectively (n=12). These patients were transferred to the intensive care unit of the Zinder National Hospital.

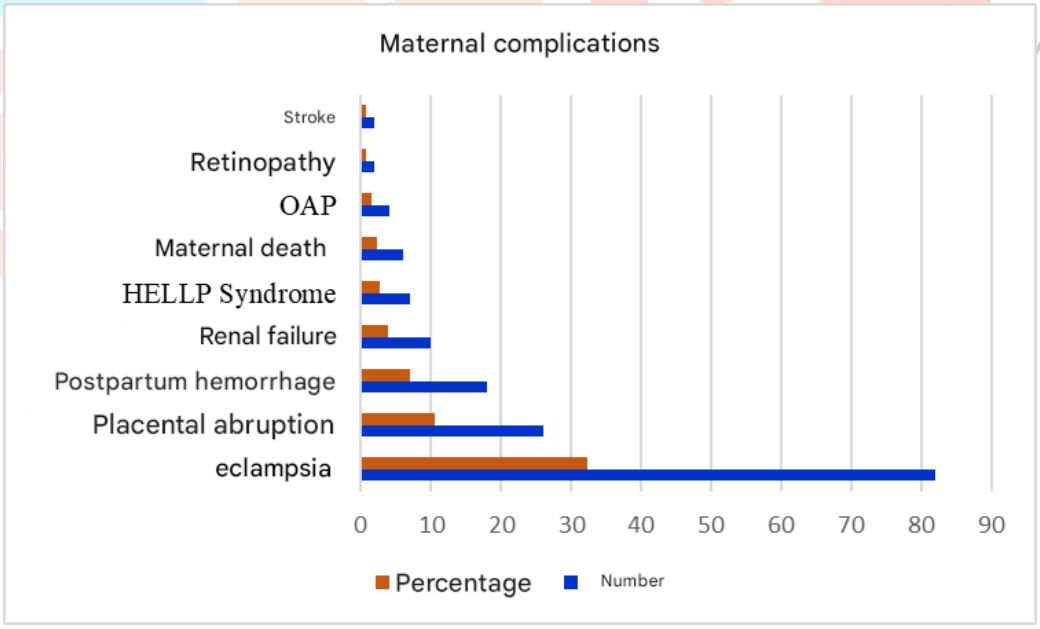
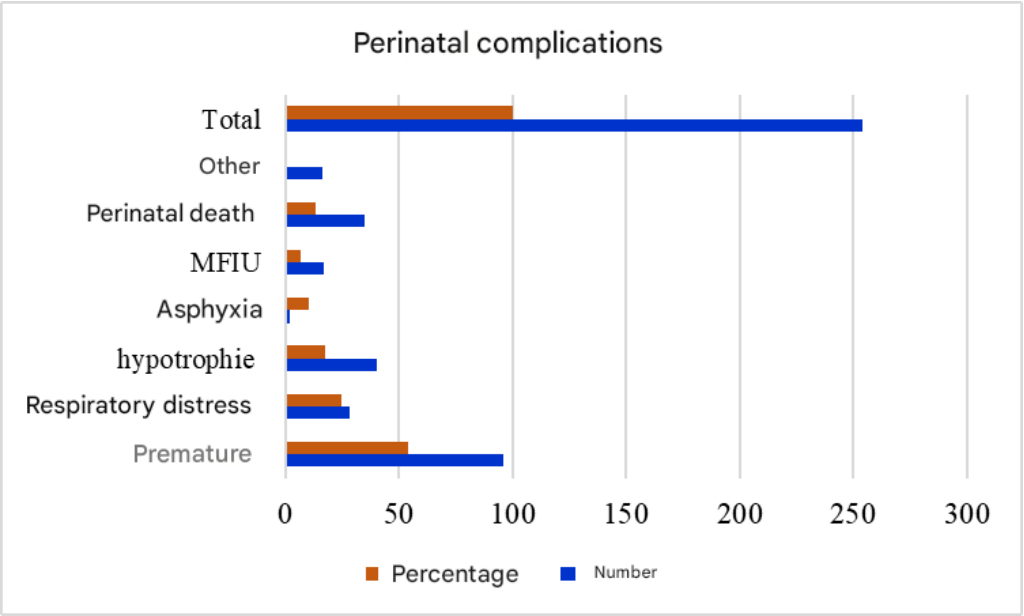


Figure 8 : Distribution of patients according to maternal complications



DISCUSSION :

Sociodemographic profiles : The frequency of severe pre-eclampsia in our study was 6.74%, almost the same proportion reported by Sanogo at the University Hospital of Point G (7.05%) [7]. This is consistent with the literature, which reports a frequency of 4 to 18% of pregnancies [8]. It generally occurs in young, first-time mothers [9]. In our study, we report a predominance of first-time mothers (39.77%). 70.07% of the patients were not enrolled in school; Agnidé found a rate of 74% [10]. This can be explained by the fact that referral centers receive women from rural areas, where the school enrollment rate is low. The present study was conducted in the Zinder region, one of the regions in Niger with the lowest school enrollment rates for girls. Patients were referred in 75% of cases in our study. This is explained by the status of the CSME, which is a regional referral center in the Zinder region. Pregnancy was poorly monitored or not monitored at all in 51.96% of cases. Prenatal care (PNC) is essential as it allows for the screening of certain pregnancy pathologies; the World Health Organization (WHO) recommends at least four PNCs during pregnancy [11]. Pregnancy monitoring included four PNCs in 10% of cases. This inadequacy of prenatal care is a determining factor in the progression of preeclampsia to complicated forms. Cesarean section was the most common mode of delivery (72.44%); this high cesarean rate was also reported by Danmadji [12] in Senegal, where 61% of cesareans were related to preeclampsia. The high cesarean section rate is explained by the urgency of severe preeclampsia, as uterine evacuation is most often a lifesaving measure for the mother, especially in such circumstances. Maternal morbidity was dominated by eclampsia (32.28%) and placental abruption (10.62%). These two complications are the most frequently reported in the literature [8]. Placental abruption represents one of the unpredictable complications of preeclampsia. Eclampsia is the main complication of severe preeclampsia. This is due to cerebral hypersensitivity to hypoxia. It is a consequence of hypoperfusion due to reduced cerebral blood flow combined with high vascular pressures, which increases the risk of seizures. In our study, the progression to eclampsia appears to be linked to the low rate of prenatal

consultations or even the absence of prenatal consultations. The progression of preeclampsia to eclampsia is much more frequent in resource-limited countries due to the poor health coverage in African countries and the lack of qualified human resources in peripheral centers, which would explain the high rates in these countries [13-14]. Postpartum hemorrhage is the third most common complication of preeclampsia in our study. Severe preeclampsia is a risk factor for atony, also associated with the presence of grand multiparous women in our study. HELLP syndrome was found in 2.75% of cases. HELLP syndrome is a serious complication, especially in the context of blood and blood product scarcity. Management requires a multidisciplinary approach [15]. Renal failure is the fourth most common complication, with a frequency of 3.93%, unlike Goita, who reported 7.60% of cases of renal failure in his study. Preeclampsia is a nephropathy, which is why renal complications are frequent [16]. Cesarean section was the most common mode of delivery, accounting for 72.44% of cases in this study. This same result was reported in Diallo's study [17], with 71.3%. This high cesarean section rate is linked to the condition itself, which constitutes a medical-surgical emergency, and for which emergency uterine evacuation remains the ideal treatment. In our study, 4.72% (n=12) of patients were transferred to the intensive care unit of the Zinder National Hospital due to the lack of an intensive care unit. Hemostatic hysterectomy was observed as a morbidity in 2.75% of cases (n=7), and we recorded 6 maternal deaths (2.36%, n=6) due to multiple organ failure, including renal failure in 66.66% (n=4). Kassim made the same observation, reporting a 7.7% maternal mortality rate with 80% of deaths resulting from multi-organ failure. The occurrence of these deaths could be linked to the lack of emergency dialysis in hospitals in under-resourced countries [18]. The perinatal prognosis is dominated by a mortality rate of 13.77% (n=35) due to complications such as prematurity (53.93%, n=137), respiratory distress (24.40%, n=62), and fetal growth restriction (17.71%, n=45). Severe preeclampsia is a characteristic of induced prematurity, which causes respiratory distress.

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