

Obstetric Emergencies at the Kara University Hospital Maternity Ward: Sociodemographic, Etiological and Prognostic Aspects

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How to cite this paper: Edem, L.-A.K., Akila, B., Tina, K., Yendoubé, K., Kibandou, P., Kofi, A., Régina, A.D. and Abdoul-Samadou, A. (2024) Obstetric Emergencies at the Kara University Hospital Maternity Ward: Sociodemographic, Etiological and Prognostic Aspects. *Open Journal of Obstetrics and Gynecology*, **14**, 69-76. <https://doi.org/10.4236/ojog.2024.141008>

Received: November 19, 2023

Accepted: January 15, 2024

Published: January 18, 2024

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Abstract

Introduction: Obstetric emergencies are common throughout the world and more particularly in developing countries where they are responsible for high maternal-fetal mortality and morbidity. **Objective:** Study obstetric emergencies in the maternity ward of Kara University Hospital. **Method:** Retrospective and descriptive study from April 1, 2022 to March 30, 2023, carried out in the Obstetrics and Gynecology Department of Kara University Hospital. **Results:** Eight hundred and thirty-five (835) obstetric emergencies were recorded out of 2215 admissions, *i.e.* a frequency of 37.7%. The average age of the patients was 26.7 with a range of 14 and 45 years. They were primigravidas (36.7%) and nulliparous (38.7%), referred (84.7%) and came from rural areas (72%). Emergencies occurred in the 3rd trimester in 74.1% and in parturients (54.1%). Preeclampsia (27%), cessation of progression of labor due to fetopelvic disproportion (12.4%), postpartum hemorrhage (7.5%) constituted the main obstetric emergencies. In 44.8%, the delivery was carried out vaginally. Magnesium sulfate was the most used drug, *i.e.* 30.1%; followed by antihypertensive medications in 28.1%. Blood transfusion was performed in 24.3%. The evolution was simple in 90.9%. The maternal fatality rate was 1.6%. The perinatal case fatality rate was 12.3%. **Conclusion:** Obstetric emergencies are common, dominated by preeclampsia, stopping progress of labor and postpartum hemorrhages. They are responsible for high morbidity and mortality.

Keywords

Obstetric Emergency, Kara University Hospital

1. Introduction

Obstetric emergencies are all pathological situations related to pregnancy, childbirth, and the postpartum period that can endanger the life or function of the mother and/or the fetus. They are common and represent the leading cause of mortality among women of reproductive age [1] [2]. It is estimated that approximately 15% of pregnancies encounter complications during the gravid-puerperal period [3]. These obstetric emergencies are particularly concerning in Africa due to a lack of prenatal care or quality healthcare, difficulties in accessing referral centers, a shortage of qualified healthcare professionals, and insufficient medical resources. They account for the majority of maternal deaths [4]. According to the WHO, in 2020, out of the 287,000 maternal deaths, approximately 70% occurred in Sub-Saharan Africa. The maternal mortality ratio in low-income countries was 1 in 49, compared to 1 in 5300 in high-income countries [5]. In the face of this alarming situation, obstetric emergencies pose a major public health problem, and reducing maternal mortality is a priority in reproductive health, particularly in low-income countries.

In Togo, despite a slight improvement in maternal mortality, the rate remains high with a ratio of 399/100,000 live births [6]. Therefore, it seemed appropriate for us to identify obstetric emergencies etiologies and determine their prognosis in order to develop strategies aimed at reducing maternal and perinatal deaths.

2. Method

This was a retrospective, descriptive study conducted from April 1, 2022, to March 30, 2023, at the maternity ward of CHU Kara. The study included the records of all patients admitted to the department, whether they came on their own, were referred, or evacuated from another healthcare facility due to obstetric emergencies. Obstetric emergencies are all pathological situations related to pregnancy, childbirth, and the postpartum period that can endanger the life or function of the mother and/or the fetus, requiring prompt management to preserve maternal and/or fetal prognosis. Non-gravid emergencies were not included. The variables studied consisted of socio-demographic (age, education level, profession, gravidity, parity, admission mode) gravido-puerperal period, etiology and prognosis data (therapeutic methods used, complications, lethality). An investigation form was used to collect data from patient records, admission registers, and annual activity reports. Data collection was conducted while ensuring anonymity and confidentiality. Microsoft Excel 2013 and the EPI info 7.2 software were used for data processing and analysis.

3. Results

3.1. Frequency

During the study period, 835 cases of obstetric emergencies were recorded out of 2215 admissions, representing a frequency of 37.7%.

3.2. Socio-Demographic Data

The average age of the patients was 26.8 ± 6.8 years, with a range of 14 to 45 years. The age group of 19 to 29 years represented 52.3%, followed by the age group of 30 to 39 years (34.4%). Patients with primary education level (40.7%) and those who were not educated (32.3%) were more represented. They came from rural areas in 72% of cases. In 69% of cases, the patients were unemployed. The average gravidity was 2.75 with a parity of 1.63. Primigravidae (36.7%) and nulliparas (38.7%) were overrepresented. Patients were referred in 84.7% of cases and came on their own in 15.3%.

3.3. Gravido-Puerperal Period

Emergencies occurred in the third trimester (74.1%) of pregnancy (**Table 1**) and during the peripartum period (54.1%).

3.4. Etiology

Pre-eclampsia (27%), failure to progress in labor due to fetal-pelvic disproportion (12.4%), postpartum hemorrhage (7.5%), and fetal malposition during labor (6.7%), ectopic pregnancy (6.2%) were the main emergencies (**Figure 1**).

3.5. Prognosis

These emergencies resulted in vaginal delivery in 44.8% of cases and cesarean section in 27.5% of cases. Magnesium sulfate (30.1%) and antihypertensive drugs (28.1%) were regularly used for medical management. Blood transfusion was performed in 24.3% of cases (**Figure 2**).

The course was uncomplicated in 759 patients, accounting for 90.9%. However, 76 patients (9.1%) experienced complications, resulting in 13 maternal deaths, with a case fatality rate of 1.6%. **Table 2** shows the lethality according to the obstetric emergency. Regarding fetal prognosis, the perinatal mortality

Table 1. Distribution of patients according to the gravido-puerperal period.

Puerperal gravido period	Number	Percentage (%)
First trimester	88	10.5
Second trimester	79	9.5
Third trimester	619	74.1
Postpartum	49	5.9
Total	835	100.0

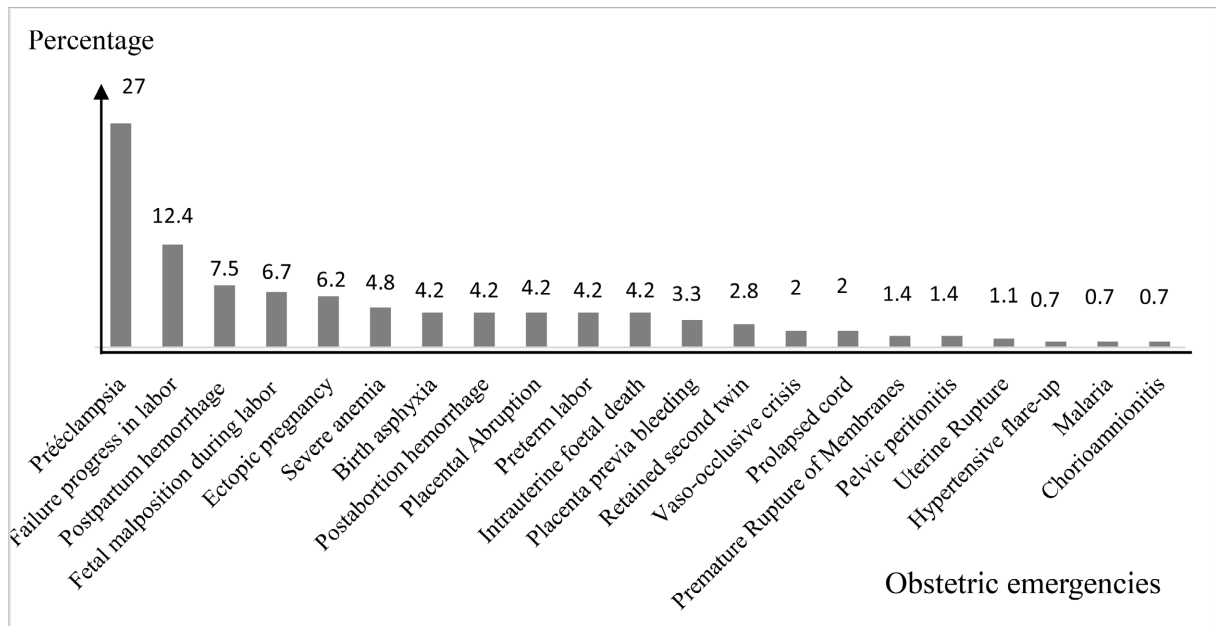


Figure 1. Distribution of patients according to obstetric emergencies.

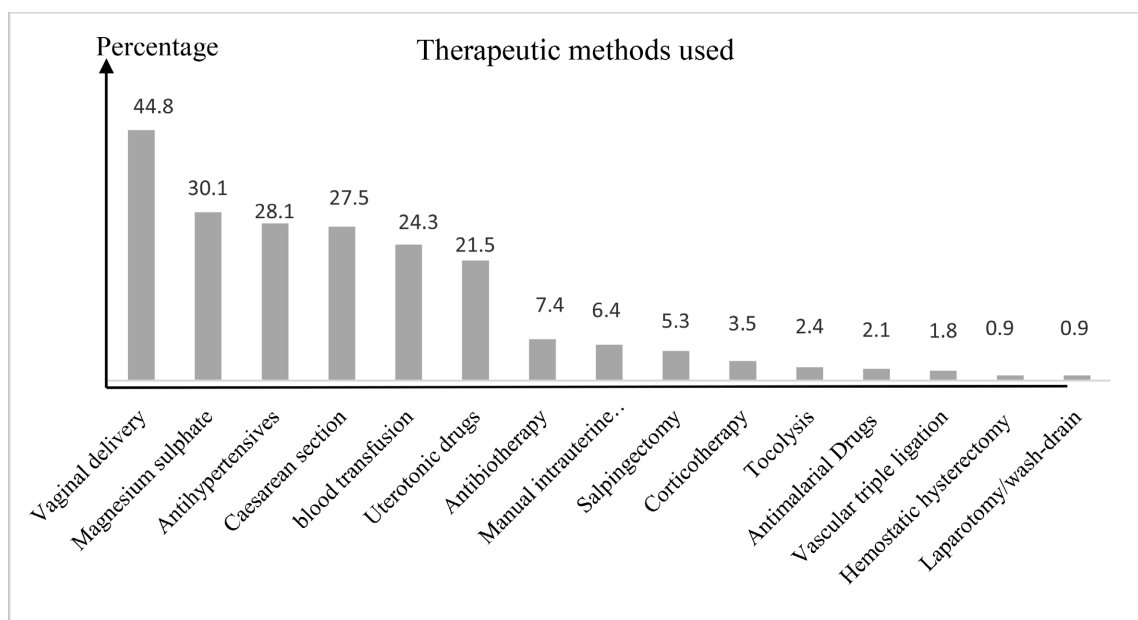


Figure 2. Therapeutic methods used.

Table 2. Lethality according to the obstetric emergency.

Cause of death	Emergency number	Death number	Lethality (%)
Preeclampsia	225	5	2.2
Postpartum hemorrhage	62	4	6.5
Pelvic peritonitis	12	2	16.6
Vaso occlusive crisis	17	1	5.8
Postabortion hemorrhage	35	1	2.8

rate was 12.3%. The average length of hospital stay was 4.1 days, with a range of 2 to 35 days.

4. Discussion

4.1. Frequency

The frequency of obstetric emergencies in our study was 37.7%, comparable to the studies by Lokossou *et al.* (34.8%) and Tchaou *et al.* (31.8%) in Benin [7] [8]. Lower rates have been reported in Mali by Samaké (24.60%) [9] and in Ghana by Anane Fenin (25.7%) [10]. Nevertheless, compared to developed countries where obstetric emergencies are low [11], they are frequent and reflect the difficulties of the healthcare system in resource-limited countries [7] [12]. Several factors could explain the high frequency in our study. The lack of surgical care facilities in the surrounding health districts and, furthermore, the Kara University Hospital is the referral center where all emergencies from the northern region of Togo converge.

4.2. Sociodemographic Data

The patients had an average age of 26.8 ± 6.8 years, ranging from 14 to 45 years. Several African studies have reported similar data. Lokossou *et al.* and Tchaou *et al.* in Benin found average ages of 27.3 ± 5.7 years (with a range of 15 to 48 years) and 26.7 ± 6.2 years (with a range of 15 to 45 years), respectively [7] [8]. In Senegal, the average age of patients was 26.6 ± 7.05 years [12]. In Mali, Samaké *et al.* found an average age of 26 years ± 5.16 years [9]. This high rate in this age group can be explained by the fact that it is the age group where reproductive activity is most intense.

They were mostly primiparous (36.6%), nulliparous (38.7%), and unemployed (69.0%). The same profile of patients was found by Lokossou *et al.*, where they were primiparous and pauciparous (26.5%), nulliparous (31.4%), and had low-paying jobs (69.3%) [7]. According to some authors, multiparous women may be more reluctant to seek emergency obstetric care in case of complications [13] [14]. The high rate of homemakers could be explained by a low financial potential, which causes a delay in seeking care. This highlights the importance of strengthening projects aimed at financially empowering women.

They were referred in 84.7% of cases and came from rural areas in 72% of cases. The origin can be considered as a factor favoring obstetric emergencies in the sense that these rural areas are characterized by low socioeconomic level and insufficient access to adequate care, leading to a failure in screening for risk factors of obstetric emergencies and their management.

4.3. Etiology

Preeclampsia and its complications constituted the most common obstetric emergency in our study, accounting for 27% of cases, followed by arrest of labor progression (12.4%) and immediate postpartum hemorrhage (7.5%). These pa-

thologies have also been found in African studies. In intensive care admissions in Ghana and Senegal, preeclampsia and its complications were the leading cause of obstetric emergencies, followed by hemorrhages [10] [12]. However, in Mali and Benin, dystocia is the most common obstetric emergency followed by hemorrhages and hypertensive disorders [7] [9].

4.4. Prognosis

The management was multidisciplinary and based on the gestational age and obstetric pathology. Thus, among all emergencies, 44.8% of patients were able to deliver vaginally, and in 27.5% of cases, a cesarean section was performed. Since preeclampsia was the leading emergency in this study, Magnesium Sulfate (30.1%) was the first drug used, accompanied by antihypertensive medications (28.1%). Blood transfusion also played an important role in emergency management, being performed in 24.3% of cases. The mode of delivery varied in African studies. Vaginal delivery was reported by Tchaou *et al.* (53.4%) [8], while cesarean section was predominantly performed in the studies by Samaké *et al.* (64.2%) and Lokossou *et al.* (67.5%) [7] [9]. As observed in our study, Magnesium Sulfate (9.3% to 29%) and blood transfusion (17.5% to 26.1%) are important interventions in the management of obstetric emergencies in our settings [7] [8] [12]. It is therefore essential to adequately supply our maternity wards with Magnesium Sulfate and establish a strategy for regular collection of blood products in order to improve the prognosis of obstetric emergencies.

The progression of obstetric emergencies was straightforward in 90.9% of cases. 9.1% of patients presented complications, including 13 maternal deaths, resulting in a case fatality rate of 1.6%. These data are in line with those from African studies. In Benin and Mali, Lokossou *et al.* and Samake *et al.* reported complication rates of 10.1% and 13.4%, with case fatality rates of 3.8% and 0.6%, respectively [7] [9]. Higher case fatality rates (5.8% to 26%) have been reported as well [10] [12]. The low rate in our study is related to methodological differences, as these studies were conducted in intensive care units. However, regardless, the case fatality rate of obstetric emergencies remains high in our study. Abortion infectious complications, hemodynamic failure due to hemorrhage, sickle cell disease complications, postabortion hemorrhage and Preeclampsia were the causes of death. Our findings are similar to those of Anane-Fenin B *et al.* and Tchaou *et al.*, who reported the same causes [8] [12]. Therefore, it is fitting to strengthen awareness of prenatal consultations in communities and promote quality prenatal care. The provision of family planning services may also contribute to reducing maternal deaths that we continue to see in our settings.

The perinatal mortality rate was 12.3%, comparable to that of Lokossou *et al.* (11.55%) [7]. Several factors could explain this high mortality rate. Insufficient prenatal care due to a lack of prenatal consultations or poor quality of care, delays in decision-making due to ignorance or a lack of monitoring tools, financial and geographical constraints in accessing referral centers, and delays in receiv-

ing care at the referral center are all obstacles to improving maternal and child health indicators. It is necessary to strengthen public awareness of the benefits of consultations and improve the quality of care for pregnant women and parturients.

5. Conclusion

Obstetric emergencies are common at the maternity ward of CHU Kara. Pre-eclampsia and its complications, abnormalities in labor, and postpartum hemorrhages have been the main emergencies recorded. They are associated with a high maternal and fetal morbidity and mortality. Improving prenatal care and the quality of patient management from conception to the postpartum period would be beneficial for a more favorable prognosis of obstetric emergencies.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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