Original Research Article

Maternal-fetal prognosis of obstetric emergencies at the maternity ward of the Mamou regional hospital

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ABSTRACT

Background: Pregnant women may be at risk of unpredictable obstetric complications such as: bleeding, dystocia, acute fetal suffering, pre-eclampsia and eclampsia. This maternal-fetal prognosis of obstetric emergencies is influenced by factors that are most often related to complications that alter the course or outcome of a pregnancy and require prompt care. The objectives of this study are to analyze the factors that influence the maternal-fetal prognosis of obstetric emergencies; determine their frequency, describe the clinical profiles of patients and evaluate the maternal-fetal prognosis.
Methods: The study was conducted at the Mamou Regional Hospital. It was a 6-month quantitative, descriptive and analytical study, from July 1st to December 31st, 2016, including all parturient women whose term is greater than or equal to 28 weeks of amenorrhoea.
Results: The study covered 377 obstetric emergencies out of a total of 1273 deliveries, or 29.61%. Factors influencing the prognosis were: young age, parity, unfavorable socio-economic conditions and difficult baseline conditions. The main obstetric emergencies recorded were acute fetal suffering, disproportion and narrowed pelvis. The dominant mode of delivery was caesarean section with a frequency of 89.65%. Maternal lethality is 3.44% and fetal lethality is 5.14%.
Conclusions: Obstetric emergency is a frequent situation where better management would improve the prognosis of the mother and fetus.

Keywords: Maternal fetal prognosis, Nature of emergencies, Obstetrical emergencies

INTRODUCTION

Pregnant women are at risk of obstetric complications that can be fatal and often unpredictable. Among them: hemorrhages, dystocias, acute fetal suffering, pre-eclampsia and eclampsia are the most common. Prenatal screening does not identify all women who will experience complications. The determinants of maternal-fetal prognosis in obstetric emergencies are the set of elements that define the course or outcome of a pregnancy, related to complications requiring rapid care.[1]

In 2013, according to the World Health Organization (WHO), 289,000 women died during or after pregnancy or childbirth as a result of obstetric complications. More than 30% of these deaths occur in Africa and 7% in Latin America; in contrast, in developed countries, 6,000 deaths are recorded per year.[1,2] In West and Central Africa, complications of pregnancy, childbirth and childbirth are the leading cause of maternal and neonatal mortality.[3] In East and West Africa, the figures are the highest since in some countries more than 1000 women per 100,000 live births die.[4]

In Northern Europe the figures are lower, ranging from 0 to 11 maternal deaths per 100,000 live births.[5] In Guinea, the maternal mortality rate in 2012 was 610 per 100,000 live births.[6] The maternal morbidity rate is an indicator that measures the extent of the problem and the capacity of different health systems to meet obstetric needs. It has been shown that 69% of these deaths are preventable through anesthesia and resuscitation measures.[7]

For better management of obstetric complications, more research should be conducted to improve the quality of care from health services to the community level. In order to reduce maternal and fetal mortality and morbidity, particular attention should be paid to the factors that influence the maternal and fetal prognosis of obstetric emergencies, hence the importance of conducting this study.

The objectives of this study are to analyze the factors that influence the maternal-fetal prognosis of obstetric emergencies; determine their frequency, describe the clinical profiles of patients and evaluate the maternal-fetal prognosis.

METHODS

The gynecology-obstetrics department of the Mamou regional hospital was used as the framework for the study. It was a cross-sectional, descriptive and analytical study over a period of 6 months, from July 1st to December 31st, 2016, with a minimum sample size of 355.

Inclusion criteria

- All parturient women admitted to the delivery room, whose term is greater than or equal to 28 weeks of amenorrhoea and whose care has been provided in the ward, have been selected.

Exclusion criteria

- Patients with a term of less than 28 weeks of amenorrhoea, cases of in-utero death, those whose management did not take place in the unit were excluded from the study.

Statistical analysis

The data were entered and analyzed using EPI INFO version 6 software. The statistical test used is Chi 2, with a significance level set at P < 0.05.

RESULTS

Frequency of obstetric emergencies

During this study we recorded 377 obstetric emergencies out of a total of 1273 deliveries, representing a frequency of 29.61%.

Table 1: Socio-demographic characteristics and obstetric history of the 377 obstetric emergencies.

Age		
Age group	**Number of employees**	**%**
15-19	91	24.14%
20-24	83	22.02%
25-29	89	23.61%
30-34	59	15.65%
> 34	55	14.59%
Average age =25.51 years with extremes from 15-40 years		
Educational level		
No level	256	67.9
Primary	58	15.4
Secondary	47	12.5
Superior	16	4.2
Total	**377**	**100%**

Parity	15-19	20-24	25-29	30-34	≥ 35	Total
Nullipare	75	31	15	2	0	123
Paucipare	3	20	48	23	9	103
Primipare	13	31	17	6	0	67
Multipare	0	1	9	21	20	51
Large multipare	0	0	0	7	26	33
Total	**91**	**83**	**89**	**59**	**55**	**377**

$\chi^2 = 369.90$, ddl = 16, P = 0.001

Table 2: Mode of admission of emergencies term of pregnancy on admission.

Mode of admission	Number of employees	%
Coming from herself	184	48.8
Evacuee / referee	193	51.2
Total	**377**	**100**
Term of pregnancy on admission		
< 37 SA	36	9.54
37-42	318	84.35
> 42	23	6.10
Total	**377**	**100%**

Table 3: Nature of the 377 obstetric emergencies.

Urgency	Number of employees	Frequency (%)
Acute fetal distress	92	24.13
Disproportion	87	23.07
Shrunk pelvis	58	15.38
Dystocic presentation	61	16.18
Third trimester hemorrhage	36	9.55
Severe eclampsia/pre-eclampsia	22	5.84
PMTCT	8	2.12
Others	17	4.5
Total	**377**	**100**

Table 4: Management upon admission of obstetrical emergencies.

Decision	Number of employees	Frequency (%)
Venous route + solutes	375	99.46
Caesarean section	338	89.65
Transfusion	77	20.42
Monitoring for childbirth	33	8.75
Oxytocic infusion	23	6.1
Laparotomy	14	3.71

Table 5: Maternal and fetal morbidity related to obstetric emergencies.

Maternal morbidity	Number of employees	Frequency (%)
With complication	131	34.75
No complication	246	65.25
Anemia	81	21.49
HRP	18	4.77
Infection	10	2.65
Eclampsia	7	1.86
Others	2	0.53
Fetal morbidity	**Effective**	**Frequency (%)**
SFA	91	23.4
Respiratory distress	71	18.3
Prematurity	14	3.6
Malformation	3	0.7
MFIS	1	0.3
No complication	189	48.58

Table 6: Maternal and fetal lethality and their causes.

Maternal lethality	Number of employees	Frequency (%)
Alive	364	96.55
Deceased	13	3.44
Total	**377**	**100**
Cause of maternal deaths		
Anemia	10	76.92
Eclampsia	2	15.38
HRP	1	7.69
Total	**13**	**100**
Fetal lethality and their causes		
Lethality	**Effective**	**Frequency (%)**
Living	369	94.86
deceased	20	5.14
Total	**389**	**100**
Causes of death of newborn		
Cause of death	**Effective**	**Frequency (%)**
Respiratory distress	10	50
SFA	6	30
Prematurity	4	20
Total	**20**	**100**

Sociodemographic characteristics and obstetric history

The average age of our patients was 25.51 years with extremes of 15 and 40 years.

The 15-19 age group was the most affected with 24.14%.

DISCUSSION

Frequency

During this study we recorded 377 obstetric emergencies out of a total of 1273 deliveries, representing a frequency of 29.61%. Our proportion is close to the 31.8% found by Tchaou BA et al, at Parakou University Hospital in Benin, but higher than the 21.7% found in West Amansie District in the Ashanti region of Ghana.[2,8]

Sociodemographic characteristics and obstetrics history

Age

The average age of our patients was 25.51 years with extremes of 15 and 40 years. The sample was dominated by women in the 15-19 age group with 24.14% (Table 1).

Saizonou J et al, in analysing the management of obstetric emergencies in referral maternity hospitals in Benin, find that the 20-34 age group was the most represented with an average age of 26.7 years.[9]

Education level

The results of the study showed that nearly 2/3 of obstetric emergencies, or 67.9%, were uneducated patients, or those who stopped studies at the primary level, or 15.4%. This result is significantly higher than the 46% of women who have not attended school, found in Benin by Saizonou et al (Table 1).[9]

Parity

The study of this parameter shows that 32.6% of emergencies were nulliparous, 27.3% of primiparous (Table 1). This cross-tabulation result at parturient age showed a statistically significant relationship with p = 0.001. Our is less than the 48.7% of primiparous women found in Rwanda by Patrick S et al.[10]

Admission method

We found that half of the emergencies were evacuees, 51.2% compared to 48.8% (Table 2).

Natures of obstetric emergencies

The main obstetric emergencies encountered are: acute fetal suffering (24.13%), fetal disproportions (23.07), narrow pelvis (15.38%), 3rd trimester hemorrhages (9.5%)

(Table 3). In contrast, in Burkinafaso, and Gabon Ouattara A and Mayi-Tsonga, find that the main reason for transferring obstetric emergencies was pre-eclampsia and eclampsia.[11,12]

Management upon admission of obstetrical emergencies

The conduct depended on several factors, including the end of the pregnancy, the diagnosis and the patient's condition at admission. In our series, 89.65% of patients delivered by cesarean section for a maternal indication (maternal disproportion (maternal-fetal, narrowed pelvis, genital hemorrhage, or hypertension) or fetal (FAS, prematurity) and 6.63% by the lower route.

A total 20.42% of patients had been transfused due to severe anemia and 99.46% of patients had had vascular filling (Table 4).

In a study conducted in Beni, Tchaou BA et al reported 53.4% of vaginal deliveries and 46.6% of cesarean deliveries, 17.5% of patients had been transfused for severe anemia and 60.2% had received vascular filling.[2]

Maternal and fetal morbidity related to obstetric emergencies

Complications occurred in 34.75% of women admitted urgently. The main maternal complications were anemia (21.49%), retroplacental hematoma (4.77%), and postpartum infections (2.65). We recorded 20.85% of newborns in respiratory distress and 3.6% of prematurity. Cross-referenced to maternal age, we found that fetal morbidity is more frequent in the 15-19 age group and respiratory distress is the most common complication with a statistically significant relationship (p = 0.002) (Table 5).

In Cameroon, Ethienne et al report 37.3% prematurity and 17.9% neonatal asphyxia.[13] In a study conducted in Benin by Blaise AT et al, the main maternal complications found were hypertensive flare-up (21.1%), hyperthermia (12.3%), clinical anemia (11.2%), convulsive seizures (1.4%).[2]

Maternal and neonatal lethality and their causes

We recorded 3.44% of maternal deaths (n = 13). The causes of death were anemia ten cases (76.92%), eclampsia two cases (15.38%), and postpartum hemorrhage one case (7.69%) (Table 6).

Benimana et al, report that previous cesarean delivery and prolonged labor were associated with 24% and 13.2% maternal and neonatal mortality, respectively.[14]

We registered 389 newborns, of whom 20 perinatal deaths were observed, or 5.14%. Most of these deaths occurred in perpartum 70% (n = 14) and 30% during the first week of life. The main causes were respiratory distress (50%) (p = 0.002), acute fetal suffering (30%) and prematurity (20%). The causes of neonatal lethality are in agreement with those of Etienne B et al who found 48.1% by severe neonatal asphyxia.[13]

Limitations of this study was to the low capacity of the service for the timely hospitalization of patients, the failure to carry out certain laboratory tests whose results would improve the management of obstetric emergencies. Consent: before the study was carried out, we obtained the agreement of the administrative authorities of the service, the patients gave their consent to participate in the study, confidentiality was respected throughout the data collection procedure and the results were used for strictly scientific purposes.

CONCLUSION

Obstetric emergency is a frequent situation where better management would improve the prognosis of the mother and fetus.

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