

# Intra-Hospital Delay in Emergency Care at the Obstetrics and Gynecology Department in the University Teaching Hospital of Ouagadougou (UTH-YO), Burkina Faso

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## Abstract

**Objective:** To investigate the intra-hospital delay in the treatment of gynecological and obstetric emergencies in the obstetrics and gynecology department at the UTH-YO. **Patients and methods:** It has been a prospective and descriptive study over a period of four months from 1 May to 31 August 2015 in the obstetrics and gynecology department at the UTH-YO. All patients and their escorts were included in our study, admitted to gynecological or obstetric emergencies who have accepted to participate in the survey. Data were entered and analyzed using a PC equipped with the SPSS 16.0 software English version. **Results:** During the study period, we recorded 2627 admissions. Delays in the management involved 216 patients or a frequency of 8.2%. The average age of patients was  $26.6 \pm 6.2$  years, ranging from 16 and 46 years. Patients had no income in 165 cases (that is to say 76.4%). The referred patients accounted for 165 admissions (85.7%). The intake patterns were dominated by obstetric acute fetal distress in 44 cases (20.4%), pre-failure syndrome in 27 cases (that is to say 12.8%) and in gynecology by the ectopic pregnancy in 171 cases (79.3%). The average waiting period between the arrival of a patient and the beginning of first aid was 2 hours and 23 minutes with extremes of 16 min and 546 min. The main reason for the delay was the unavailability of the operating room in 61.1% of cases. The opinion of escorts was dominated by improving communication with the creation of a post of information in 47% of cases. Maternal prognosis was marked by a maternal death in 0.1% of cases and maternal morbidity in 13.4% of cases. The fetal prognosis was dominated

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by death at birth in 13.8% of newborns. **Conclusion:** Despite the subsidy of the government in obstetric and neonatal emergencies, there remain intra-hospital delays in the management of emergencies. The opening of discussions between the various stakeholders responsible for the implementation of this grant is urgent to contribute more effectively to the fight against maternal mortality.

## Keywords

Delay, Emergency, Obstetrics, Gynecology, Ouagadougou

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## 1. Introduction

According to the World Health Organization (WHO), the African continent recorded the highest maternal mortality ratios in the world [1]. Since the call of Nairobi in 1987 for maternal health, epidemiology of maternal mortality is fairly well known. The causes are grouped into 3 groups with direct causes, indirect causes and contributing factors summarized in three delays model; the third delay is the intra-hospital one [1] [2] [3] [4] [5].

Since 2006, the Government of Burkina Faso has awarded a grant to obstetric and neonatal emergencies care (EmOC). The subsidy for the transportation of patients, hospital costs and emergency medicines was supposed to lessen the different delays in the care to pregnant women and newborns [6]. So a few years after the implementation of this new strategy, we intend to evaluate the intra-hospital delay in the management of patients within the first National and University referral hospital in Burkina Faso.

## 2. Patients and Methods

It has been a prospective cross-sectional study with descriptive and analytical aim in the obstetrics and gynecology department at the University Teaching Hospital Yalgado Ouédraogo of Ouagadougou. This department is the reference center for gynecological and obstetric emergencies of all public and private health facilities in the city of Ouagadougou. It has a capacity of one hundred and twelve (112) hospital beds.

The survey was conducted over a period of four (4) months from 1<sup>st</sup> May to 31 August 2015. Were included in the study all patients received in the Gynecological and obstetrical emergencies and their escorts who have accepted to participate in our investigation. The survey was conducted by non-participatory observation. Data were collected in two phases. The first phase from the admission records, clinical records, delivery records, operating protocols and neonatal resuscitation. The second phase was done by interview of the patient and or escort through an anonymous questionnaire sent to them. The study variables related to demographics, personal and family history, clinical examination of the data, the time of the treatment and prognosis of the mother and child. Was consi-

dered as support delay, any management made after the first fifteen minutes following the admission of the patient, according to WHO criteria [1] [7] [8]. Data were entered and analyzed using a PC equipped with the SPSS 16.0 software English version. The ethical consideration taken into consideration had been respect for anonymity and confidentiality. Patient consent had also been obtained.

### 3. Results

#### 3.1. Frequency

During our study, we recorded 2627 admissions. Delays in the management involved 216 patients that to say 8.2% of admissions. In total 56.5% of patients were admitted between 6 a.m and 6 p.m and 43.5% between 18 hours and 6 hours.

#### 3.2. Socio-Demographics Characteristics

- **Age**

The average age of patients was  $26.6 \pm 6.2$  years with extremes ranging from 16 and 46 years. The age group 20 to 29 years was highest with 30% of patients.

- **Socio-professional status**

Housewives accounted 65.3% of the sample, women in the informal sector accounted 17.5%.

- **Level of instruction**

Patients with a primary level of study represented 50% of the sample, those with high school 25.9%, those without educational level 16.7% and the upper level 7.4%.

- **Marital status**

Patients living in a conjugal relationship represented 55.1% of the sample, those cohabiting represented 38.8%, the unmarried represented 5.6% and widows represented 0.5%.

- **Parity**

Nulliparous women represented 32.9% of the sample, 26.9% of primiparous, 35.1% of pauciparous, 4.1% of multiparous and 0.9% of high parity.

- **Provenance of patients**

In total 81% of the patients were from the city of Ouagadougou and 19% of surrounding communities.

#### 3.3. Clinical Aspects

- **Admission mode**

Patients had been referred in 85.7% of cases, transferred from another department of the UTH-YO in 0.5% of cases. In 13.8% of cases, they had consulted directly at the UTH-YO by self-reference.

- **Mode of transport**

In 63.9% of cases, they were admitted by ambulance, 15.7% in private car,

motorcycle in 8.8%, 7.4% in a taxi.

- **Qualification of the health worker having referred the patients**

The patients had been referred by a midwife in 59.7% of cases, by a physician in 39.8% of cases and by a nurse in 0.5% of cases.

- **Obstetric admission pattern**

The distribution of patients according to the reason for admission was presented in **Table 1**.

### 3.4. Therapeutic Aspects

- **Waiting period between admission and installation on the examination table**

The average waiting period to install a patient on the examination table was  $10.9 \pm 0.7$  minutes with extremes of 1 and 57 minutes.

- **Waiting period between installation of the patient and the beginning of the clinical examination**

The average waiting period between the installation of the patient and the beginning of the clinical examination was  $4.5 \pm 0.6$  minutes with extremes of 1 and 45 minutes.

- **Waiting period between clinical and early first aid**

**Table 1.** Distribution of patients according obstetric diagnosis (n = 187).

Obstetric emergency	number	%
Fetaldistress	38	20.4
Pre-failure syndrome uterine	24	12.8
Uterinescar	23	12.3
Pre-eclampsia	19	10.2
Mechanicaldystocia	16	8.6
Miscarriage	9	4.8
Prolapsedcord	9	4.8
Placentalhematoma	8	4.3
Bleeding of the delivery	7	3.7
Eclampsia	7	3.7
Dystociadynamic	6	3.2
Placenta prævia	5	2.6
Vaso-occlusive crisis	4	2.2
Premature rupture of membranes	3	1.6
Provoked abortion	2	1.1
Preterm labor	2	1.1
Other*	5	2.6
<b>Total</b>	<b>187</b>	<b>100</b>

\*others: 1 cases of detention of dead egg, 1 pelvic trauma cases, 1 cases of threatened miscarriage, 1 cases of uterine rupture and 1 cases of snakebite envenomation.

The average waiting period between the clinical examination of the patient and the beginning of first aid was  $127.2 \pm 13.6$  minutes (2 h 7 min) with extremes of 2 minutes and 533 minutes (8 h 53 min).

- **Waiting period between arrival and start of first aid**

The average waiting period between the arrival of a patient and the beginning of first aid was  $142.7 \pm 13.5$  minutes (2:23 min) with extremes of 16 and 546 minutes (9:06 min).

- **Qualification the health worker having welcomed the patient**

The patient was greeted by a trainee interned in 88.9% of cases by a midwife in 7.4% of cases, by a physician specializing in 3.7% of cases.

- **Qualification of the health worker having done clinical exam**

The patient had been examined by a doctor specializing in 54.1% of cases by a trainee interned in 43.5% of cases and by a midwife in 2.4% of cases.

- **Qualification of the health worker who made the diagnosis**

The diagnosis was made by a physician specializing in 93.5% of cases, by a medical student in 5.1% of cases and by a midwife in 1% of cases.

- **Qualification of the health worker having given how to behave**

The practical course of action was given by a doctor specializing in 98.2% of cases by a medical student in 0.9% of cases and by a midwife in 0.9% of cases.

- **Qualification of the health worker who administered the first aid**

The treatment was administered to the patient by a physician specializing in 75.5% of cases by a medical student in 19.4% of cases and by a midwife in 5.1% of cases.

### 3.5. The Delay in Care

- **Delay factors**

The distribution of the factors behind the management was presented in **Table 2**.

- **Proposals for patients and their escorts**

The distribution of proposals and patients escorts to solve the problem of delay in care has been shown in **Table 3**.

### 3.6. Prognostic Aspects

#### 3.6.1. Maternal Prognosis

- **Morbidity**

We noted complications in 29 patients (13.4%). These complications were anemia in 26 patients (12.1%); suppuration of the wound in 2 patients (0.1%).

- **Deaths**

We recorded 2 cases of maternal death or a lethality of 0.1%. The causes of these deaths were marked by post-partum hemorrhage in 1 case and HELLP syndrome in 1 case.

#### 3.6.2. Neonatal and Fetal Prognosis

- **Stillbirth**

**Table 2.** Breakdown of factors behind the support.

Factors	Number	%
Humanresources		
• Lack of support staff	12	5.5
• Unavailability of medical staff	10	4.6
• Reducing the number of doctors on call	6	2.8
Organization of service		
• Ignorance of places	32	14.8
• Pharmaceutical depotClosing	18	8.3
• Queue at the pharmacy	10	4.6
Infrastructure and equipment		
• Unavailability of the operating room	132	61.1
• Lack of examination tables	52	24.1
Financial resources		
• Lack of money	34	15.7
Availability of drugs and consumables		
• Incompletesurgical kits	19	8.8

**Table 3.** Distribution of proposals made by patients and companions (n = 117).

Proposals	Number	%
Create a job in intelligence at the maternity	55	47
Increase infrastructure carryingcapacity	21	17.9
First aid free of charge to patients	16	13.8
Increase the number of medical staff in the emergency	14	11.9
Encourage and motivatehealthworkers	6	5.1
Punishunscrupulous agents	5	4.3
<b>Total</b>	<b>117</b>	<b>100</b>

We recorded 20 stillbirths in a total of 145 births that to say a frequency of 13.8%.

- **Settings newborns**

The mean birth weight was 2910 g with a range of 1800 g and 3250 g. The average head circumference was 33 cm and the average birth size was 49 cm.

- **Neonatal Resuscitation**

Through the 145 births registered, 12 newborns (8.3%) were resuscitated for lower Apgar score. The average duration of resuscitation was  $2.1 \pm 0.1$  minutes with extremes of 2 minutes and 3 minutes.

## 4. Discussion

### 4.1. Limitations of the Study

The presence of investigators in the department may have influenced the beha-

avior of the health workers. This is the source of possible bias that must be mentioned and taken into account in the interpretation of the results.

#### **4.2. Frequency**

In our study, the delay in the care involved 216 patients that to say 8.2% of admissions. This result is comparable to Soma's [9] who found a frequency of 8.7%. However, it is lower than Sanou's [10] reported 49.4% in Ouagadougou. The differences between the series could be explained by the difference in the inclusion criteria. The high workload and low carrying capacity of the department may also explain the inability of practitioners.

#### **4.3. Waiting Period**

In our study, the average waiting period between the arrival of the patient and the beginning of first aid was  $142.7 \pm 13.5$  minutes (2 h 23 min) with extremes of 16 and 546 minutes (9 h 6 min). Our results are poor compared to those of Couatin [11] which reported an average waiting time of 18 minutes 37 minutes at obstetrics and gynecology. They are also poor, compared to those of Mbola [3] and Saizonou [12] which both reported an average delay of 30 minutes. The limited capacity of our emergency service, the limited number of operating room, the lack of staff of the guard team of operators and anesthetists could help to explain the situation.

#### **4.4. Factors of Delay**

In our study, the unavailability of the operating room was cited in 61.1% of cases, lack of examination tables in 24.1%, ignorance of the places in 14.8%, the lack of money in 15.7%, closing the pharmaceutical depot in 8.3% and incomplete kits in 8.8%. Our results are similar to those of Mayi-Tsonga [2] who also found that the main causes of delay in care were the unavailability of the operating room in 53% of cases, the occupation of the duty surgeon by another intervention in 53%, the absence of cloths and/or sterile instruments in 61% and the absence of anesthetics in 33% of cases.

Inadequate human resources and materials in developing countries are a veritable gangrene which hinders the fight against maternal mortality [5]. Also the poverty of our people and their illiteracies do not play in favor of the fight against maternal mortality. The government of Burkina Faso through the grant of obstetric and neonatal emergencies wanted to improve access to emergency care. But it is clear that difficulties persist and alienating those big efforts. The number of patients seeking gynecological and obstetric emergencies and poor infrastructure make it difficult to optimize emergency care. Urgent consultations are needed between practitioners and policy makers to reposition the subsidy policy.

#### **4.5. Prognostic Aspects**

- **Maternal morbidity**

Maternal complications were noted in 13.4% of patients in our series. Our results are lower than Ido's [13] who reported 28.1% in the same department, some years before. The difference between these figures could be explained by the perceptible positive impact of the grant. The workload of medical staff and the unavailability of the operating room are independent factors of the quality of care.

- **Maternal mortality**

We recorded 0.1% of maternal deaths. This result is lower than Kaboré's [14] who found a fatality rate of 3%. Despite the significant contribution of the grant, families continue to discuss financial difficulties and some support kits are incomplete. Also the low capacity of health facilities is a real obstacle to the success of achieving the Millennium Development. It is urgent to initiate reflection on completely free obstetric and neonatal emergencies like many countries in the sub region as Benin or Mali.

- **Fetal morbi-mortality**

A birth death was noted in 13.8% of newborns whose causes were dominated by neonatal pain. Our results, although slightly better than those of kaboré [14], are unacceptable for a country that aspires to emerge. Late administration of care in relation to the overload of medical personnel, unavailability of the operating room, the altered state of patients due to long distances to the reference center of the fetus are weakening factors born with a low Apgar score [15]. Also the distance from the neonatal unit compared to the obstetrics and gynecology department is not to the advantage of newborns; some dying for lack of adequate resuscitation.

## 5. Conclusion

Despite the initiation by the government to subsidy for deliveries and emergency obstetric care, there remains delay in the hospital care. Patients concerned by this delay are young women living in unfavorable socioeconomic conditions. A new debate between the health workers and policy makers needs to be done in order to save the patients of our hospital.

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