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Reception, Quality of Care and Attitude of Maternal and Neonatal Care Providers at The Maternity of The Reference Health Center of Fana (Mali)

Keita Sema[1*], Samake Youssouf[1], Traoré Solomane[1], Sylla Cheickna[2], Fané Seydou[2], Traoré Momine[1], Kone Bokary[3], Haidara Ramatoulaye[5], Diabate Abdrahamane[4], Sylla Yacouba[6], Keita Mamadou[7], Coulibaly Mahamoudou[8], Haidara Mamadou[8], Keita Maha madou[6], Camara Daouda[11], Fomba Dramane[9], Kampo Mamadou[10], Soumaré Modibo[15], Dembele Sitapha[14], Dao Seydou Z[13], Sanogo Siaka Amara[2], Boucoum Amadou[2], Traore Youssouf[2]

[1]Obstetrics and Gynecology Department of the Fana Reference Health Centre, Koulikoro, Mali
[2]Department of Obstetrics and Gynecology of the Gabriel TOURE University Hospital, Mali
[3]Mohamed VI Mother-Child Polyclinic in Bamako, Mali
[4]Diola Reference Health Centre, Mali
[5]Department of Gynecology and Obstetrics of the Reference Health Centre of Koulikoro, Mali
[6]Obstetrics and Gynecology Department of the Reference Health Centre of Commune I, Bamako, Mali
[7]Obstetrics and Gynecology Department of the Commune VI Reference Health Centre, Bamako, Mali
[8]Department of Gynecology and Obstetrics of the Kalaban Coro Reference Health Centre, Bamako, Mali
[9]Obstetrics and Gynecology Department of the Marakala Reference Health Centre, Ségou, Mali
[10]Department of Obstetrics and Gynecology, Timbuktu Hospital, Mali
[11]Department of Gynecology and Obstetrics of the Reference Health Centre of Kati, Koulikoro, Mali
[12]National Blood Transfusion Centre Bamako, Mali
[13]Department of Gynaecology and Obstetrics of the Centre of its Reference Department of Commune II, Bamako, Mali
[14]Department of Obstetrics and Gynecology of Fousseyni Daou Hospital, Kayes, Mali
[15]CbetweenCommuneIII Reference Health, Bamako, Mali

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***Corresponding author:** Keita Sema
Obstetrics and Gynecology Department of the Fana Reference Health Centre, Koulikoro, Mali

Abstract **Original Research Article**

The aim was to assess the satisfaction ofwomen giving birth with the reception, the quality of care and the attitude of maternal and neonatal care providers. ***Materials and methods*:** This was a prospective descriptive analytical cross-sectional study over a 6-month periodfrom February 1, 2019 to July 31, 2019 in Fana. ***Results*:** The average age of women was 27.5 years with extremes of 15 and 40 years. They were 98.2% married. And 90.1% of them took care of their household. They were educated in 27.1% with only 2.6% who had a higher level of education. Direct admissions were 80% and referrals/evacuations accounted for 20% of the workforce. Pregnant women performed between 1 and 4 antenatal care in 87.2% and 4.8% did not provide any care. The majority of them consulted in the 3rd trimester of pregnancy. Pregnant women gave birth vaginally in 76.6% compared to 23.4% of caesarean section. Instrumental extractions are performed in 1.3% with 6cases of forceps and 2cases of suction cup. Hemorrhage, eclampsia, uterine rupture and infection are the main maternal complications observed. 99.2% of the care provided by qualified personnel. Care for sick and premature infants was inadequate. 98.7% of women gave birth were satisfied with the care. ***Conclusion*:** The quality of obstetric and neonatal care was generally satisfactory.

Keywords: satisfaction, delivery, maternal care, neonatal care.

INTRODUCTION

Obstetric care encompasses all care provided to women during pregnancy, delivery and postpartum, as well as newborn care. They aim to prevent health problems during pregnancy, detect abnormal conditions, provide medical assistance when needed and put in place emergency measures if it is lacking [1]. According to the World Health Organization, about 800 women die every day from preventable causes related to

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pregnancy, childbirth or unsafe abortion, as well as 7,000 newborns, the vast majority on the first day or week of life. Almost all maternal (99%) and infant (98%) deaths occur in low-income countries [2]. WHO recommendations [3] require maternal and newborn health intervention programmes to be based on four main pillars forming a continuum of obstetric care: antenatal care, delivery care, newborn care and postnatal care.

Based on currently available evidence on burden of disease and mortality and impact, the following thematic areas were identified as high priorities for evidence-based practices in routine and emergency care: routine care during follow-up of uncomplicated and complicated pregnancies; routine care during delivery, including labour supervision and essential newborn care at birth and during the first week; managementof pre-eclampsia, eclampsia and its complications; the management of work difficulties by means of safe and appropriate medical techniques; management of postpartum haemorrhage; resuscitation of the newborn; the management of labour and preterm birth and appropriate care for preterm and low birth weight infants; and the management of maternal and neonatal infections [4]. According to the Demographic and Health Survey in Mali (EDSM) in 2018, the rate of women who received antenatal care rose to 80%, of whom at least 43% had made four antenatal visits [5]. A 2019 study in Ghana [6] found that 65.1% of women had done 4 antenatal care, 49.7% had received skilled delivery, 65.4% had received postnatal care.

According to a study conducted in 2018 at the Gabriel Touré University Hospital in Mali [7], 63.1% of women had undergone antenatal consultation, 100% of women had benefited from skilled delivery, the maternal mortality rate was 28.33 per 1000 live births, the neonatal mortality rate was 405.73 per 1000 live births and the stillbirth rate was 198.69 per 1000 live births.

Worldwide, more than 70% of maternal deaths are due to complications of pregnancy and childbirth such as haemorrhage, gestational hypertension, pre-eclampsia, eclampsia, sepsis and abortion etc [8]. Complications of prematurity, asphyxia, intrapartum and perinatal deaths, and neonatal infections account for more than 85% of newborn deaths [9]. These deaths were mostly preventable by necessary and well-known medical interventions. It is recognized that high health care coverage alone is not enough to reduce mortality. With a view to achieving SDG targets 3.1 and 3.2 by 2030 to reduce maternal and neonatal mortality to below 70 per 100 000 live births and 12 per 1000 live births respectively [7], WHO has developed a tool to assess and improve the quality of integrated maternal and neonatal care.

OBJECTIVES

The aim was to assess the satisfaction of women giving birth with the reception, the quality of care and the attitude of maternal and neonatal care providers**.**

MATERIALS AND METHODS

This was a prospective analytical cross-sectional descriptive study over a 6-month period from 1 February 2019 to 31 July 2019 in the Gynecological-Obstetrics department of the Fana reference health center. We opted for an exhaustive sample taking into account all parturient women who presented to the maternity ward during the study period.

Inclusion criteria: All parturient women who gave birth, who agreed to answer our questionnaire and who gave their consent; health workers who agreed to participate in the study were included.

T criteria of non-inclusion: Not included were women in labour who gave birth outside the centre or women who did not agree to answer the questionnaires, staff who did not agree to participate in the study.

Collection tools: We referred to the WHO tool for assessing and improving the quality of integrated maternal and neonatal care adapted by Mali.

The tests studied: the study of childbirth procedures, the opinion of women who have given birth.

The quality of care assessment stage:

- Level V: average between 95 and 100% (for good practice respecting standards of care);
- Level IV: average between 75 and 94% (showing little need for improvement to comply with standards);
- Level III: average between 55 and 74% (indicating a considerable need for improvement to reach standards);
- Level II: average between 45 and 54% (indicating a considerable need for improvement to meet standards);
- Level I: average less than 25% (showing that services are not provided, that care is totally inadequate or that practices pose a fatal risk.

Data collection: Toevaluate the different aspects of the study, information was collected in various forms including: Observations made on the care environment; Controls on the availability of equipment, medicines and products; Structured scoring forms based on case management observations, in accordance with accepted standards of care and criteria; An "opinion of women who have given birth" questionnaire on satisfaction.

The data collection: Technique consisted of direct observation of the premises and the care of patients by health workers; a review of clinical records; and an interview with the deliveries in an isolated and discreet manner to obtain their degree of satisfaction.

Data Analysis Plan: Data was entered and analyzed on SPSS 20.0 software. The texts, graphs and tables were entered on the Word 2016 and Excel 2016 software. The statistical tests used were the Khi square test for numbers > to 5 and the exact Fisher test for numbers < 5 with a significance level $p \leq 0.001$.

Outcomes

During the count, 757 deliveries with obstetric records were investigated. Of these, 624 met the selection criteria during the period from 1 February 2019 to 31 July 2019.

Epidemiological characteristics:

The average age of women was 27.5 years with extremes of 15 and 40 years. They were 98.2% married; 90.1% were home-care and 72.9% were out of school. They were educated in 27.1% with only 2.6% who had a higher level of education. Direct admissions were 80% and referrals/evacuations accounted for 20% of the workforce. These epidemiological characteristics are summarized in Table 1.

Table 1: The epidemiological aspects of the women received in the context of the evaluation of the satisfaction of the deliveries on the reception, the quality of care and the attitude of maternal and neonatal care providers at the maternity hospital of Fana from 1 February 2019 to 31 July 2019 in Mali

Age range in years	≤ 19	147	23,56
	20-29	312	50,00
	30-35	119	19,07
	≥ 36	46	7,3
Profession	Housewives	562	90,1
	Student	29	4,7
	Official	17	2,7
	Saleswoman	14	2,2
	Hairdresser and Dyer	2	0,3
Method of delivery	Direct	499	80
	Evacuated	102	16,3
	Referred	23	3,7
Educational attainment	Out of school	455	72,9
	N primary level	79	12,6
	Secondary level	74	11,9
	Upper level	16	2,6
Marital status	Bride	613	98,2
	Bachelor	11	1,8

Assessing the quality of maternal care:

Pregnant women performed between 1 and 4 antenatal care in 87.2% and 4.8% did not receive any care. The majority of them consulted in the 3rd trimester of pregnancy. Table 2 shows the quality aspects of maternal care.

Table 2: Aspects on the quality ofmaternal care at the Fana maternity hospital from 1 February 2019 to 31 July 2019 in Mali

Number of NPCs performed	**Staff**	**Percentage**
1-4	544	87,2
> 4	50	8,0
No	30	4,8
Age of pregnancy		
1st quarter	4	0,64
2nd quarter	95	15,22
3rd quarter	525	84,14

Pregnant women gave birth vaginally in 76.6% compared to 23.4% of caesarean section. Instrumental extractions are performed in 1.3% with 6cases of forceps and 2cases of suction cup. Hemorrhage, eclampsia, uterine rupture and infection are the main maternal complications observed. 99.2% of the care provided was provided by qualified personnel. Thesetherapeutic aspects and prognosis are summarised in Table 3, Figures 1 and 2.

Table 3: The evaluation of the quality of therapeutic gestures and maternal prognosis at the Fana maternity hospital from 1 February 2019 to 31 July 2019 in Mali

Therapeutic gestures	**Staff**	**Percentage**
Taking a safe venous line	618	99,0
Antispasmodic	357	57,2
Oxytocic infusion	373	59,8
Antihypertensive	18	2,9
Anticonvulsant	12	1,9
Antipyretic	7	1,1
Path of delivery	**Actual**	**Percentage**
Low track	478	76,6
Caesarean section	146	23,4
Intervention		
Episiotomy	127	20,4
Forceps	6	1,0
Plunger	2	0,3
No	489	78,3
Perpartum complications		
No	615	98,5
Haemorrhage	5	0,8
Eclampsia	3	0,5
Uterine rupture	1	0,2
Postpartum complications		
No	616	98,7
Immediate postpartum hemorrhage	3	0,4
Eclampsia	2	0,3
Postpartum infection	4	0,6
Technical gestures performed during delivery		
GATPA Practice	476	76,6
Placenta examination	624	100
Appreciation of the safety uterine globe	624	100
Monitoring vulvar bleeding	624	100
Examination of conjunctivae	624	100
Qualification of care providers		
Midwife	433	69,4
Obstetrician Nurse	173	27,7
Obstetrician-gynecologist	10	1,6
Matron	5	0,8
Internal	3	0,5

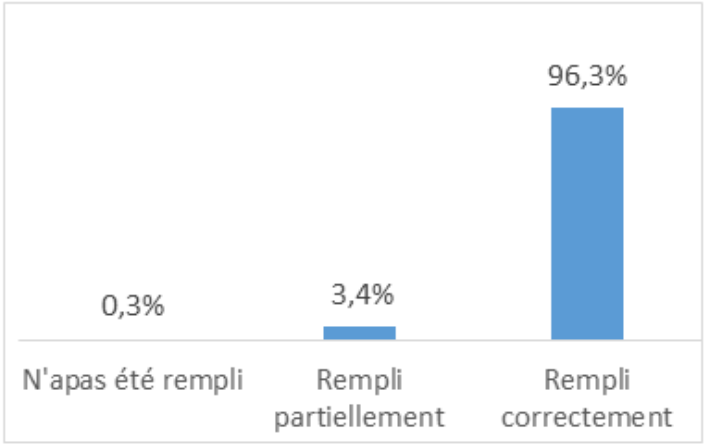

Figure 1: The quality of partogram filling by healthcare providers

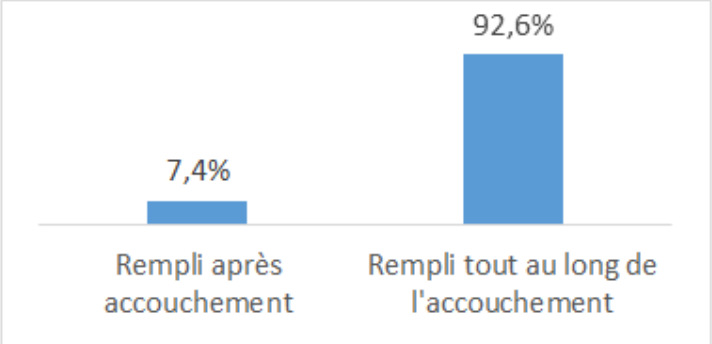

Figure 2: The period of filling of the partogram by health care providers

Satisfaction of women who have given birth with the reception, quality of care and attitude of maternal and neonatal care providers

The quality of care, reception and satisfaction of deliveries were all rated at 98.7%. The rules of intimacy were not respected in 99% according to the opinion of the deliveries. These aspects on the satisfaction of women giving birth with reception, the quality of care and the attitude of maternal and neonatal care providers are presented in Table 4.

Table 4: Aspects on the satisfaction of women who have given birth on the reception, quality of care and attitude of maternal and neonatal care providers at the Fana maternity hospital from 1 February 2019 to 31 July 2019 in Mali

Opinions of women who have given birth on the quality of the welcome	**Actual**	**Percentage**
Good	616	98,7
Passable	6	1
Bad	2	0 ,3
Opinions of women who have given birth on the quality of care		
Good	616	98,7
Passable	7	1,1
Bad	1	0,2
Degree of satisfaction of women who have given birth/ Staff attitude		
Welcoming, polite	616	98,7
- Sometimes good, sometimes yell at me	6	1,0
Was not welcoming, shout at me	2	0,3
- Privacy was not guaranteed	618	99,0
Degree of satisfaction of women who have given birth / Quality of care		
Good	616	98,7
Passable	7	1,1
Bad	1	0,2

DISCUSSION

Epidemiological Characteristics:

In our study, the 20 to 29 age group was the most represented with a rate of 50% of cases. The average age was 27.5 years with extremes of 15 and 40 years. Our data are consistent with those of the DHSM-VI [5] which find that the average age was 34.5 years with extremes of 20 and 49 years in rural areas. Our result could be explained by our socio-economic and geographical context in which women marry early.

The majority of our parturients were not in school with 72.9% of cases. In 2018, the Demographic Health Study of Mali (EDSM-VI) [5] reported that 74% of women were not in school in rural areas. Our result could be explained by the fact that Fana is a rural area where the population attaches less importance to the schooling of the girl. This could have an adverse impact on the quality of maternal and neonatal care. Married women accounted for 98.2% of cases in our study compared to 1.8% of single women in childbirth. This could be a good thing for the image of our company and could contribute to the smooth running of their care. Housewives were in the majority with 90.1% of cases compared to 2.7% of cases for civil servants. This could be explained by the fact that out-of-school women were the most represented during our study. The pauciparous were the most represented with 28.4% of cases, whose average parity was 2.4% with extremes ranging from 0 to 12, this population is in the age group that is mainly represented; This could explain their high frequency. Our result agrees with that of Dembélé S [10] who found that the pauciparous were in the majority in the same bracket with 28.9% of cases. This could be explained by the fact that women marry early in rural areas. Large multiparous accounted for 8.5% of cases. Multiparity being a risk factor for maternal-fetal

mortality such as: hemorrhage of delivery, uterine rupture etc .... however, no cases of maternal death were recorded during our study.

Assessing the quality of maternal care:

Improving the quality of care is linked to the provision of care by qualified care providers. This provision of care was provided by 99.02% qualified personnel. Only 0.8% of care was provided by unqualified providers. Careduring delivery was provided by a midwife in 69.4% of cases; in 27.7% by an obstetrician nurse; in 1.6% by a doctor, in 0.5% by an intern and 0.8% by matrons.

Our study noted 95.2% of antenatal care during pregnancy and 65.7% in the structure. They had received 4 or more antenatal consultations in 60%. This corresponds to the number of antenatal consultations recommended by WHO in developing countries. A 2019 study in Ghana [6] on improving the quality of maternal and newborn care found that 65.1% of women had done 4 antenatal consultations. In 2018, Bocoum B [7] revealed during its study that 63.1% of parturient women had done the prenatal consultation at the CHU Gabriel Touré. Our result agrees with those of Bocoum B [7] and Ansong J [6]. These results could be explained by the good dissemination of information on antenatal consultations in Africa. Efforts must be made to ensure that all pregnant women can benefit from antenatal consultations in order to improve the quality of maternal and neonatal care.

In the majority of deliveries was performed by qualified personnel, including midwives in 34.8% of cases, and respectively by interns in 23.8% of cases, obstetrician nurses in 22.3% of cases, matrons in 13.1% of cases and gynaecologists in 6.4% of cases. Bocoum B [7] had reported the same observation with deliveries made by doctors specializing in gynecology obstetrics in 57.70%, 35% by midwives; 4.20% by gynaecologists-obstetricians and 3.10% by interns.

Thelower route being the natural route of childbirth. Vaginal delivery was the most common with 76.6% of cases compared to 23.4% for caesarean section. Our result is consistent with that of Bocoum B [7] and Dembélé S [10] which found respectively 62% and 76.3% vaginal delivery. 48.6% of parturient women had given birth in less than an hour, including caesarean sections; parturients who had given birth vaginally do half of their work at home under the pretext of not lasting at the health centre; for caesares, These were either evacuated cases for which the indication for caesarean section arises or prophylactic caesarean sections.

Caesarean section was free for all parturient caesarean women and all products were available in the caesarean section kit. Technical procedures during labour and postpartum were respected in most cases with an average of 83.1%.

However, cardiopulmonary auscultations and the summary of the clinical examination were done irregularly; Hygiene was precarious, hand washing was not respected, deliveries, uterine revisions were often done by non-sterile gloves. Some labour monitoring parameters were not taken in accordance with the WHO modified partogram standard. We have noticed sometimes that the partogram was not filled completely and/or filled after delivery. Privacy was not respected in 99% of parturients. Thiswould be due to the lack of an emergency room at the maternity ward. This explains the frequent entries into the delivery room in the presence of parturients.

Most of the women who had given birth had received advice on feeding and monitoring newborns. However, some of them did not receive family planning counselling.

Assessing the quality of neonatal care

There is no neonatal unit at the Fena reference health centre, but the centre does have a paediatric ward in which there is an intensive care room for sick and premature newborns. This department is equipped with two heat lamps and an oxygen extractor for all incoming patients, there was no incubator for cases of severe prematurity.

The resuscitation of newborns A very important medical gesture was mastered by all maternity staff. The delivery room has resuscitation equipment for the care of newborns born with an Apgar < 7. In our study, 93.6% of newborns had a good Apgar (>7); 5% of newborns were resuscitated (Apgar 1-7), and 1.4% were stillborn.

The taking of the parameters of the newborn was systematic as well as the administration of vitamin K1 and tetracycline ointment. Chlorhexidine was offered to all deliveries for the baby's umbilical care. Care for sick and premature newborns was inadequate, kangaroo mother care was done in the same hospital ward of the maternity ward. However, the diagnosis was well made and newborns who cannot suck received breast milk by a spoon or by gavage. BCG and Polio 0 vaccines were given to babies one week after delivery. According to the explanation of the official these vaccines are administered en masse which is why it is necessary to wait for this time in order to be able to make a mass vaccination. A vaccination record with explanation for follow-up is given to all deliveries. Thereis therefore a significant need for improvement to achieve standards of care. Our result is lower than that of Bocoum B **[**7**]**. The centre has a need for a paediatrician and an adequate neonatal service for the care of newborns.

Satisfaction of women who have given birth with the reception, quality of care and attitude of maternal and neonatal care providers

Thedegree of client satisfaction is an important parameter in the quality of care. Deliveries were satisfied with the care in 98.7% in our. On the other hand, in the Bocoum B study **[**7**]** this satisfaction rate was 97%. It is thanks to the involvement of the care providers and their good collaborations with patients that we have achieved this result.

CONCLUSION

The quality of obstetric and neonatal care was generally satisfactory. Indeed, some deficiencies have been observed in accordance with maternal and neonatal care standards.

Conflict of Interest: None.

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