

Obstetrical Complications of Female Genital Mutilation: Management Maternal-Fetal Medical Care and Prognosis, Obstetrical Gynecology Regional Hospital, Unit of N'zérékoré*

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Abstract

Introduction: Female Genital Mutilation (FGM) is a public health problem. There are 100 to 140 million girls and women who suffer every year in the world [1]. The aim of this study is to improve the medical care and reduce complications of FGM at the Regionalhospital of N'zérékoré, to determine their frequency, and to evaluate the maternal-fetalprognosis. **Methods:** The study was conducted at the Regional Hospital of N'zérékoré. This was a cross-sectional, descriptive and analytic study of 6 months, from 1 September 2016 to 28 February 2017, including all pregnant women admitted for childbirth who had a complication of female genital mutilation. **Results:** A total of 1295 women gave birth in the service, of which 1204 women were women with female genital mutilation. Given a frequency of 92.97%, of these 1204 mutilated women, 223 presented obstetrical complications during their delivery, a proportion of 17.22%. They were mostly young patients, mostly housewives who were not in school. Type II FGM was the most common (53.06%). Obstetric complications were dominated by complicated perinatal tears (54.08%), and hemorrhages (40.81%). The catch was dominated by perineorrhaphy. **Conclusion:** The frequency of FGM was 92.97% and that of their obstetric complications 17.22%. Most were house-wives, not in school. There was FGM

*N'zérékoré is an administrative region of the Republic of Guinea with a regional hospital with a level III maternity ward in the health pyramid where the study was carried out.

type II. The abandonment of FGM would reduce maternal and perinatal morbidity and mortality.

Keywords

Female Genital Mutilation, Obstetric Complications, Maternal Fetal Prognosis

1. Introduction

WHO defines female genital (sexual) mutilation (FGM) as the partial or total removal of the external genitalia and/or any procedure performed on the female genitalia for cultural reasons, or any other non-therapeutic reason [1].

The World Health Organization (WHO) distinguishes four types of female genital mutilation: type I (prepuce removal, with or without partial or total excision of the clitoris); type II (excision of the clitoris, with partial or total excision of the labia minora; type III, partial or total excision of the external genitalia and suture/narrowing of the vaginal opening; and type IV includes several others (puncture, perforation or incision) [1].

Worldwide, female genital mutilation is a public health problem with serious implications on reproductive health [2]. WHO estimates that 100,000 women die each year from FGM complications most often in childbirth and these mutilations are mainly practiced in sub-Saharan Africa: Senegal, Mali, Mauritania, Côte d'Ivoire, Gambia, Guinea [1].

Nearly 100 to 140 million girls and women have been subjected to female genital mutilation. The phenomenon is mainly present in sub-Saharan Africa and in some regions of the Near East and Southeast Asia (Yemen, Indonesia and Malaysia). Only about 5% of the victims live in northern countries, those are more than 6.5 million girls and women. In 2009, it was estimated that about 53,000 adult women residing in France were excised, with a hospital proportion of 4.20%, and two third of them were daughters of immigrants and most of them were in couples [3].

In developing countries, about 60% of women are victims of female genital mutilation; this frequency is unevenly distributed between countries.

In Africa, there are 28 countries where female genital mutilation is practiced. The number of women excised and the frequency of the different forms of FGM have been better known since the early 1990s thanks to national surveys [3].

From one country to another, the proportion of women excised varies greatly, ranging from 1.4% in Cameroon to 96% in Guinea [4].

The prevalence of continuous FGM amongst adolescent girls was 58% in Egypt, 63% in Guinea, 16% in Kenya, 72% in Mali, 72% in Niger, 3% in Senegal, 23% in Senegal and 52% in Sierra Leone [5].

A study on FGM, conducted in 2006 on 28,393 deliveries in 28 medical cen-

ters in Burkina Faso, Ghana, Kenya, Nigeria, Senegal and Sudan, shows that the risk of newborn death is increased and represents between 10 and 20 deaths per 1000 births [5].

In Guinea, excision is practiced in all regions regardless of their level of socio-economic development. According to the results of the Demographic and Health Survey, 96% of women and girls have undergone the practice. FGM is carried out at different ages and decreases with increasing age: early childhood (34%); children aged 5 to 9 (32%); children aged 10 to 14 (27%); girls/women aged 15 and over (3%) [4].

This study was initiated in order to understand the obstetrical complications of this practice and their medical care.

2. Methods

The study was carried out in the Gynaecology-Obstetrics department of the N'zérékoré Regional Hospital, which is a level III hospital in the country's health pyramid. It was a cross-sectional, descriptive and analytical study over a period of 6 months, from September 1, 2016 to February 28, 2017. All pregnant women who underwent female genital mutilation, regardless of the type, who developed obstetric complications during childbirth and whose medical care was done in the ward were selected. Those who did not agree to participate or were not medically assisted in the service were excluded. The sample size was calculated using the Lorenz formula: $N = Za^2PQ$ (where: N = acceptable sample size in each group [calculated value = 95.04]; a = level of D2 statistical significance; Za = normal distribution value = 1.96 for $a = 0.05$; P = prevalence of FGC in Guinea = 96.8%; $Q = 1 - P$; D = accuracy level = 10%). The minimum acceptable sample size was 96 patients in each group. The variables studied were epidemiological and clinical. The epidemiological and clinical variables are: age, occupation, level of education, parity, gestational age, type of FGM performed, mode of delivery (vaginal and instrumental), obstetric complications (perineal tears, bleeding, vesico-vaginal fistula), type of perineal lesions, management of complications, maternal and neonatal prognosis. We used WHO criteria to distinguish the 3 types of practical female genital mutilation in Guinea: type I (prepuce removal, with or without partial or total excision of the clitoris); type II (excision of the clitoris, with partial or total excision of the labia minora); type III, partial or total excision of the external genitalia and suture/narrowing of the vaginal opening. Type IV is not practical in our study context. The data were entered and analyzed using EPI INFO version 6 software. The statistical test used is Chi2, with a significance level set at $P < 0.05$.

Limitation of the study

It is a clinic and hospital; it cannot be extended to the general population.

We did not compare excised and non-cut women in this study.

We have not demonstrated the relationship between the severity of obstetric complications and the type of FGC.

3. Results

During the study, 1295 women gave birth in the ward, of whom 1204 were women with FGC, a rate of 92.97%. Of these 1204 with FGC, 223 had obstetric complications during childbirth, representing a frequency of 17.22%.

The majority of FGM is practiced during childhood and adolescence that is 67.35 and 29.59% (**Table 1**).

Age: The average age of the patients was 21.70 years with extremes of 15 and 37 years. Just over half, 51.02%, of the women were between 15 and 19 years old and 2/3 were under 25 years old (Average age = 21.70 with extremes of 15 and 37 years);

Profession: More than half of the patients, 60.20%, were housewives, followed by students (21.43%).

Educational level: More than 2/3 of the patients, 76.53% were uneducated or had not exceeded primary level (**Table 2**).

Types of mutilation—degrees of perineal lesions:

Types of FGM: Type II of FGM that removes part of the clitoris and adjacent labia minora accounted for half of the patients in the group of women with FGC (n = 112/223, or 50.22%). Type I of FGC (which consists of the removal of part or all of the clitoris) and type III of FGC (which consists of the removal of the clitoris, labia minora and labia majora) represent 37.6% (n = 84/223) and 12.10% (n = 27/223) respectively.

The results show that perineal tears of the second degree were the most frequent (52.58%), followed by first degree (34.06%) (**Table 3**).

Table 1. Sociodemographic characteristics of the 223 delivered and excised women who developed an obstetrical complication.

Parameters	Effective	Frequency
Female without FGM	91	7.03%
Female with FGM	1204	92.97%
Total	1295	100%
Frequency of complications of female genital mutilation during childbirth.		
Parameters	Effective	Frequency
Women with complications FGC	223	17.22%
Women with no complications of FGC	1082	83.55%
Total	1295	100%
Distribution of patients by time of FGM		
Child period	150	67.35%
Teenage period	66	29.59%
Adult period	7	3.06%
Total	223	100%

Table 2. Type of FGC and degree of perineal trauma.

Age		
Age group	Number of employees	Percentage %
<20	126	56.50
20 - 24	52	23.49
25 - 29	24	10.79
30 years and over	21	9.41
total	223	100
Average age = 21.70 with extremes of 15 and 37 years		
the profession		
Housewife	134	60.20
Pupil/Student	48	21.43
Liberal	34	15.31
Employee	7	3.06
Total	223	100
Educational level		
Not in school	125	56.12
Primary school	46	20.41
Secondary school	41	18.37
Superior	11	5.10
Total	223	100

Table 3. Parity et perineal trauma.

Types of mutilation 1st	Types of perineal lesions			TOTAL
	1st degree	2nd degree	3rd degree	
Type I	53 (63.89%)	28 (33.33%)	3 (2.78%)	84 (37.6%)
Type II	20 (18.37%)	78 (69.39%)	14 (12.24%)	112 (50.22%)
Type III	2 (8.33%)	12 (41.67%)	13 (50.00%)	27 (12.10%)
TOTAL	75 (34.02%)	118 (52.58%)	30 (13.40%)	223 (100%)

$\chi^2 = 26.58$; P-value = 0.0001.

The majority of women in the study were first-time mothers with a proportion of 70.4%, followed by pauci-pares.

Parity	Types of perineal lesions			Total
	1st degree	2nd degree	3rd degree	
Primipares	57 (36.23%)	75 (47.82%)	25 (15.95%)	157 (70.4%)
Pauci-pares	11 (31.25%)	22 (62.50%)	2 (6.25%)	35 (15.7%)
Multipares	7 (23.08%)	21 (69.23%)	3 (7.69%)	31 (13.9%)
TOTAL	75 (34.02%)	118 (52.58%)	30 (13.40%)	223 (100%)

$\chi^2 = 2$; P value = 0.409.

Mode of delivery

All patients gave birth low and spontaneously in 78% of cases compared to 22% of instrumental deliveries.

Obstetrical complications

We have recorded several complications during childbirth that are dominated by perineal tears sometimes simple, 55.60% or most often complicated 24.21%. The other complications are dominated by haemorrhages 40.81%.

Associated lesions

At the time of their delivery, due to perineal narrowing, an episiotomy was necessary to facilitate the expulsion of the fetus in 71.48%.

Support

Medical care consisted mainly of suturing the various traumas that occurred during childbirth. Among these gestures is perineorography either to repair an episiotomy that was necessary to facilitate delivery, or perineorography for an associated perineal tear in 96%, 93%. Revision of the uterus was required in 52.91% and blood transfusion in 35.71% (**Table 4**).

Overall, newborns had a standard weight between 2500 - 3999 g with 59.19%, while 22.42% of newborns had a weight below 2500 (**Table 5**).

Mostly, more than 2/3 (87.75%) of newborns were alive at birth compared to 12.25% of stillborn babies. This was the case for nearly half (48.99%) of these live neonates who had been resuscitated, most often for FAS 28.57%. Perinatal mortality was 5.10% (**Table 6**).

Table 4. Maternal prognosis.

Mode of delivery	Number (n = 223)	Percentage
Spontaneous	173	77.55
Instrumental	50	22.45
Obstetric complications		
Simple perineal tearing	124	55.60
Hemorrhages	91	40.81
Complicated perineal tearing	54	24.21
Shock condition	7	3.06
Vulvo-vaginal vesico-vaginal fistula	2	1.02
Associated injuries		
Episiotomy	159	71.42
Vaginal tearing	109	48.98
Cervical tearing	9	4.08
Complication management		
Perineorography	216	96.93
Uterinerevision	118	52.91
Antibiotictherapy	196	87.76
Analgesic	105	46.94
Transfusion	80	35.71
Vascularfilling	68	30.61

Table 5. Fetal weight and types of perineal trauma.

Child's weight (g)	Types of perineal lesions			Total
	1st degree	2nd degree	3rd degree	
<2500	22 (45.45%)	22 (45.45%)	6 (9.09%)	50
2500 - 3999	46 (35.09%)	65 (49.12%)	21 (15.79%)	132
≥4000	7 (16.67%)	31 (72.22%)	3 (11.11%)	41
TOTAL	75 (34.02%)	118 (52.58%)	30 (13.40%)	

Table 6. Distribution according to fetal prognosis.

Fetal prognosis	Frequency (n = 223)	Percent
Living	196	87.75
Reanimated	109	48.99
Acute fetal suffering	64	28.57
Stillbirths	27	12.24
Malformation	11	5.10
Early neonatal death	11	5.10

4. Discussion

1) The frequency

During the study, 1295 women gave birth in the ward, among them 1204 were women with FGM, giving a rate of 92.97%. Of these 1204 with FGM, 223 had obstetric complications during childbirth, representing a frequency of 17.22%.

A study conducted in 16 regions of Somalia found that 356 women were interviewed and the results show that, with one exception, all women participating in the survey were excised. However, the proportion of those who wanted to end FGM, was 91% [6].

In Mali Théra T *et al.* [2] report a FGM rate of 68.27% in 2013. The complication rate of FGM is 15.76% in the study by Millogo F *et al.* in Burkina Faso in 2007 [7]. In Chad, the prevalence of FGM in relation to births is 16.4% [8].

2) Age

The average age of the patients was 21.70 years with extremes of 15 and 37 years. Just over half, 51.02%, of the women were between 15 and 19 years old and 2/3 were under 25 years old; this young age can be explained by early marriages, and especially by the fact that marriage is the ideal and legal framework for procreation in our society, and that any pregnancy outside this framework is a disgrace to the family.

Our results are comparable to those of Théra T *et al.* [2] who reported that the most important age group was that between 14 and 19 years of age, 40% followed by 20 and 24 years of age. In Burkina Faso, N Diaye P *et al.* find that par-turient women were between 14 and 44 years old for an average age of 24 years, with a standard deviation of 9 years [9].

3) The profession

More than half of the patients, 60.20%, were housewives, followed by students (21.43%). This could be explained by the fact that it is the dominant socio-professional layer of the general population in our society. Malamine AT, in her doctoral thesis in medicine in Mali, reported a predominance of female housewives that is 58% of cases [10].

4) Educational level

More than 2/3 of the patients, 76.53% were uneducated or had not exceeded primary level. This high proportion of unschooled children reflects the low level of education of the overall population. According to EDS Guinea 2012, this proportion is 34% of the total population unschooled, and it is particularly high in the female population, 76% between the ages of 15 and 49 years [4]. In Guinea, Kenya, Mali and Sierra Leone, girls who were out of school or had only received primary education were more likely to support FGM than girls who followed secondary or higher education [11].

This high frequency is found in Malamine AT in Mali [10] which found a rate of 70% of people unschooled.

5) Types of mutilation—degrees of perineal lesions

The results showed that type II is the most frequent type of mutilation with a proportion of 53.06% followed by type I with 33.67%. This result is contrary to that of Malamine A. T in Mali, who found 53.30% of type III FGM [10]. In contrast, ELGAALI *et al.* found a high frequency of type I with 35% [11] Compared to perineal lesions during childbirth, it was found that 50% of parturient who had type III had a 3rd degree perineal tear with a statistically significant link $P = 0.0001$. This shows that the higher the type of FGM, the higher the risk of serious perineal injury.

This result is comparable to that reported in the study by THERA T *et al.* in Mali, who also demonstrated that there is a link between the type of FGM and the severity of perineal injury during childbirth [2].

6) Parity and perineal lesions

The majority of parturient in the study were first-time mothers with a proportion of 70.4%, followed by pauci-pares. Compared to perineal lesions, we did not find any relationship between the severity of the perineal lesion at delivery and the number of births, although multiparous women had more perineal lesion in the 2nd degree.

This counterpart MILLIGO F *et al.* [7] report that perineal lesions are more frequent in primiparous women and women who have undergone second or third degree excision.

7) Mode of delivery

All patients had vaginal delivery and spontaneously in 78% of cases compared to 22% of instrumental deliveries.

Our result is higher than that of SAGARA.S [12], which notes 67.9% of vaginal delivery, 6.4% of forceps, and 14.3% of cesarean section.

8) Obstetrical complications

We have recorded several complications during childbirth that are dominated by perineal tears sometimes simple, 55.60% or most often complicated 24.21%. The other complications are dominated by hemorrhages 40.81%.

Our data are slightly lower than those of SAGARA.S [8] who found 67.7% simple tears; 25.8% complete tears.

In Chad [12], female genital mutilation type III was associated with a high proportion of maternal complications compared to types I and II (Chi = 11.2; OR = 7.3 [1.97 - 31.6]; P = 0.0001).

With regard to the risk of obstetric complications related to FGM, a WHO study group that analysed the issue in 2006 concluded that it was significantly higher in women with FGM than in others, and that it was proportional to the forms of mutilation. These adverse consequences can also affect the health of newborns [1].

9) Associated lesions

At the time of their delivery, due to perineal narrowing, an episiotomy was necessary to facilitate the expulsion of the fetus in 71.48%. During this period, this dystocia caused other complications such as vaginal tears, 48.98% despite the fact that an episiotomy was often performed.

Foumsoun L *et al.* [12] perineal laceration was the common maternal complication among the parturient with FGM. (Chi2 = 9.8; OR = 2.2 [1.4 to 3.6]; P = 0.0007). In Scandinavia among women who had been clitoridectomized, 28 women (13%) reported having experienced late complications or post-FGC sequelae. A positive attitude towards abandoning the tradition of female genital mutilation FGM was reported twice as often by husbands (69%) as by circumcised women (35%). The 95% of respondents were Muslims and 5% Christians [11].

10) Medical care

The medical care was mainly consisted of suturing the various traumas that occurred during childbirth. Among these gestures is perineorography either to repair an episiotomy that was necessary to facilitate delivery, or perineorography for an associated perineal tear in 96.93%. Uterine revision was necessary in 52.91% and blood transfusion in 35.71%. The other medical acts are mainly summarized by the care provided either by vascular filling, or by antibiotic or analgesic prescriptions.

11) Fetal weight and perineal lesions

Overall, newborns had a standard weight between 2500 - 3999 g with 59.19%, meanwhile 22.42% of newborns had a weight below 2500. Compared to perineal lesions, we did not find a statistically significant difference between birth weight and perineal lesion severity P = 0.4614.

12) Distribution according to fetal prognosis

Mostly, more than 2/3 (87.75%) of newborns were alive at birth compared to 12.25% of stillborn babies. This was the case for nearly half (48.99%) of these live neonates who had been reanimated, most often for FAS 28.57%. Perinatal mortality was 5.10%.

According to Founsoun L [12], the stillbirth rate was significantly higher in the group of women with FGC than in the non-FGC group (11.5%, $P = 0.015$).

5. Conclusions

FGM is a public health problem with serious reproductive health complications. The proportion of FGM carriers in the service was 92.97% and their obstetric complications accounted for 7.52% of all deliveries during the study period. Most of them were unschooled housewives. There was a majority of Type II FGM. During childbirth, women developed many other complications such as perineal tears and bleeding.

Surgical care was dominated by perineography. Antibiotics and painkillers were the most commonly used drugs.

With regard to the risk of obstetric complications related to FGM, a WHO study group who analysed the issue in 2006 concluded that it was significantly higher in women with FGM than in others, and that was proportional to the forms of mutilation.

Conflicts of Interest

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

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