

Epidemiological and Clinical Aspects of Obstetric Fistulas Managed in Six Health Structures in the Central African Republic

Roch M'Betid-Degana^{1*}, Gilles-Davy Kossa-Ko-Ouakoua², Saturnin Heya-Imbatia¹, Georges Crépin Beyam-Yobima¹, Martial Mbida¹, Sabrina Ouapou¹, Géniva Gracelia Vanciane M'Betid-Degana³, Serge Ndakala⁴, Christine Amisi⁵, Eugène Serdouma¹, Norbert Richard Ngbale⁶, Abdoulaye Sepou⁶

¹Department of Gynecology and Obstetric, University Hospital Center of the Sino-Central African Friendship, Bangui, Central African Republic

²Department of Gynecology and Obstetric, Camp Henri IZAMO Hospital (National Gendarmerie), Bangui, Central African Republic

³Faculty of Health Sciences, University of Bangui, Bangui, Central African Republic

⁴Department of Surgery, University Hospital Center of the Sino-Central African Friendship, Bangui, Central African Republic

⁵Panzi Foundation, Bukavu, Democratic Republic of Congo

⁶Department of Gynaecology and Obstetric, University Hospital Center Community, Bangui, Central African Republic

Email: *r_mbetid@yahoo.fr

How to cite this paper: M'Betid-Degana, R., Kossa-Ko-Ouakoua, G.-D., Heya-Imbatia, S., Beyam-Yobima, G.C., Mbida, M., Ouapou, S., M'Betid-Degana, G.G.V., Ndakala, S., Amisi, C., Serdouma, E., Ngbale, N.R. and Sepou, A. (2025) Epidemiological and Clinical Aspects of Obstetric Fistulas Managed in Six Health Structures in the Central African Republic. *Open Journal of Obstetrics and Gynecology*, 15, 138-146.

<https://doi.org/10.4236/ojog.2025.151013>

Received: December 3, 2024

Accepted: January 24, 2025

Published: January 27, 2025

Copyright © 2025 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

Introduction: Obstetric Fistulas (OF) constitute a major public health problem in developing countries in general and in Central African Republic (CAR) in particular because of its numerous consequences. The objective of this work is to contribute to the management of OF cases in CAR. **Patients and Methods:** This was a retrospective, descriptive and analytical study, including data from several OF care services. The study included 245 cases of OF, operated on from 2009 to 2018. The parameters studied were maternal and obstetrical data, sociodemographic data, the specific characteristics of the fistulas as well as the modalities and outcome of surgical treatment. The data collected came from six (6) OF surgical repair campaigns organized by the Ministry of Health and Population with the support of UNFPA. **Results:** We recorded 245 patients, representing a prevalence of 0.77% of OF per year. Among these patients, almost half (45.3%) were treated at the Sino-Central African Friendship University Hospital Center (CHUASC). The average age of the patients was 30 years (range 14 to 78 years). They were unschooled (53.9%) and primigravidas (35%). The fistulas had an average duration of evolution of 7.58 years. They were vesicovaginal in 25.3%. Types V and I dominated in 17.4% and 9.2%, respectively. In 85.9% of cases, fistulorrhaphy

was performed, half of which (50.2%) via the upper route. The cure rate was 83.3%. Note that our study reveals statistically significant links between the evolution after surgery with age ($p = 0.04 < 0.05$) and the level of education ($p = 0.01 < 0.05$). **Conclusion:** OF mainly affected women of childbearing age, uneducated, primiparous. Vesicovaginal fistula was the frequently encountered type and was manifested by urine loss clinically with a positive methylene blue test.

Keywords

Obstetric Fistulas, Epidemiology, Treatment, Central African Republic

1. Introduction

Obstetric fistulas (OF) are defined as an acquired communication between the vagina and neighboring organs occurring during a prolonged or obstructed delivery (mechanical or dynamic) resulting in a permanent loss of urine and/or feces through the vagina [1]. According to the World Health Organization (WHO), OF affect more than two-million women worldwide, the majority of whom live in sub-Saharan Africa (including CAR) and Southeast Asia and constitute a major public health problem due, among other things, to its social consequences, represented by the exclusion of fistula patients due to permanent loss of urine and/or feces [2]. A study carried out on urogenital fistulas in Bangui (RCA) found that 86% of these are of obstetric origin [3]. The United Nations Population Fund (UNFPA) has financed several campaigns for the treatment of this condition which brought together patients from both urban and rural areas [4]-[6]. We therefore proposed to carry out this study in order to address the epidemiological, anthropological, clinical and therapeutic aspects based on the files of the patients treated with the aim of contributing to reducing the cases of OF in the CAR.

2. Patients and Methods

The study was carried out in six (06) health facilities in the CAR:

- The Sino-Central African Friendship University Hospital Center (CHUASC) in Bangui;
- The Bambari Regional University Hospital (HRUB);
- Three (03) Health District Hospitals (Mbaïki, Sibut, Kaga-Bandoro);
- Castors Maternity also in Bangui.

This was a retrospective, descriptive and analytical study covering OF cases treated from January 2009 to January 2018, a period of nine (09) years in the aforementioned health facilities. The study population consists of fistula patients treated and followed at these centers. All patients with vesicovaginal fistulas (VVF) of obstetric origin treated and followed up in the selected sites and having complete files were included. On the other hand, all patients presenting a no-obstetric fistula

(iatrogenic, pathological); VVF lost to follow-up and VVF cases with unusable records were not included in our study.

After obtaining the various authorizations (Deanship of the Faculty of Health Sciences of the University of Bangui, different chief doctors of the health facilities concerned), the data was collected using pre-established survey sheets in the files and registers of patients with OF (operating room registers and department registers in which the cases are recorded). The sampling was exhaustive. Anonymity was requested. Data entry and analysis were carried out using Epi Info version 7 software. The statistical test used was Chi2 with a significance threshold of $p = 0.05$.

3. Results

In total, two hundred and forty-five (245) cases of OF were recorded.

3.1. OF Repair Centers

Most cases (111 or 45.3%) were treated at the Friendship University Hospital Center (**Table 1**).

Table 1. Distribution of patients according OF repair centers.

OF repair centers	Numbers (n)	Percentage (%)
Friendship University Hospital Center	111	45.3
Regional University Hospital of Bambari	38	15.5
Sibut District Hospital	16	6.5
Kaga-Bandoro District Hospital	23	9.4
Mbaïki District Hospital	40	16.4
Beavers Urban Health Center	17	6.9
Total	245	100.0

3.2. Age Group

There were more patients aged 15 - 24 and 25 - 34. The average age was around 31 years old (**Table 2**).

Table 2. Distribution of cases according to age group.

Age group	Numbers (n)	Percentage (%)
≤14	1	0.4
[15 - 24]	79	32.2
[25 - 34]	79	32.2

Continued

[35 - 44]	57	23.3
[45 - 54]	20	8.2
≥ 55	9	3.7
Total	245	100.0

3.3. Level of Education

The majority of patients (53.9%) were illiterate (**Figure 1**).

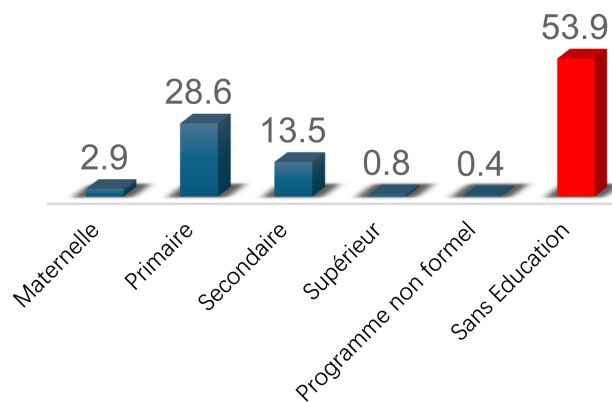


Figure 1. Distribution of patients according to level of education.

3.4. Parity

First-time mothers were the most represented (38%) (**Figure 2**).

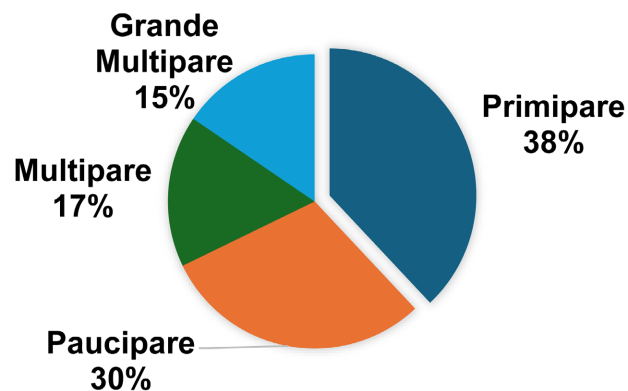


Figure 2. Distribution of patients according to parity.

3.5. Prenatal Follow-Up

Most patients (73.1%) had made fewer than four contacts during prenatal follow-up (**Table 3**).

3.6. Duration of Work

The average working time was 3.16 days or approximately 75 hours (**Table 4**).

Table 3. Distribution of patients according to the number of contacts made during prenatal follow-up.

Number of contacts	Numbers (n)	Percentage (%)
<4	179	73.1
≥4	66	26.9
Total	245	100.0

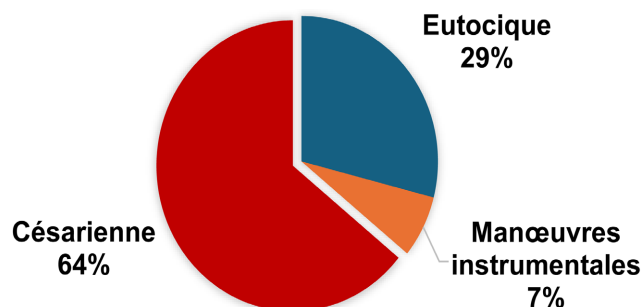
Table 4. Distribution of patients according to approximate duration of labor (in hours).

Hours	Numbers (n)	Percentage (%)
[12 - 23]	4	1.6
[24 - 47]	71	29.0
[48 - 71]	56	22.9
≥72	114	46.5
Total	245	100.0

The extremes were 0 days and 6 days, the maximum frequency corresponded to 3 - 4 days in 46.5% of cases.

3.7. Mode of Delivery

Most patients had delivered vaginally (64%) (**Figure 3**).

**Figure 3.** Distribution of patients according to the mode of delivery of the causal pregnancy.

3.8. Types of OF

The fistulas were of vesico-vaginal location in 25.3% on a soft vagina in 23.5% (**Table 5**).

Types V and I dominated in 17.4% and 9.2%, respectively.

3.9. Approaches

In the majority of cases (50.2%), the fistula was treated via the upper route (**Table 6**).

Table 5. Distribution of patients according to types of OF.

Classification of fistula	Answers	
	Numbers	Percentage
Fistula on soft vagina	164	23.5%
Fistula on sclerotic vagina	55	7.9%
Fistula associated with perineal tear (1st, 2nd, 3rd degree)	8	1.1%
Type I: fistula of the vesico-vaginal septum	64	9.2%
Type II: vesico-cervico-urethral fistula	6	0.9%
Type IIa: without destruction of the urethra	6	0.9%
Type IIb: cervico-urethro-vaginal fistula	2	0.3%
Type IIab: partial cervico-urethral desinertion	7	1.0%
Type IIc: with destruction of the urethra	4	0.6%
Type III: trigono-cervico-uterovaginal fistulas	28	4.0%
Type IV: complex fistulas	22	3,2%
Type V: high fistulas (retro-trigonal)	121	17.4%
Vesico-vaginal	176	25.3%
Vesico-cervico-uterine	15	2.2%
Vesico-uterine	11	1.6%
Vaginal ureter	8	1.1%
Total	697	100.0%

Table 6. Distribution of patients according to surgical approach.

Surgical approach	Number (n)	Percentage (%)
Low	93	38.0
High	123	50.2
Mixed	29	11.8
Total	245	100.0

4. Discussion

4.1. OF Repair Centers

All areas of the CAR were represented: urban and rural. Bangui, an urban area, represents 52.2% (CHU de l'Amitié and Castors Health Center) and rural areas, 47.8%. This rate shows that the majority of fistulas are repaired in Bangui, where medical infrastructure is less poor, security relatively acceptable and qualified personnel available (gynecologists, urologists, anesthesiologists).

4.2. Level Education

Educational level is a direct reflection of occupation and socio-economic level [7]. Indeed, 53.9% of our patients were illiterate and therefore unemployed with low income [8]. This lack of financial means for treatment in the event of a health problem would be the cause of prolonged working hours, thus causing OF. Our results are superimposable to those of Sheilla MY *et al.* Bangui [9] who found that 70.9% of patients were illiterate and 85.5% carried out household activities.

4.3. Parity

In our series, fistula occurred much more in primiparous women (38%) than in pauciparous women (30%). These results can be superimposed on certain data from the literature. Sanda in Niger also reports a predominance of first-time mothers (67.3%) without children among OF carriers [10] [11]. The same observation was made by Ouattara in Bamako in Mali, including 76.4% of carriers of vesico-vaginal fistulas were primiparous [12].

4.4. Prenatal Follow-Up and Duration of Labor

The majority of patients (73.1%) had made fewer than four contacts during pregnancy compared to 26.9% of patients who had not followed a prenatal consultation. The average duration of work was 3.16 days or approximately 75 hours. The extremes were 0 days and 6 days, the maximum frequency corresponded to 3 - 4 days in 46.5% of cases. This poor performance of prenatal monitoring coupled with the poor quality linked to the absence of qualified personnel would be the cause of prolonged labor and other negative consequences due to lack of last contact during which the prognostic delivery plan of the child is established. In some studies, this average duration is similar, varying between 2.5 and 4 days [13]-[15].

4.5. Mode of Delivery

In relation to the mode of delivery, cesarean section was the most incriminated mode in our series with 64% of cases or 157 patients. The same observation was made following a previous study carried out in Bangui in the Central African Republic in 2005 by Nguembi *et al.* which reports the occurrence of OF caused by technical errors during cesarean section [16]. During the second conference of fistula surgeons in November 2009 in Yaoundé, the iatrogenic nature of obstetric fistulas was the subject of concern among the speakers [17]. Other authors have made the same observation with respectively 57.72% and 54.03% of cesarean sections [18] [19]. In our study, the high proportion of iatrogenic OF could be explained on the one hand by the insufficiency of the qualified personnel throughout the territory with a high concentration of competent personnel in urban areas [20]. On the other hand, the late arrival of parturients in the reference centers after several days of attempts of deliveries constitutes a significant factor in the genesis of fistulas of obstetric origin. Caesarean section being performed for

maternal rescue. In health facilities, unqualified medical personnel could assist with acute deliveries but are sometimes unable to detect an obstetric emergency or obstructed labor that could prompt evacuation to a reference center [18].

5. Conclusion

The study carried out six (06) OF treatment sites in the CAR and allowed us to conclude that OF are common in the country and constitute a real public health problem because of its multiple consequences (social, medical, psychological, economic). OF mainly affected women of childbearing age, uneducated, and primiparous. Vesicovaginal fistula was the frequently encountered type and was manifested by urine loss clinically with a positive methylene blue test. Strong social mobilization coupled with broad awareness (community prevention) as well as the practice of good obstetrics will constitute effective measures to reduce the prevalence of OF.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Ministère de la Santé (2012) Comprendre la fistule obstétricale en seize questions. Bamako, March.
- [2] Organisation Mondiale de la Santé (2009) Fistule obstétricale: Principes directeurs pour la prise en charge clinique et le développement de programmes.
- [3] Nghario, L., Doui-Doumnga, A., Serdouma, E., Nomlo, S.N., *et al.* (2015) Prise en charge des fistules urogénitales en République Centrafricaine. *Annales de l'Université de Bangui, Série D*, **1**, 97-120.
- [4] <https://www.unfpa.org>
- [5] UNFPA (2006) Ministère de la santé et de la prévention médicale. Aspects socioculturels des fistules obstétricales: Attitudes, comportements, représentations des causes et vécu des conséquences chez les femmes porteuses de fistules et les membres des communautés (région de Tambacounda et de Kolda), Rapport UNFPA.
- [6] UNFPA (2008) Stratégies de réduction de la mortalité maternelle au Sénégal: Rapport de l'évaluation de la gratuité des soins obstétricaux et de la délégation des compétences.
- [7] Gurgand, M. (2006) Améliorer l'école. In: *Améliorer l'école*, Presses Universitaires de France, 75-85. <https://doi.org/10.3917/puf.chape.2006.01.0075>
- [8] Mbacké Leye, M.M., Ndiaye, P., Diongue, M., Niang, K., Badiane, N.A., Faye, A., *et al.* (2012) Facteurs sociodémographiques et prise en charge des fistules obstétricales au Sud-Est du Sénégal. *Santé Publique*, **24**, 47-54. <https://doi.org/10.3917/spub.120.0047>
- [9] Sheilla, M.Y. (2018) Les fistules obstétricales: Aspects épidémiologiques, cliniques et thérapeutiques au CHU de l'Amitié SinoCentrafricaine de Bangui. Université de Bangui.
- [10] Sanda, G., Nafiou, I. and Mounkaila, A. (2001) La fistule urogénitale au Niger: Aspects épidémiologiques et conséquences. *African Journal of Urology*, **7**, 103-108.

- [11] Dekou, H.A., Konan, P.G., Manzan, K., Ouegnin, G.A., Djedje-Mady, A. and Yao Dje, C. (2002) Le point sur les fistules urogénitales en Côte d'Ivoire à la fin du XXe siècle. Résultats de 70 cas. *Annales d'Urologie*, **36**, 334-340.
[https://doi.org/10.1016/s0003-4401\(02\)00126-2](https://doi.org/10.1016/s0003-4401(02)00126-2)
- [12] Rijken, Y. and Chilopora, G.C. (2007) Urogenital and Recto-Vaginal Fistulas in Southern Malawi: A Report on 407 Patients. *International Journal of Gynecology & Obstetrics*, **99**, 85-89. <https://doi.org/10.1016/j.ijgo.2007.06.015>
- [13] Muleta, M., Hamlin, E.C., Fantahun, M., Kennedy, R.C. and Tafesse, B. (2008) Health and Social Problems Encountered by Treated and Untreated Obstetric Fistula Patients in Rural Ethiopia. *Journal of Obstetrics and Gynaecology Canada*, **30**, 44-50.
[https://doi.org/10.1016/s1701-2163\(16\)32712-8](https://doi.org/10.1016/s1701-2163(16)32712-8)
- [14] Loraneo, B. and Pushrar, D.O.(2008) Le traitement des fistules vésico-vaginales simples ou compliquées de destruction Urétrale. Notre expérience à propos de 903 cas au Madagascar. *Médecine d'Afrique Noire*, **3**, 133-144.
- [15] Ouattara, Z. (2008) La fistule vésico-vaginale: Aspects thérapeutiques à propos de 21 cas. *Mémoire de chirurgie Bamako*, **561**, 77-91.
- [16] Nguembi, E., Sepou, A., Yanza, M.C., Denissio, M., Mbalackpo, B., Ngbale, R., *et al.* (2005) La fistule obstétricale, pathologie négligée: A propos de 62 cas observés à Bangui (Centrafrique). *Médecine d'Afrique Noire*, **52**, 593-597.
- [17] Coulibaly, M. (2009) Etude des FVV à l'hôpital Nianankoro Fomba de Ségou. Bamako University.
- [18] Komanda Likwekwe, E., Lupay, A., Maindo Alongo, M.A. and Okenge, L. (2014) Fistules urogénitales: Etude épidémiologique et clinique dans deux hôpitaux généraux du district de Tshopo, Kisangani-RDC. *Kis Medicine*, **5**, 77-81.
- [19] Akodjenou, E. (1999) Les fistules vésico-vaginales: Aspects épidémio-cliniques et thérapeutiques au CHNU-Cotonou (A propos de 47 cas). ESU Cotonou University.
- [20] Plan national de développement sanitaire RCA 2006-2015 (2003) PNDS II-RCA, P23-45.