Research Article
Open Access
CrossMark

Comparison of patterns of obstetric fistula between two periods in South-East Nigeria

Abstract

Obstetric fistula continues to be a reproductive health problem among women in low- and middle-income countries. The study aimed to compare the demographics, aetiology, presentation, management of fistula patients seen at two different periods. It was a retrospective comparative cross-sectional study of fistula patients managed in 2015 and 2020 at the National Obstetric Fistula Centre, Abakaliki, South-East Nigeria. A total sampling of all the patients who had obstetric fistula repair within the study periods was done. Medical records of the women were obtained. Data was analysed using the SPSS version 21. Numerical variables were compared with the student's t-test while categorical variables were compared using the Chi-square test. A p-value of less than 0.05 was considered significant. A total of 229 women had repair of obstetric fistula, 143 in 2015 and 86 in 2020. The mean ages of the women treated in 2015 and 2020 were 35.3±10.8 years and 35.0±11.8 years respectively (P=0.333). In 2015, the commonest cause of fistula was prolonged obstructed labour while in 2020, it was Caesarean section (60.3% vs 43.0%, P<0.001). Stillbirth was the commoner (65.4%) fetal outcome in 2015 as against live birth in 2020 (65.4% vs 54.4%, P=0.004). Abdominal approach to repair increased from 4.2% of procedures in 2015 to 11.6% in 2020 (P=0.033). There was no change in the socio-demographic characteristics of the women treated within the two periods. Caesarean section is now the commonest aetiology of obstetric fistula. Most babies now survive the antecedent pregnancy with abdominal repairs now on the increase.

Keywords: Abakaliki, changes, obstetric fistula, pattern

Volume 13 Issue 5 - 2022

ABC Daniyan, JA Obuna, EN Yakubu, KC Ekwedigwe, AC Shaagee, I Sunday-Adeoye
National Obstetric Fistula Centre (NOFIC), Abakaliki, Nigeria

Correspondence: Dr. ABC Daniyan, National Obstetric Fistula Centre (NOFIC), Abakaliki, Nigeria, Tel 08033803982, Email abcdaniyan@gmail.com

Received: September 19, 2022 | **Published:** October 03, 2022

Introduction

Obstetric fistula is a public health problem among women of childbearing age in the low- and middle-income countries.[1,2] It is an abnormal communication between a woman's genital tract and either the urinary or the intestinal tract.[3] The continuous urinary and/or faecal incontinence causes tremendous psychosocial consequences such as shame, stigmatization, guilt, ostracism, sexual dysfunction, divorce, social isolation, loss of livelihood, low self esteem and depression alongside numerous medical complications.[4] Traditionally, it is known to be caused by prolonged obstructed labour,[5,6] but increasing numbers of cases are now resulting from iatrogenic causes especially poorly-performed Caesarean section.[7,8]

The condition continues to plague hundreds of women in underserved areas despite massive prevention campaigns and years of continuous repair activities to clear the backlog of cases. Typically, it is seen among extremely poor, illiterate women who lack access to quality maternity care and in areas with high levels of medical (or surgical) quackery.[5,6,9,10] It is also prevalent in cultural settings where so much premium is placed on high parity and among people who show aversion to Caesarean delivery.[11] Currently, there are about 150,000 women and girls suffering from obstetric fistula in Nigeria, thereby constituting 7.5% of the global burden. There are also an estimated 12,000 new cases occurring every year in Nigeria.[12] A prevalence of 43.6 per 1000 deliveries was reported in South-East Nigeria, with majority [86.7%] resulting from prolonged obstructed labour.[13]

The narrative regarding patient characteristics, aetiology, mode of presentation and surgical approach has remained largely unchanged over the years. However recent studies suggest changing patients' demographics and increasing proportions of fistulas resulting from Caesarean section as against prolonged obstructed labour which traditionally accounted for the vast majority of cases.[7,8] Currently, Caesarean section is the commonest cause of uretero-vaginal fistula, a variety of obstetric fistula, in our environment as against hysterectomies in the developed world.[14,15] It accounted for 90% of uretero-vaginal fistulas in a study done in South-East Nigeria[14]. Emergency Caesarean section alone caused 61% of that type of fistula in the University College Hospital, Ibadan, South-West Nigeria.[15] Caesarean section is also the most important factor in the causation of vesico-uterine fistula in our environment.[16] Ironically, Caesarean section which is supposed to prevent the occurrence of obstetric fistula is emerging as a leading cause in our environment.[14–16]

Consequently, it became imperative to study the patterns of this devastating public health problem at different periods in time to determine if there are changes so that policy makers can develop new preventive and treatment approaches to tackle the scourge. The study was therefore carried out to compare the demographic characteristics, aetiology, presentation, management of obstetric fistula patients seen within two different periods at the National Obstetric Fistula Centre, Abakaliki.

Methodology

Study Area: The study was conducted at the National Obstetric Fistula Centre, Abakaliki, Ebonyi State, South-East Nigeria. It is a frontline institution and a National Reference Centre for free Treatment, Research, Training, Rehabilitation, Research and Prevention of

obstetric fistula for the Southern Part of Nigeria. It is the first National Fistula Hospital in Nigeria and the only fistula centre in the South-East. It receives referrals from about 20 states of South-East, South-South and South-West, parts of the North-Central geo-political zones of Nigeria and the Federal Capital Territory. The hospital has 84 beds with 40 beds dedicated to fistula patients. The centre has carried out over 3,000 free fistula repairs since inception.

Study period: The periods under study were 2015 and 2020.

Study design: It was a retrospective comparative cross-sectional study.

Study population: The study population comprised all patients managed for obstetric fistula with the stated periods.

Inclusion criteria: All patients who had surgical repair obstetric fistula within the specified periods.

Exclusion criteria: Patients whose medical information were incomplete were excluded from the study.

Sample size: A total of 229 women who were operated on within the study period were studied.

Sampling method: A total sampling of all the patients who had obstetric fistula repair within the study periods was done.

Study procedure: Medical records of 143 women who had repair in 2015 and those of 86 who had repair in 2020 were retrieved and the relevant information extracted. A self-developed questionnaire was used to enter information obtained from the available medical records. The questionnaire included variables such as age, parity, number of children alive, marital status, education, occupation, location/residence, mode of delivery of antecedent pregnancy, fetal outcome, aetiology, presentation, anatomical type and surgical approach for patients treated in 2015 and 2020.

Data analysis: Data was analysed using Statistical Package for Social Sciences (IBM-SPSS) version 21.0. Frequency and percentages of the variables were calculated and presented in tables. Relevant means, proportions and standard deviations were also calculated. The relationships between different patient characteristics and year of repair fistula were determined. Numerical variables were compared with the student's t-test while categorical variables were compared with the Chi-square test. A p-value of less than 0.05 was considered significant.

Results

A total of 229 women were studied, 143 in 2015 and 86 in 2020. The mean age of the women treated in 2015 was 35.3±10.8 years while that of the women treated in 2020 was 35.0±11.8 years. There was no statistically significant difference between the mean age of the two groups (P=0.333). The median parity of the women was 3 for both years. The median number of living children was 4 for both years.

Table 1 shows the comparison of the socio-demographic characteristics, aetiology, presentation, outcomes, and management of fistula patients treated in 2015 and 2020. Caesarean section was the commonest mode delivery of the antecedent pregnancy for both years (61.8% in 2015 and 51.9% in 2020). The commonest anatomical type of fistula seen in both years was intracervical fistula, although it decreased from 18.3% in 2015 to 7.9% in 2020. Vesicouterine fistula however increased from 5.2% to 5.7%. Also, rectovaginal fistula increased from 3.1% to 6.1%. The commonest presentation was leakage of urine (94.4% in 2015 and 83.7% in 2020). Leakage of urine with menouria featured as new mode of presentation among women treated in 2020 (0% to 2.3%).

Table 1 Comparison of patient characteristics in 2015 and 2020

Variables	2015 Freq (%)	2020 Freq (%)	X2	P-value
Marital status			2.838	0.417
Single	13 (5.7)	3 (1.3)		
Married	122 (53.3)	77 (33.6)		
Separated/Divorced	2 (0.9)	1 (0.4)		
Widowed	6 (2.6)	5 (2.2)		
Education			3.319	0.345
None	15 (10.5)	14 (16.3)		
Primary	43 (30.1)	18 (20.9)		
Secondary	64 (44.8)	42 (48.8)		
Tertiary	21 (14.7)	12 (14.0)		
Occupation			2.373	0.936
Unemployed	4 (2.8)	1 (1.2)		
Farmer	40 (28.0)	24 (27.9)		
Artisan	19 (13.3)	12 (14.0)		
Petty trader	26 (18.2)	13 (15.1)		
Business	25 (17.5)	14 (16.3)		
Student	3 (2.1)	4 (4.7)		
Civil servant	13 (9.1)	9 (10.5)		
Others	13 (9.1)	9 (10.5)		
Residence			1.325	0.25
Rural	77 (53.8)	53 (61.6)		
Urban	66 (46.2)	33 (38.4)		
Aetiology of fistula			18.212	<0.001
Prolonged obstructed labour	85 (60.3)	28 (32.6)		
Caesarean section	42 (29.8)	37 (43.0)		
Others*	14 (7.80)	21 (24.4)		
Mode of delivery			6.707	0.035
Spontaneous vaginal delivery	41 (30.1)	36 (45.6)		
Caesarean section	84 (61.8)	41 (51.9)		
Instrumental delivery	11 (8.1)	2 (2.5)		
Fetal outcome			8.108	0.004
Live birth	47 (34.6)	43 (54.4)		
Stillbirth	89 (65.4)	36 (45.6)		
Presentation			8.3	0.016
Leaking urine only	135 (94.4)	72 (83.7)		
Leaking faeces only	8 (5.6)	12 (14.0)		
Leaking urine/menouria	0 (0.0)	2 (2.3)		
Surgical approach			4.565	0.033
Vaginal	137 (95.8)	76 (88.4)		
Abdominal	6 (4.2)	10 (11.6)		

*Others – instrumental delivery, destructive operation

In 2015, the commonest cause of fistula was prolonged obstructed labour (60.3%). In 2020, the proportion of fistulas caused by prolonged obstructed labour reduced by half while Caesarean section became the commonest cause (43.0%). This was statistically significant (P<0.001). In the majority (65.4%) of women treated in 2015, the antecedent pregnancy ended in stillbirth. Among the women treated in 2020 however, the commoner fetal outcome was live neonates in 54.4% of cases. This was statistically significant (P=0.004). Although the vaginal route was the commonest (95.8%) approach for repair in

Citation: Daniyan ABC, Obuna JA, Yakubu EN, et al. Comparison of patterns of obstetric fistula between two periods in South-East Nigeria. *Obstet Gynecol Int J.* 2022;13(5):300–303. DOI: 10.15406/ogij.2022.13.00667

both years, there was an increase in the proportion of fistulas repaired via the abdominal route from 4.2% in 2015 to 11.6% in 2020. This was statistically significant (P=0.033).

Discussion

The study sought to compare the demographic characteristics, aetiology, presentation, and management of fistula patients seen at two different periods in South-East Nigeria. The age, parity and number of living children are comparable between the two groups of women studied. This showed that there was no observable change in these parameters over these years. The mean age of 35 years was similarly reported in a study done in Abakaliki in 2011.[5] That study also showed that majority of the women were multiparous.[5] There was also no difference in the other characteristics such as marital status, occupation, education, place of residence/location. Most of them were married, farmers, rural dwellers with secondary education. In the study in North-Central Nigeria however, most of the women were married, illiterate farmers.[6] This means the demography of women presenting with obstetric fistula has not changed over the years.

Delivery of the antecedent pregnancy in most women was by Caesarean section. Also, the commonest anatomical type for groups was intracervical fistula. Leakage of urine was the main presentation. There was an increase in vesicouterine fistulas which was the hitherto the least common and accounted for 1-4% of all urogenital fistulas.[17,18] Leakage of urine with cyclical haematuria (menouria) has also emerged as a new presenting complaint. These findings could be explained by the fact that many of the women labour at home and develop prolonged obstructed labour before being taken to facilities where Caesarean sections are performed. Formation of fistula within the cervical canal is a complication of Caesarean section performed in the late first stage or in the second stage of labour, poorly performed Caesarean sections or those performed by quacks. Development of menouria alongside leaking of urine suggests an iatrogenic injury to the bladder forming a connection with the body of the uterus. This is different from Youssef's syndrome with a triad of menouria, amenorrhoea and complete urinary continence.[18,19]

In 2015, the commonest cause of fistula was prolonged obstructed labour. By 2020, the proportion of fistulas caused by prolonged obstructed labour reduced by half while Caesarean section became the commonest cause. This emerging trend has been reported in other studies.[7,8,20,21] The coming years may witness majority of fistulas coming from iatrogenic injuries at Caesarean section. This raises enormous concerns about the safety of such a commonly performed procedure and the caliber of persons performing it. Due to dwindling economic fortunes of families, an increasing number of women now patronize quacks who perform Caesarean sections resulting in more iatrogenic fistulas.

In the majority (65.4%) of women treated in 2015, the antecedent pregnancy ended in stillbirth. Among the women treated in 2020 however, the commoner fetal outcome was live neonates in 54.4% of cases. This is in contrast to the traditional finding of stillbirth associated with almost all cases of obstetric fistula.[10,21] Ijaiya et al.[10] reported a stillbirth rate of 87-92% among fistula patients. The increase in the number of fetuses surviving further indicates that more fistulas are occurring from surgical procedures rather than prolonged obstructed labour with attendant ischaemic necrosis and fetal asphyxia.

Although the vaginal route remained the commonest approach for repair, there was an increase in the proportion of fistulas repaired via the abdominal route from 4.2% in 2015 to 11.6% in 2020. This could be explained by the increase in the number of fistulas resulting from Caesarean section as high intracervical fistulas, vesicouterine fistulas and ureteric fistulas which are best approached abdominally. While the vaginal approach is the preferred route for fistula repair, there should be increased emphasis on the abdominal route during training of manpower for fistula repair.

Conclusion

There is no change in the socio-demographic characteristics of the women treated within the two periods. Caesarean section is now the commonest aetiology of obstetric fistula, and most babies now survive the antecedent pregnancy with abdominal repairs now on the increase.

Acknowledgments

None.

Funding

None.

Conflicts of interest

Author declares there is no conflict of interest exists.

References

1. Wall LL. Obstetric fistula is a "neglected tropical disease". *PLoS Negl Trop Dis.* 2010;6:e1769.
2. Daniyan B. Obstetric fistula – an unceasing scourge in the developing world. *J Neonatal Biol.* 2017;6:244.
3. Tebeu PM, Fomulu JN, Khaddaj S, et al. Risk factors for obstetric fistula: a clinical review. *Int Urogynecol J.* 2012;23:387–394.
4. World Health Organization. 10 facts on Obstetric fistula. 2018.
5. Sunday–Adeoye I, Okonta P, Ogbonnaya L. Prevalence, profile and obstetric experience of fistula patients in Abakaliki, Southeast Nigeria. *Urogynecologica.* 2011;25:20–24.
6. Daru PH, Karshima JA, Mikah S, et al. The burden of vesico–vaginal fistula in North Central Nigeria. *J West Afr Coll Surg.* 2011;1:50–62.
7. Tasnim N, Bangash K, Amin O, et al. Rising trends in iatrogenic urogenital fistula: a new challenge. *Int J Gynaecol Obstet.* 2020;148:33–36.
8. Yakubu EN, Obuna JA, Ekwedigwe KC, *et al*. Pattern and Outcome of Obstetric vesico–vaginal fistula surgeries in a Nigerian Fistula Centre. *Trop J Obstet Gynaecol.* 2019;36:S24.
9. Wall LL, Karshima JA, Kirschner C, et al. The obstetric vesico–vaginal fistula: characteristics of 899 patients from Jos, Nigeria. *Am J Obstet Gynecol.* 2004;190:1011–1019.
10. Ijaiya MA, Rahman AG, Aboyeji AP, *et al*. Vesicovaginal fistula – a review of Nigerian experience. *West African Journal of Medicine* 2010;29:293–298.
11. Federal Ministry of Health (FMOH) and United Nations Populations Fund (UNFPA). National strategic framework for the elimination of obstetric fistula in Nigeria 2019–2023. Abuja: Federal Ministry of Health; 2019:1–62.
12. Sunday–Adeoye I, Okonta P, Ogbonnaya L. Prevalence, profile and obstetric experience of fistula patients in Abakaliki, Southeast Nigeria. *Urogynecologica.* 2011;25:20–24.
13. Bello OO, Morhason–Bello IO, Ojengbede OA. Nigeria, a high burden state of obstetric fistula: a contextual analysis of key drivers. *PAMJ.* 2020;36:22.

14. Daniyan B, Sunday–Adeoye I, Ekwedigwe K, et al. Experience in the management of ureterovaginal fistula in a low–resources setting in South–East Nigeria. *Sylwan Journal.* 2016;160:331–352.

15. Bello O, Morhason–Bello I, Abdus–salam R, et al. Our experience with iatrogenic ureteric injuries among women presenting to University College Hospital, Ibadan: a call to action on trigger factors. *Obstetrics and Gynecology International.* 2019.

16. Daniyan B, Sunday–Adeoye I, Ekwedigwe K, et al. Review of vesicouterine fistula at the National Obstetric Fistula Centre, Abakaliki, Nigeria. *Gynecol Obstet (Sunnyvale).* 2016;6:380.

17. Iloabachie GC, Njoku O. "Vesico–uterine fistulas." *British Journal of Urology.* 1985;57:438–439.

18. Ozbey EG, Erkan MM, Arslan D and Kayar I. Youssef's syndrome following Caesarean section. *Case Reports in Obstetrics and Gynecology.* 2015.

19. Bhattacharjee S, Kohli UA, Sood A, et al. Vesicouterine fistula: Youssef's syndrome. *Med J Armed Forces India.* 2015;71:S175–S177.

20. Porcaro AB, Zicari M, Antoniolli SZ, et al. Vesicouterine fistulas following Cesarean section: report on a case, review and update of the literature. *Int Urol Nephrol.* 2002;34:335–344.

21. Siddle K, Vieren L, Fiander A. Characterising women with obstetric fistula and urogenital tract injuries in Tanzania. *Int Urogynecol J.* 2014;25:259–255.

Citation: Daniyan ABC, Obuna JA, Yakubu EN, et al. Comparison of patterns of obstetric fistula between two periods in South-East Nigeria. *Obstet Gynecol Int J.* 2022;13(5):300–303. DOI: 10.15406/ogij.2022.13.00667