Research Article

Socio-Demographic and Obstetric Profile of Women Who Presented for Obstetric Fistula Repair in the Middle Belt Region of Nigeria

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Abstract

Introduction: Obstetric trauma is the commonest cause of vesicovaginal fistula in the tropics. The socio-demographic characteristics of afflicted women and obstetric factors associated with it are highly variable and related to the society.

Method: This was a cross-sectional descriptive study, targeting the socio-demographic and obstetric details of women who presented with obstetric fistula for a free outreach surgical repair in Benue state, Nigeria.

Results: Eighty-two women were involved in the study: 55 (67.1%) of the women had stillbirth in the affected pregnancy, while 27 (32.9%) delivered live infants. The majority (41.5%) had carried the condition for 3years or more before presenting for repair, whereas 34.1% of them presented within 1year. The mean age of patients was 32.06 +/- 6.8 years: 75.6% of the women remain married at the time of the study while 70.7% had no formal education. Most (58.5%) of the patients were multiparous, unbooked (52.4%) with 62.1% of them

developing the fistula following their fourth deliveries. The majority (65.9%) of the women who presented with obstetric fistula for repair had the delivery associated with the fistula in Private clinics, 69.5% being vaginal. The mean duration of labour in the pregnancy in which the fistula developed among the patients was 16.5 + 11.9 hours.

Discussion/Conclusions: Obstetric vesicovaginal fistula continues to afflict women, occurring in older, illiterate multiparous women who may have failed to utilize available maternity services in their environment. There is the need to encourage women to utilize maternal health services and an improvement in emergency obstetric care.

Keywords: Fistula; Obstetric; Parity; Vesicovaginal

1. Introduction

The female genital, urinary and gastrointestinal tracts are programmed for different physiological functions; irrespective of their anatomical proximity, they are not in direct communication [1]. The development of any abnormal communication between the female genital tract and the surrounding structures like the urethra, bladder, ureter or rectum therefore constitutes a fistula and results in the leakage of the contents of affected structures through the vagina [2]. Genital fistula poses significant morbidity to the woman with debilitating consequences on her physical, psychological and social wellbeing [2, 3]. The causes of genital fistula vary from one region to another, and in Sub-Saharan Africa, various causes have been recognized [4]. In the tropics generally, the majority of the fistulas result from prolonged obstructed labour, while gynaecological surgical misadventure, severe genital tract infections, genital tract malignancies and ionizing irradiation of the pelvis make only minor contributions to genital fistula formation [5]. Obstetric fistula results from prolonged obstructed labour as a component of birth trauma complex, and because of its clinical importance, it has merited the status of a public health problem with significant global attention [6, 7]. The commonest type of obstetric fistula is the vesicovaginal fistula (VVF), which refers to the development of an abnormal communication between the mucosa of the bladder and the vaginal mucosa thereby resulting in involuntary leakage of urine through the vagina [4, 7].

Factors associated with the development obstetric fistula in women include poverty, teenage pregnancy, and low level of education, primiparity, unbooked status as well as unsupervised delivery [3, 4, 7]. Although the estimation of the incidence or prevalence of obstetric fistula in the tropics is "notoriously unreliable due to underreporting", an incidence of 2 to 3 per 1000 births was estimated in countries with high maternal mortality rates [8, 9]. In an extensive review of the Nigerian experience on Genital fistula [10], there was no study documented from Benue state. While most studies that focused on demographic characteristics and aetiological factors in women that presented with genital fistula in Nigeria were institution-based [9, 10], this study involved women who had their fistula repaired through a free medical outreach programme. This study was designed to highlight the socio-demographic characteristics of women who presented with obstetric fistula for repair at an outreach programme, as well as the factors that were associated with the development of fistula in such women. It is envisaged that the findings of this study would help identify women at risk of developing obstetric fistula and the conditions that may contribute to the pathogenesis of

this condition in this region. With such knowledge, advocacy could be made to relevant authorities to put measures in place at different stages of development of the woman in order to mitigate this scourge.

2. Materials and Methods

2.1 Study design and study area

This was a cross-sectional descriptive study of women who presented with obstetric fistula for a free outreach surgical repair in Benue state, Nigeria. Benue state is one of the 36 states of the federal republic of Nigeria, and is in the middle belt region, which is in the North -central geopolitical zone of the country. Created from Benue-plateau state in 1976, it occupies an area of 30,800 km^2 with a projected population of 5.48million people in 2014 based on a 3% annual growth rate from the Nigerian census conducted in 2006 [11]. Benue state is inhabited by two major ethnic groups namely, Tiv and Idoma, who indulge mainly in peasant and mechanized farming, trading and handicraft. Although the projected population of Benue state is served by 2 specialist hospitals, 24 general hospitals and 93 private clinics distributed across the state, the National Demographic Health Survey, 2014 has revealed that barely half of pregnant women in Nigeria obtain antenatal care and only 35% of pregnant women deliver in health facilities [12, 13].

2.2 Data collection and analysis

Community mobilization was done through the distribution of letters to women groups, Christian and Muslim worship centres, hospitals, primary health centres, markets and village councils. Prior to the inauguration of the outreach programme, announcements were made continuously over the media through local radio and television stations as well as tabloids and newspapers circulating in the state. These were routine for outreaches. Women with obstetric fistula were enrolled into the outreach programme over a one month period and investigated for fitness to undergo the fistula repair at the Bishop Murray Medical Centre, Makurdi, Nigeria. Patients with evidence of infection were treated with broad spectrum antibiotics, while anaemic patients were commenced on haematinics and some transfused compatible blood as needed. During the period, the women were fed and catered for free under the sponsorship of the Evangel VVF Mission, a Christian missionary group with the broad objective of promoting maternal health in the region. In addition, doctors, nurses and other health workers involved in the exercise underwent training on postoperative management of patients following VVF repair. The repairs were performed by trained and accredited VVF surgeons.

Approval was obtained from the Research Ethical Committee of the Medical Centre where the outreach took place before commencement of the study; and all the women who presented for fistula repair were counselled on the purpose of the study and informed that participation was voluntary. Those who consented to the study were interviewed and the information obtained included their demographic characteristics, past obstetric history and factors that were associated with the development of the fistula in the affected pregnancy and delivery. The data sheet was structured and partly precoded, and information obtained included the woman's age as at last childbirth, educational level, marital status, parity, place of last delivery, duration of labour and method of delivery. Other information included the order of childbirth in which the fistula occurred, duration of incontinence, number of previous attempts at repair, birth outcome and number of living children.

Diagnosis of vesicovaginal fistula was made for all patients using the three swab test. Data generated from the study are presented as numeric values, simple propor-tion and percentages in tabular form for ease of perusal.

3. Results

Out of 87 women who presented with obstetric fistula for surgical repair, 82 consented and participated in the study. Fifty-five (67.1%) of the women had stillbirth in the affected pregnancy, while 27 (32.9%) delivered live infants. The majority (41.5%) of the women had carried the condition for 3years or more before presenting for repair, whereas 34.1% of them presented within 1year of having suffered urinary incontinence from the fistula. All but one (98.8%) of the women presented at the centre for primary repair. The mean age of patients was 32.06 + 6.8 years, and the majority (75.6%) of the women remain married at (Table 2).

the time of the study. A vast majority (70.7%) of the women did not have any formal education, whereas women with tertiary level of education accounted for only a minority (3.6%) in the studied population (Table 1).

The obstetric profile of the women showed that over half (58.5%) of the patients were multiparous and unbooked (52.4%), while the majority (62.1%) of them developed obstetric fistula while trying to deliver their fourth babies. Most (65.9%) of the women who presented with obstetric fistula for repair had the delivery associated with the fistula in Private clinics. The mean duration of labour in the pregnancy which the fistula developed among the patients was 16.5 + 11.9 hours, and a significant proportion (69.5%) of the women delivered vaginally, while 28.1% were eventually delivered through emergency caesarean section.

Variable	**Frequency**	**Percentage**
Age (years)		
< 20	3	3.7
20 – 29	23	28.1
30 – 39	47	57.3
> 40	9	11
Marital status		
Single	0	0
Married	62	75.6
Divorced	3	3.7
Separated	16	19.5
Widowed	1	1.2
Educational level		
None	58	70.7
Primary	5	6.1
Secondary	16	19.5

Tertiary	3	3.6
Total	**82**	**100**

Tables 1: Socio-demographic characteristics of patients in the study population.

Variable	**Frequency**	**Percentage**
Parity		
1	7	8.5
2 – 4	48	58.5
> 5	27	32.9
Order of delivery in which fistula occurred		
First	11	13.4
Second	6	7.3
Third	12	14.6
Fourth	51	62.1
Fifth and above	2.4	
Booking status for pregnancy with complicated delivery		
Unbooked	43	52.4
Booked	39	47.6
Place of delivery/management postpartum		
General Hospital	17	20.7
Private clinics	54	65.9
TBA/ Home	9	10.9
Not indicated	2	2.4
Duration of labour (Hours)		
< 24	22	26.8
48	37	45.1
72	15	18.3
> 96	8	9.7
Mode of delivery		
Vaginal	57	69.5
Instrumental delivery	2	2.4
Emergency C- section	23	28.1
Previous repair attempts		
No	81	98.8
Yes	1	1.2

Total	**82**	**100**

Table 2: Obstetric profile of women in the study population.

4. Discussion

Obstetric fistula continues to afflict socioeconomically deprived women in developing countries like Nigeria either due to ignorance, which undermines their health seeking attitude or because modern maternity services are inadequate. This tragedy has been found to be associated with the trio of illiteracy, ignorance and poverty, which predispose to the development of the condition in the first place and also prevent affected women from seeking surgical repair early [5, 10]. This phenomenon seems to have played out in the study centre where as many as 87 affected women responded to the medical outreach and presented with obstetric fistula for surgical repair. The majority of the women had suffered with the condition for 3years or more, while 34.1% of affected women presented within one year of having sustained the fistula, contrary to the situation in southern Nigeria where most women with obstetric fistula presented within 6months of sustaining the condition [14]. Notwithstanding, an earlier study in northern Nigeria had revealed a mean duration of fistula of 7years among women in that series [15]. This disparity in duration of the condition is perhaps a reflection of the disproportional level of education in southern and northern Nigeria, as the level of education has been known to affect the health seeking attitude of people and in return their willingness to seek medical intervention early [13].

The respondents at the studied medical outreach were mostly in their 4thdecade (30-39yrs) of life, just as earlier studies in Calabar [14], Sagamu [16] and Port Harcourt [17] showed prevalent age groups in the 20 – 30years range, signifying affectation of relatively younger women in those studies. In Northern Nigeria, Teenage pregnancy is prevalent due to the dominant religion Islam, which is permissive of early marriage and this may explain why teenagers have been documented to form the majority of fistula patients with the youngest age of 10years ever reported coming from Kano, and an average age of 17.5years reported from Maiduguri, Nigeria [18, 19]. The higher age range of fistula women in this study suggests a significant increase in the second peak age of presentation mentioned by a renowned vesico-vaginal fistula specialist, Wall LL. who described a "bimodal distribution of fistula" where a high peak is found in primigravidae and the second peak in women with 4 children or more that could be as a result of increasing birth weights with subsequent pregnancies and resultant high prevalence of obstructed labour resulting from fetopelvic disproportion in both groups of women [4]. Over half (58.5%) of the women in the study population were multiparous contrary to the fact that an association has been documented between obstetric fistula and primiparity in Nigeria [19-21]. A preponderance of multiparous women presenting with obstetric fistula was also found in studies from Benin City and Port Harcourt both in southern Nigeria [17, 22]. In this category of women, obstetric fistula result from obstructed labour due to fetopelvic disproportion arising from escalating foetal weight as the woman's parity and age increases [23]. It is also possible that confidence derived from previous successful and uneventful

childbirths may have made these women to opt for possibly cheaper resort to unskilled birth attendant and late presentation in the private clinics and hospitals that only managed the complicated labour. In Pakistan, a higher age and multiparity was found among their patients with fistula [24]. This finding also corroborates the Wall's theory of bimodal age of occurrence among affected women [4].

The majority of women who participated in this study were married at the time of presentation for repairs. This was similar to findings in Calabar, Nigeria [14] and Niamey, Niger [25] where 54.1% and 46.8% of their obstetric fistula patients respectively were married. While only a divorce rate of 3.7% was found in our study; a high divorce rate was found in some studies in Nigeria, as well as in Niamey, Niger [18, 20, 25]. The increased divorce is associated with vesicovaginal fistula may be a product of the devastating disruption of the self-esteem and personal hygiene of affected women which some men find unacceptable. The presence of living child/children could be one of the reasons why most of the women remained married as divorce tends to be a more common occurrence in childless marriages and more than 90% have at least one living child at the time of occurrence of the fistula. The 2013 National demographic health survey (NDHS) also showed the premium Nigerians attach to marriage with 69.4% of women aged 15-49years from Benue state being married or cohabiting [13]. Thus, the varying divorce rates might be a reflection of cultural differences or belief systems.

A vast majority (70.7%) of the women in the study population did not have any formal education as is common with women who sustain obstetric fistula in Africa. This is similar to findings from other parts of Nigeria, as well as Niger republic and Ethiopia [5, 18, 19, 26]. Illiteracy is known to be associated with ignorance, poverty and a poor health seeking attitude, which all undermine one's sense of value. Private clinics made a major contribution to the population of obstetric fistula patients in the study probably because the patients may have presented to such private clinics from unorthodox delivery homes where they may have laboured to no avail, until they were referred for emergency caesarean section following obstructed labour. This proposition is buttressed by the finding that although the majority of the patients in our study population were unbooked, most of them were delivered in orthodox health facilities. The possibility of late presentation in the private facilities where these deliveries is a factor to consider as has been associated with earlier experiences in Nigeria [10]

Although, the NDHS showed that 59% of pregnant women receive antenatal care [13], most women who had obstetric fistula never received any antenatal care in the preceding pregnancy in Nigeria [18, 19]. The booking status of the women was below the national average. Emergency obstetric care provided by health facilities in the state may have contributed positively to the live birth rate among women in the study population. On the other hand, the high stillbirth rate of 67.1% found in this study is not a surprise considering the fact that obstetric fistula often follows neglected obstructed labour, which is often associated with high perinatal mortality of 80% and 100% in some studies in Northern Nigeria and Niger republic respectively [19, 25, 27].

5. Conclusion

Obstetric fistula is still prevalent in Nigeria, occurring in older, illiterate multiparous women

whose had prolonged obstructed labour in their fourth delivery of an unbooked pregnancy. There is the need for continuous counselling on birth preparedness and complications readiness not only in hospital but as part of enlightenment campaign to reduce the scourge in our society. Private and maternity clinics operators must be encouraged to update their knowledge through continuous medical education(CMEs)as minimum condition for reaccreditation by regulatory bodies. Another study will be needed to evaluate the superimposed impact of the high adverse perinatal outcome found in this study on affected women considering the fact that VVF is recognized to significantly impair the health of affected women.

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Conflict of Interest

The Authors declare no conflict of interest. This study was also not funded by any donor agency or organization.

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