

Characteristics of Obstetric Fistula in Kaduna Metropolis

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Abstract

Introduction: Obstetric fistula is prevalent in sub-Saharan Africa. In Nigeria, it is more prevalent in the North compared to the South; and mainly rural. Urbanization has had significant impact on global health. Rapid urbanization is predicted to intensify in developing countries where fistula is endemic, but the pattern of presentation of obstetric fistula in urban areas is yet to be described. **Objective:** The objective of the study was to find out if obstetric fistula exists in Kaduna metropolis, and if it does, to explore the pattern of presentation. **Methodology:** Women living with obstetric fistula were mobilized from Kaduna metropolis for free screening and repair. They were screened using direct dye and three swab tests. Consenting patients with confirmed obstetric fistula were included in the study. Their socio-demographic and clinical data were captured using Microsoft Access and analyzed with Statistical Package for Social Sciences (SPSS) version 17. **Results:** All twenty three consenting women confirmed to have obstetric fistula lived within Kaduna city and had phone contacts. A depreciating proportion of primiparous women presented with obstetric fistula in Kaduna metropolis as multiparous women were in majority. The women also appeared to have higher height and weight measures and majority of them had access to fistula repair. They married early and were mostly uneducated and illiterate. **Conclusion:** Obstetric fistula afflicts women living in Kaduna metropolis. Women living with fistula in Kaduna metropolis appear to present different socio-demographic features, suggesting an emerging trend related to urbanization.

Keywords

Fistula, Metropolis, Obstetric, Rural, Urban

1. Introduction

Obstetric fistula is the occurrence of an abnormal connection between the fe-

male genital tract and the urinary tract and/or the gastrointestinal tract, leading to continuous leakage of urine and/or faeces through the vagina following prolonged obstructed labour [1] [2].

It has been estimated that over two million women with obstetric fistula await treatment globally [3]. It is most prevalent in Sub-Saharan Africa and South East Asia [4], where it mainly affects rural poor women [2]. Obstetric fistula is prevalent in Nigeria [2] [4] where recent estimates of the burden of fistula were put at 150,000, and the incidence at 12,000 [5] [6]. It is more prevalent in Northern Nigeria [5] [6] [7], and has been associated with illiteracy, poverty, childhood infections, malnutrition and early pregnancy [2] [8].

The “typical fistula patient” was described as a small, short, illiterate, poor, rural divorcee, who got pregnant at an early age and developed obstetric fistula from her first labour that lasted at least two days and resulted in a stillborn foetus [2]. This description has dominated the medical literature and there is hardly a mention of obstetric fistula in urban areas.

Widespread urbanization is a recent phenomenon with significant impact on human development and health [9] [10] [11]. Rapid urbanization is a recent and evolving phenomenon [9] [10] [12] [13]. The world experienced an accelerated urban population growth from 1950s which raised the global urban population to 50% in 2008 [9] and is projected to be 73% by 2050 [9] [10]. The next two decades have been predicted to experience more accelerated urban population growth in developing countries, especially Africa and Asia [10]. Although urbanization has national average economic advantages [13], it does not invariably eliminate poverty [9] [14]. In fact, it has been shown to increase poverty in some instances [10]. Poverty has been described as “the breeding ground where obstetric fistulae thrive” [2] [8].

We therefore hypothesize that obstetric fistula exists in urban areas. This study sought to find out if obstetric fistula exists in Kaduna metropolis and if so, then explore its socio-demographic pattern of presentation.

2. Methods

This was a descriptive cross-sectional study located in Kaduna metropolis. Kaduna city is the colonial capital of Northern Nigeria. It is located in North Western geopolitical zone which has the second largest burden of obstetric fistula in Nigeria [15]. It is a cosmopolitan city, the second largest in Northern Nigeria. It is the capital city of Kaduna state which is bounded by Zamfara and Katsina in the north, Kano in the north and part of the East, Plateau in the East, Nassarawa in the South and Niger in the West.

Community mobilization was done through the FOMWAN hospital network to women groups, worship centres, hospitals, clinics markets and community leaders in Kaduna metropolis. Women with incontinence of urine and or faeces were invited for free screening and surgical repair of obstetric fistula at FOMWAN hospital Kaduna during a week-long fistula outreach in September 2014. All consenting women confirmed to have obstetric fistula were enrolled into the

study.

Their socio-demographic and clinical data were captured on a Microsoft Access database. Data points collected include: age at presentation, educational level, marital status, place of delivery, and method of delivery. Others include: parity, origin of fistula, and delivery in which fistula occur, duration of incontinence, previous repair, foetal outcome, number of living children and duration of labour. Their heights and weights were measured.

The women were subsequently screened for fistula by digital genital examination. Speculum examination was done where a digital examination could not confirm the diagnosis. Where both examinations could not give a satisfactory diagnosis, direct dye test and finally a 3 swab test was done.

Of the 25 women who responded for the screening, 23 consenting women confirmed to have female genital fistula were included into the study. Of the two women excluded, one did not have genital fistula and the other had fistula from non-obstetric cause. The data obtained was cleaned and exported to Statistical Package for Social Sciences (SPSS) version 17 for descriptive analysis.

Approval for the study was obtained from the Management of FOMWAN Hospital.

3. Results

A total of 25 women who responded to the community mobilization were screened for obstetric fistula. All twenty three women confirmed to have obstetric fistula who consented to the study were resident in the city of Kaduna when they developed the fistula, and could be contacted by mobile telephone. **Table 1** shows the socio-demographic characteristics of the women. The mean age at first pregnancy was 15.5 years; with a range of 12 to 23 years; the mean age at which fistula occurred was 24.5 years; Sixteen women (69.6%) had not been to school. 21 (91.3%) of the women were illiterate, 16 (69.6%) of the women were married; 4 (17.3%) of the women were divorced; 1 (4.3%) was separated; 8.7% (2) were widowed. 45.5% (10 of 22) of fistula women were house wives; 54.5% (12) were petty traders.

Table 2 shows the obstetric profiles of the women. Only six (27.3%) of the women were primiparous while 16 (72.7%) were multiparous; 17 (77.3%) of the women had at least one previous surgical repair of their fistula; 5 (22.7%) had no previous repair. 36.4% (8) of women had no living child; while 14 (63.6%) had at least one living child. The average duration of labour was 2.3 days; with a range of 0 - 10 days.

4. Discussion

The mean age of marriage, 15.5 years corroborate other reports in Northern Nigeria [2] [16], indicating that urban living does not appear to have an effect on the age of marriage among women living in Kaduna metropolis. Although early marriage is not invariably a precondition for early pregnancy, it is related to early pregnancy, hence its association with obstetric fistula. This might explain

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

VARIABLE		FREQUENCY	PERCENTAGE
Age at first marriage in years	Mean	15.5 (SD = 3.2)	
	Range	12 - 23	
Age at which fistula developed in years	Mean	24.5 (SD = 11.1)	
	Range	8 - 49	
Age at presentation in years	Mean	37.4 (SD = 12.9)	
	Range	20 - 70	
Weight in Kg	Mean	53.3 (SD = 14.9)	
	Range	35 - 100	
Height in cm	Mean	152.2 (SD 5.2)	
	Range	144 - 165	
Education	None	16	69.6%
	Primary	6	26.1%
	Secondary	1	4.3%
Literacy	Illiterate	21	91.3%
	Literate	2	8.7%
Marital status	Married	16	69.6%
	Divorced	4	17.3%
	Separated	1	4.3%
	Widow	2	8.7%
Occupation	Housewife	10	45.5%
	Petty trader	12	54.5%

the high prevalence of obstetric fistula among primigravidae as reported among typical fistula women living in the rural areas [2] [17] [18], but this finding might not hold for fistula women living in urban Kaduna.

This study shows that though the age at marriage does not appear to be affected by urban living, it does appear to affect when women have the fistula. Only 27.3% of fistula women in Kaduna metropolis were primiparous while 72.7% were multiparous. The fact that most of the fistula women in Kaduna metropolis were multiparous who had previous normal vaginal deliveries is a significant departure from previous reports [2] [8] [17] [18], which demonstrated a preponderance of primigravid women presenting with obstetric fistula resulting from inadequate pelvis and prolonged obstructed labour [8].

Danso *et al.* reported a bimodal distribution of women with genital fistula in Ghana: primiparous women predominated, but there was a second peak of multiparous women with three or four children [8] [19]. Although Danso's study was from an urban centre, it was not reported if all the women studied were living in urban areas as in this study, making it difficult for close comparison with our finding. It has been suggested that Danso's findings might be a reflection of

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

VARIABLE	FREQUENCY	PERCENTAGE	
	1	6	27.3%
	3	4	18.2%
	5	2	9.1%
Parity	6	2	9.1%
	8	4	18.2%
	9	1	4.5%
	10	2	9.1%
	12	1	4.5%
Delivery in which fistula occurred	First	10	47.6%
	Subsequent	11	52.4%
Previous repair	Yes	17	77.3%
	No	5	22.7%
	0	8	36.4%
	1	4	18.2%
	2	2	9.1%
Number of living children	3	4	18.2%
	4	1	4.5%
	7	2	9.1%
	10	1	4.5%
	Caesarean	7	31.8%
Method of delivery	Extraction	4	18.2%
	Vaginal-spontaneous	11	50.0%

the tendency of birth weights to increase with subsequent gestations [8]. Regardless of this consideration, multiparous women could also have prolonged obstructed labour from other causes like malpresentation [7] [8].

Furthermore, a depreciating proportion of primiparous women presenting with obstetric fistula in Kaduna metropolis might suggest some influence of urbanization like improved access to caesarean delivery which is known to prevent fistula formation; or improved girl child nutrition and lower childhood infections permitting full pelvic growth. Although we have insufficient data to fully comment on prior caesarean delivery in this study, improved nutrition and or lower childhood infection appear to have been suggested by higher mean weight and height of 53.3 kg and 152.2 cm (Table 1) and the fact that 54.5% of the women were petty traders. Previous studies have reported mean weight and height of less than 50 kg and less than 150 cm respectively [2] [19]. These are however issues for further research.

Interestingly, 100% of fistula women in this study could be contacted by mobile phone, even though not all of them owned one. Urbanization imposes population density and reduces distance [20], thus increasing the probability of each fistula woman having a neighbour whose phone could be used to contact

her. The improved means of communication which urbanization confers on urban dwellers might explain other unique findings in this study.

In this study, 77.3% of women have had previous repair of their fistula. This is at sharp variance with other reports where the majority of the women were from rural areas [2] [18], and could have resulted from the improved information and communication regarding the fact that fistula is curable and awareness/access to surgical repair. Urbanization confers better access to fistula repair services by reducing distance to fistula repair centres as most fistula centres in Nigeria are located in urban cities [6].

Nevertheless, some characteristic findings related to “the typical fistula patient” have persisted among fistula women in Kaduna metropolis. For instance 69.6% of the women from this study never attended any form of school. This appears to have arisen from the deep seated cultural and religious influence in Northern Nigeria where this study was conducted. Other findings similar to “the typical fistula patient” include: early age at marriage (15.5 years), high level of illiteracy (91.3%), stillbirths (81%) in fistula related delivery corroborates with other studies [8] [17] [18]. These characteristics that persist regardless of rural or urban living could be referred as core characteristics and appear to be primary associations with the aetiology of obstetric fistula. Efforts in preventing or eradicating obstetric fistula must therefore dwell on these issues regardless of where the fistula developed.

Limitation of Study

This institutional based survey might have limited participation from the community; hence the small sample size calls for caution in reaching conclusions from this study and limits generalization. Nevertheless, the study raises interesting issues requiring further investigation.

5. Conclusion

The finding of women living with obstetric fistula in Kaduna city confirms the hypothesis that obstetric fistula exists in Kaduna metropolis. Women living with obstetric fistula in Kaduna metropolis present some unique socio-demographic features compared to other published reports, suggesting an emerging trend that could have been influenced by urban living.

Other typical socio-demographic features of rural dwelling women living with obstetric fistula persisted regardless of urban dwelling, suggesting a set of core features related to the aetiology of obstetric fistula.

6. Recommendations

Further research could focus on confirming these findings; and a comparative analysis of urban or rural fistula within a region.

Prevention strategies for obstetric fistula should focus on causative characteristics regardless of rural versus urban living.

Women living with obstetric fistula in urban areas could be contacted by mo-

mobile phone as a means to improving communication for compliance, prevention, follow up and other aspects of fistula programming.

Conflict of Interest

We declare no conflict of interest.

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