

Associated Morbidities Seen in Women with Obstetric Fistula

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ABSTRACT

Background: Obstetric fistula continues to be a source of misery for women in developing countries. It usually occurs in association with other morbidities. The study was carried out to determine the morbidities that co-exist with obstetric fistula.

Methodology: It was a cross-sectional descriptive study carried out among women seeking treatment of obstetric fistula in Cross River State of Nigeria. A combined purposive and proportionate sampling technique was used to select 210 participants. Ethical approval was obtained. A semi-structured interviewer-administered questionnaire was used to obtain information on biodata, obstetric characteristics and morbidities associated with obstetric fistula. Data was analyzed with SPSS version 20. Chi-square was used to compare categorical variables. A P-value of less than 0.05 was considered significant.

Results: Among the 210 women, 59 (28.1%) were aged 30 and 39 years. Eighty-one women (38.6%) were grandmultipara and 80 (38.1%) had no living child. Majority (178; 84.8%) of the women delivered stillbirths. At presentation, 175 women (83.3%) had depression, 138 (65.7%) had sexual dysfunction, 97 women (46.2%) had amenorrhoea, 138 (65.7%) had secondary infertility, 128 (61%) had obstetric palsy (foot drop), 171 (81.4%) had urine dermatitis, while 49(23.3%) had features of urinary tract infection. Fifteen women 15 (7.1%) had co-existing rectovaginal fistula. Increased duration of leakage was significantly associated with development of urine dermatitis (P=0.001). Also, increased duration of labour was significantly associated with development of obstetric palsy (P=0.000).

Conclusion: Morbidities associated with obstetric fistula are depression, sexual dysfunction, amenorrhoea, infertility, urine dermatitis, obstetric palsy and urinary tract infection. Fistula patients should be assessed for these and be managed by a multidisciplinary team.

Keywords:

Associated morbidities, Obstetric fistula, Infertility, Sexual dysfunction, Urogynaecology, Urinary Tract Infection (UTI)

Introduction

Obstetric fistula is a major public health problem in the developing countries [1,2]. It is an abnormal communication between the genital tract and either the urinary or the intestinal tract, or both, leading to leakage of urine and/or faeces following childbirth [3]. It continues to be a source of misery, inflicting serious morbidities among affected women [4].

The World Health Organization estimates that more than 2 million girls and women worldwide live with obstetric fistula, with an additional 50,000-100,000 new cases occurring every year, the vast majority of whom are in Africa and Asia [5]. Nigeria alone constitutes 7.5% of the global burden with an estimated 150,000 women awaiting repair and 12,000 new cases yearly [6]. The predisposing factors are poverty, illiteracy, early marriage/childbearing, patronage of unskilled birth attendants,

late presentation to health facilities, ignorance, aversion to safe Caesarean section, harmful traditional practices, cultural restriction of women and transportation barriers [7,8]. Majority of obstetric fistulas are known to result from prolonged obstructed labour [8]. However, poorly-performed Caesarean section is increasingly becoming an important aetiology of fistula in parts of Nigeria [9]. The mainstay of treatment of obstetric fistula is surgery [8].

Obstetric fistula has been shown to occur in association with other medical morbidities [4]. These include depression, urinary tract infection, urine dermatitis, obstetric palsy, amenorrhoea, infertility, anal sphincter rupture, perineal tear, bladder stone, vaginal stenosis, cervical retraction and cervical stenosis, among others [4,10]. Attention is usually not paid to these conditions as the immediate concern is to restore continence. Consequently, the treatment of these conditions is often excluded in the care of the fistula patient. It is thus imperative to identify these morbidities so that the patients can benefit from holistic care and not just fistula repair. The study was therefore carried out

to determine the morbidities that occur in association with obstetric fistula among patients seeking care in Cross River State. This will form a basis for proper counseling, thorough preoperative preparation and multidisciplinary approach to fistula care.

Material and Methods

Study area

The study was carried out in three hospitals in Cross River State –the University of Calabar Teaching Hospital (UCTH), Calabar which has a Urogynaecology Unit, General Hospital, Calabar which has an Obstetric Fistula Unit and General Hospital Ogoja, a state-owned secondary health care facility in Ogoja, which also has a dedicated Obstetric Fistula Unit. Calabar is the capital of Cross River State, South-South Nigeria.

Study design

It was a cross-sectional hospital-based descriptive study.

Study duration

The study was carried out over a period of six months.

Study population

The study population comprised all the patients admitted for treatment of obstetric fistula in the three hospitals.

Inclusion criteria

Patients with obstetric fistula who presented to the selected health facilities.

Exclusion criteria

Patients who were too ill to participate in the study.

Sample size determination

The minimum sample size for this descriptive cross sectional study was determined using the Cochran's formula, 2018, which is expressed as:

$$\text{Sample Size, } N = \frac{Z_{1-\alpha/2}^2 P(1-P)}{d^2}$$

where, N=the desired minimum sample size

$Z_{1-\alpha/2}$ =Standard normal variate, at 5% type 1 error ($p < 0.05$), it is 1.96 and at 1% type 1 error ($p < 0.01$), it is 2.58

d=absolute error or precision, at 95% confidence level, it is 0.05

In rural areas of sub Saharan Africa, about 124 cases of fistula develop per 100,000 deliveries (Sheheta, 2012). This gives a Prevalence rate, P of 0.124%.

$$\text{Therefore, } N = \frac{1.96^2 \times 0.124 (1-0.124)}{0.05^2}$$

$$N = 3.84 \times 0.1086 / 0.0025 = 167$$

To account for non-response bias, the sample size will be increased by 10% which is approximately 17. Therefore, the minimum sample size is 184.

Sampling technique

A combined purposive, proportionate (quota) and consecutive sampling technique was used to select the participants for the study. The study areas were purposively selected, being the three hospitals in Cross River State where obstetric fistula repairs are carried out. From available institutional records

from these three study sites for the year 2017, a total number of 245 obstetric fistula patients were seen at General Hospital, Ogoja, compared to 54 in General Hospital, Calabar and 36 in UCTH, Calabar. This gives a sampling ratio of approximately 14: 3: 2. Considering a minimum sample size of 184 for the study, therefore, the:

Sample Quota for General Hospital, Ogoja: $14/19 \times 184 = 136$;

Sample Quota for General Hospital, Calabar : $3/19 \times 184 = 29$;

Sample Quota for UCTH, Calabar: $2/19 \times 184 = 19$

A consecutive sampling of all women with obstetric fistula seen in the three sites was done using the sample quotas as minimum. A diagnosis of obstetric fistula was made based on history and physical examination. The 210 patients that meet the inclusion criteria were recruited for the study.

Data collection

A semi-structured interviewer-administered questionnaire was used to obtain quantitative data on the socio-demographic characteristics, obstetrics characteristics of participants, events of labour, symptoms, signs, complications, pregnancy outcomes and morbidities associated with fistula.

Data analysis

Data obtained was entered and analyzed with SPSS version 20 (SPSS Inc. Chicago, USA). The means, standard deviations and frequencies of the socio-demographic, obstetric characteristics and obstetric fistula complications was presented as tables. Socio-demographic, obstetric and other factors associated with the outcome variables were assessed using inferential statistics, which includes the use of chi-square (and Fisher's exact test) to compare categorical variables. A P-value of less than 0.05 was considered significant.

Ethical consideration

Ethical Approval was obtained from the Cross River State Health Research Ethics Committee, Ministry of Health, Calabar. A written informed consent was obtained from the patients before commencement of data collection. Confidentiality of the data collected from the women was ensured.

Results

Of the 210 women studied, 59 (28.1%) were between 30 and 39 years, 135 (64.3%) had no formal education and 168 (80%) were farmers. Eighty-one women (38.6%) were grandmultipara at the time of developing the fistula and 80 (38.1%) had no living child (Table 1). Seventy-four women (35.2%) had leaked urine for less than five years. Majority (178; 84.8%) of the women delivered stillbirths.

At presentation, 175 women (83.3%) had depression, 138 (65.7%) had sexual dysfunction, 97 women (46.2%) had amenorrhoea, 138 (65.7%) had secondary infertility, 128 (61%) had obstetric palsy (foot drop), 171 (81.4%) had ammoniacal (urine) dermatitis, while 49 (23.3%) had clinical features suggestive of urinary tract infection (Table 2). Fifteen women 15 (7.1%) had co-existing rectovaginal (faecal) fistula. Increased duration of leakage was significantly associated with development of ammoniacal (urine) dermatitis ($P = 0.001$) (Table 3). Also, increased duration of labour was significantly associated with development of obstetric palsy ($P = 0.000$).

Table 1: Socio-demographic characteristics of respondents (n=210).

Characteristics	Categories	Frequency (%)
Age (Years)	Below 20	8 (3.8)
	20-29	37 (17.6)
	30-39	59 (28.1)
	40-49	49 (23.3)
	50-59	36 (17.1)
	60 and above	21 (10.0)
Education	No formal	135 (64.3)
	Primary	63 (30.0)
	Secondary	10 (4.8)
	Tertiary	2 (1.0)
Marital Status	Married	128 (61.0)
	Single	23 (11.0)
	Divorced/Separated	27 (12.9)
	Widowed	32 (15.2)
Occupation	Farming	168 (80.0)
	Trader	19 (9.0)
	Artisan	5 (2.4)
	Housewife	3 (1.4)
	Student	10 (4.8)
	Civil Servants	3 (1.4)
	Others	2 (1.0)
Parity	1(Primipara)	55 (26.2)
	2-4(Multipara)	74 (35.2)
	>5(Grandmultipara)	81 (38.6)
Surviving Children	0	80 (38.1)
	1	39 (18.6)
	2-4	72 (34.3)
	> 4	9 (9.0)

Table 2: Reported medical complications in women with fistula (n=210).

Medical complication	Frequency (%)
Depression	175 (83.3%)
Sexual dysfunction	138 (65.7%)
Amenorrhoea	97 (46.2)
Secondary infertility	138 (65.7)
Obstetric foot palsy	128 (61.0)
Ammoniacal dermatitis	171 (81.4)
Urinary Tract Infection (UTI)	49 (23.3)

Table 3: Duration of leakage and the medical complication of Perineal rashes (P=0.001).

Duration	Perineal Rashes		
	No Rashes	Rashes	Total
0- 5 years	49	25	74
6-10 years	55	6	61
11-15 years	23	4	27
16-20 years	15	1	16
> 20 years	28	3	31
P=0.001; Critical $\chi^2=17.443$			

Discussion

The study identified other medical morbidities seen among women seeking treatment for obstetric fistula. About 28% of the women were aged 30-39 years. This age group has the largest category of women seeking repair of obstetric fistula. The finding is similar to that of a study done in Abakaliki, South-East Nigeria where the highest prevalence (27.7%) was in this age group [11]. In a study done in Jos, North-Central Nigeria however, the highest prevalence (44%) was among women in the age group 21-30 years. Majority (64.3%) of the women had no formal education. Women with obstetric fistula are typically poorly-educated [7]. The finding is similar to that of another study in Abakaliki that showed 59.3% of fistula patients had no formal education [12]. Obstetric Fistula was most prevalent among grandmultiparous women (38.6%). This may be explained by progressive increase in birth weight of fetus with successive pregnancies, which increased the risk of cephalo-pelvic disproportion. This finding is similar to that from the previous study in Abakaliki [12].

On the contrary, a study done in Ile-Ife, South-West Nigeria found fistula to be more prevalent in the primipara (52.1%) and least in the grand multipara (5.7%) [13]. This study showed that 64.2% of the fistula patients developed the condition within the last 10 years, which is similar to the previous finding in Abakaliki, where 62.3% of the patients developed the condition within the past decade [12]. The value was even much higher in a study done in Machakos County, Kenya where 88% of fistula patients developed the condition within the last six years [14]. Urgent public health measures are needed to halt this occurrence of new cases. Majority (84.8%) of the women delivered stillbirths. Obstetric fistula from prolonged obstructed labour is often associated with stillbirth [7]. The causes of fetal death is usually fetal hypoxia from prolonged obstructed labour. This finding appear higher than that reported from Ile-Ife where the still birth rate was 67.5% [13].

At presentation, 175 women (83.3%) had depression. Depression is usually not given adequate attention among fistula patients. The cause is usually multifactorial, including traumatic childbirth, persistent urine leakage, social stigma, fetal loss, among others. In this study, 38.1% of the women had no living child. This can cause depression in a society where a high premium is placed on childbearing. Depression has been identified as a common experience among women with obstetric fistula [15]. A recent study from North West Nigeria revealed that majority of women with vesicovaginal fistula have moderate depression [16]. Management therefore should be multidisciplinary and should involve clinical psychologists and psychiatrists.

Sexual dysfunction was seen in 65.7% of the women. Obstetric fistula can significantly affect a woman's sexuality. This may be due to lack of sexual desire, spousal aversion due to urinary incontinence, embarrassment from persistent odour, painful intercourse, narrowed or scared vagina, vaginal dryness, social withdrawal, fear of fistula recurrence, spousal abuse due to prolonged abstinence following surgery, among others. Large fistulas and reduced vaginal capacity have been associated with sexual dysfunction [17]. Beyond surgical repair, sex therapy and psychosocial support should be provided to affected women to

restore sexuality [18].

Amenorrhoea was seen in 46.2% of women with fistula seeking treatment in this study. This is a major concern for many obstetric fistula patients. It may result from malnutrition, endometritis following prolonged obstructed labour, postpartum haemorrhage or an endocrine response to a traumatic childbirth experience. It is one of the non-fistulous complications of obstructed labour seen among fistula patients [4] and a morbidity associated with obstetric fistula [13]. In a study in Abakaliki, Nigeria, secondary amenorrhoea was seen in 23.6% of women who developed fistula and it was found to be significantly associated with Caesarean delivery [4].

Majority (65.7%) of the women in this study had secondary infertility. Infertility remains a problem following the development of obstetric fistula. This is worsened by the fact that about 85% of the women delivered stillbirths and 38% of them had no living child. In the African setting, this is a major threat to marriages. Possible causes include endometritis, puerperal sepsis, intrauterine synechiae and cervical stenosis. It may also be compounded by sexual dysfunction. Infertility was seen in 9.3% of obstetric fistula patients who presented for treatment in Abakaliki, Nigeria [4]. Facilities for investigation and treatment of infertility, including assisted conception should be made available to obstetric fistula patients.

Another morbidity identified in patients with fistula in to this ammoniacal (urine) dermatitis. It was seen in 81.4% of the women. It is due chronic excoriation of the perineal skin from continuous wetness with urine. It was significantly associated with increased duration of leakage of urine in this study. A study done in Kano, North-West Nigeria revealed that 31% of the fistula patients reported vulval dermatitis [19]. Fistula patients should be assessed and treated for dermatitis. A dermatologist may be involved in long-standing cases.

Obstetric nerve palsy was seen in 61% of the women studied. It commonly manifests as foot drop, characterized by inability or difficulty in walking. It is due to nerve compression following a prolonged obstructed labour. It was significantly associated with increased duration of labour in this study. The study in Kano, Nigeria reported that foot drop was seen in 23% women with fistula [19]. In Abakaliki, 30.4% of obstetric fistula patients has foot drop [4]. In another study in Abakaliki, obstetric palsy was found in 31.4% of fistula patients and lack of antenatal care, increased duration of labour, vaginal delivery and circumferential defects were found to be risk factors [20]. Women with obstetric palsy should be managed by physiotherapists for improved outcomes.

About 23.3% of the women had clinical features suggestive of Urinary Tract Infection (UTI). This may be as a result of reduced water intake as a coping mechanism for urine leakage. It also predisposes to bladder stone formation [21]. In UTI was seen in 61.5% of women with fistula in Abakaliki, Nigeria [4]. Women with obstetric fistula should be screened for UTI and treated appropriately.

Conclusion

In conclusion, other medical morbidities seen among women seeking treatment for obstetric fistula are depression, sexual dysfunction, secondary amenorrhoea, secondary infertility, urine

dermatitis, obstetric nerve palsy and urinary tract infection. Patients for obstetric fistula repair should be also assessed for these conditions and a holistic treatment should be provided by a multidisciplinary team for better outcomes.

Conflict of Interests

None declared.

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