

# Knowledge, Effect of Vesico Vaginal Fistula (VVF) and Satisfaction with VVF Repair Related Services in a Fistula Repair Facility in North Western Nigeria

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## ABSTRACT

**Introduction:** Vesico-vaginal Fistula (VVF), an abnormal communication between the bladder and the vagina causing urinary incontinence occurs all over Nigeria. This study was undertaken to assess the knowledge, effect of VVF and satisfaction with its repair related services in a fistula repair center in North west Nigeria

**Material and Methods:** The study population comprised of VVF patients attending a State Government-owned specialized service hospital, dedicated to VVF patients. The study design was descriptive cross sectional in nature. Ninety-nine VVF patients were recruited into the study, data was obtained using a structured questionnaire administered in their local language (Hausa). Data obtained was entered into and analysed using IBM statistical software package 21. Level of significance was set at 5%.

**Results:** More than half of the respondents believed that VVF is due to evil spirit (55.6%) and a third believed that VVF is due to punishment from the Gods (33.3%). Less than a third of respondents reported that it led to their divorce, while 17.2% reported that they were rejected by the community as a result of developing VVF. Majority of the respondents were satisfied with ease of access to care (91.9%), waiting time to receive care (93.9%), hospital treatment facilities (96%) and ward environment (88.9%).

**Conclusion:** Most of the respondents knew some of the risk factors associated with development of VVF. Most reported developing VVF related psycho-social problems. Most of the respondents were satisfied with the repair related services provided at the facility.

**Keywords:** VVF; Knowledge; Effect; Satisfaction; Repair Services

home delivery, early marriage, obstructed labor, unskilled birth attendant, economic and socio-cultural factors among others.<sup>5</sup> Prolonged obstructed labor is the main cause of obstetric fistula in developing countries and in Nigeria 96.5% of the VVF cases are as a result of obstructed labor.<sup>6</sup> It is a preventable and treatable disease commonly found among the poor population, young women, illiterate girls who mainly live in the rural communities with difficulty in accessing emergency obstetric care, and where skilled birth attendants are limited or not utilized.<sup>7</sup>

Vesico -vaginal Fistula occurs all over Nigeria, but is commoner in some areas especially in the far North.<sup>8</sup> In Nigeria, the problem of VVF is increasing as the general development of the community worsens.<sup>6</sup> Despite the availability of VVF repair facilities in some Nigerian hospitals for almost a century, the problem persists.<sup>6</sup> The prevalence rate is said to be higher in rural areas due to inadequacy of facilities for pre-natal and post-natal care.<sup>9</sup> The true incidence of VVF in Nigeria is unknown because most of the victims are not registered in hospitals, clinics and maternity centers, due to fear of stigmatization and rejection.<sup>8</sup> For every woman who dies in labor, 20 or more will be affected by childbirth injuries and most of this is obstetric fistula.<sup>9</sup> Data on prevalence shows that more than 2 million women are affected worldwide with Nigeria accounting for 1 million cases.<sup>10</sup>

The effects of VVF are life shattering and it could have physical, physiological, social and economic effects on the victim.<sup>11</sup> Women with fistula are perceived as unclean and thus shunned by their husband, family and the community. They are frequently blamed for their condition and forced to live in isolation.<sup>11</sup> Strong evidence exists that it is not

## INTRODUCTION

Vesico-vaginal fistula (VVF) is a devastating and debilitating condition which profoundly hampers the quality of life of women.<sup>1</sup> Despite improvement in health care delivery systems and advancement in surgical techniques, VVF continues to be a major health problem.<sup>1</sup>

VVF has been described as an abnormal communication between the bladder and the vagina causing urinary incontinence<sup>2</sup>; a degrading morbidity resulting from pregnancy and childbirth.<sup>3</sup> VVF may also result from gynecological operations e.g. hysterectomy, radiation damage following radiotherapy for pelvic malignancy and violent rape.<sup>4</sup> This abnormality however mostly occurs as a result of complications at childbirth. Predisposing factors to obstetric fistula include early age at delivery,

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the diagnosis of VVF per se that results in psychological impairment but rather the social ostracization progression of the disease condition.<sup>12</sup> It has been opined that patients diagnosed with VVF experience stress and emotional upheaval, fear of death, interruption of life plans, and change in social roles, lifestyle and medical bills, and these are important issues to be faced.<sup>13</sup> Many factors may cause psychological stress in patients with VVF and stress is particularly likely to arise out of the effect and treatment of the condition which results in obvious alteration of body function.<sup>14</sup> It has been stressed that surgical repair can have success rates as high as 89 to 90 percent restoring a full and reproductive life of dignity to most women.<sup>12</sup> This study was undertaken to assess the knowledge, effect of VVF and satisfaction with its repair related services in a fistula repair center in North west Nigeria

## MATERIAL AND METHODS

The study was conducted at Maryam Abacha Women and Children Hospital, located in Sokoto south Local Government Area of Sokoto state. It is a state-owned specialized service hospital, dedicated to VVF patients. Services at the health facility are free. The facility has 1 trained Resident VVF surgeon, a surgeon undergoing training, and 2 visiting VVF surgeons. These surgeons conduct routine VVF repairs twice a week. The facility pools patients about twice to thrice a year. Fistula care (Engender Health) and Fistular foundation (UNFPA) assist the facility to carry out these surgeries.

### Data collection

The instrument of data collection was a structured interviewer administered questionnaire with 4 sections. Sections A, B, C, D sought to obtain data on socio-demographic characteristics, knowledge and effect of VVF, as well as satisfaction with VVF repair related services respectively. The questionnaire was translated into Hausa language (the local language) and back translated into English. The content validity of the questionnaire was assessed by asking lecturers in the Department of Community Health to check for appropriateness of the questions. The temporal stability was assessed by calculating the Intra-class Correlation Coefficient of the questions, a range of 0.752 -0.955 was obtained. Internal consistency was assessed by calculation Cronbach's alpha, scores of 0.734,0.955 and 0.904 were obtained for sections B,C,D respectively indication good internal consistency. The questionnaire was administered by final year medical students. Respondents knowledge of VVF was scored and graded. Correct response attracted a score of 1, while in-correct response or I do not Know response attracted a score of 0. Individual respondent score was summed up and graded, respondents who scored less than 50% were said to have in-adequate VVF related knowledge, while those having 50% or above had adequate VVF related knowledge. Ethical approval was obtained from the Sokoto state Research and Ethics Committee, verbal informed consent was obtained from the individual respondents.

## STATISTICAL ANALYSIS

Data was entered into and analyzed using IBM statistical software package version 21 software package. Data analysis began with univariate analysis followed by bivariate data analysis. Results were presented in tabular form, level of significance was set at 5%.

## RESULTS

The age of the respondents ranged from 10-50 years with a median age of 21 years. Most of the respondents were Hausa

Variables	n (%)
<b>Age (years)</b>	
<18	18 (18.2)
18-35	76 (76.8)
>35	5 (5.1)
Range	10-50
<b>Religion</b>	
Islam	90 (96.8)
Christianity	3 (3.2)
<b>Tribe</b>	
Hausa	62 (63.9)
Fulani	26 (26.8)
Yoruba	7 (7.2)
Others	2 (2.1)
<b>Marital status</b>	
Separated	57 (58.2)
Divorced	37 (37.8)
Widow	4 (4.1)
<b>Place of residence</b>	
Urban	6 (6.1)
Rural	92 (93.9)
<b>Educational status</b>	
No formal education	81 (83.6)
Formal education	16 (16.4)
<b>Occupation</b>	
Housewife	45 (45.9)
Daily employment	13 (13.3)
Petty trading	34 (34.7)
Animal husbandry/poultry	2 (2.0)
Others	4 (4.1)
<b>Age at first marriage (yrs)</b>	
<18	84 (84.8)
18-35	15 (15.2)
range	8-28
median	15
<b>Age at first delivery</b>	
<18	84 (84.8)
18-35	15 (15.2)
Range	10-29
Median	17
<b>Place of last delivery</b>	
Home	80 (80.8)
Public hospital	16 (16.2)
Private hospital	3 (3.0)
<b>Number of ANC attended in last pregnancy</b>	
0	73 (73.7)
1-3	16 (16.2)
>3	10 (10.1)

**Table-1:** Socio demographic and obstetric characteristics of Respondents

Variables	Knowledge score	
	Correct responses n (%)	In-correct responses n (%)
Prolong obstructed labour is a risk factor for VVF	85 (85.9)	14 (14.1)
Early marriage is a risk factor for VVF	51 (51.5)	48 (48.5)
Home delivery is a risk factor for VVF	62 (62.6)	37 (37.4)
Delivery by traditional birth attendant may predispose to development of VVF	34 (34.3)	65 (65.7)
Female circumcision may predispose to VVF	50 (50.5)	49 (49.5)
VVF is due to evil spirit	44 (44.4)	55 (55.6)
VVF is due to punishment from God	66 (66.7)	33 (33.3)
VVF results in Leakage of Urine all the time	96 (97)	3 (3)
VVF may be prevented if pregnant woman is delivered by skilled attendant at birth	71 (71.7)	28 (28.3)
Overall Knowledge grading	70 (70.7)	29 (29.3)
Mean Knowledge score 62.2±22.8		

**Table-2:** Respondents Knowledge of Vesico-vaginal Fistula

Variables	n(%)
VVF lead to feeling of shame	83 (83.8)
VVF made you feel sad a lot	75 (75.8)
VVF made you feel bitter	59 (59.6)
VVF made you feel lonely	51 (51.5)
VVF lead to your divorce	36 (36.4)
VVF lead to you being avoided by people	26 (26.3)
VVF lead to your rejection by community	17 (17.2)
* Multiple responses	

**Table-3:** Vesico-vaginal Fistula related personal experience of respondents

Variables		n (%)
Rating of ease of access to care	Good	74 (74.7)
	Fair	19 (19.2)
	Poor	6 (6.1)
Rating of waiting time to access care	Good	73 (74.5)
	Fair	17 (17.3)
	Poor	8 (8.2)
	Fair	7 (7.3)
Rating of patient Doctor relationship	Good	94 (95.9)
	Fair	3 (3.1)
	Poor	1 (1.0)
Rating of ward environment	Good	71 (71.7)
	Fair	26 (26.3)
	Poor	2 (2.0)

**Table-4:** Rating of aspects of Vesico-vaginal Fistula care in the facility

Variables		n (%)
Satisfied with ease of access to care	Satisfied	91 (91.9)
	Not satisfied	8 (8.1)
Satisfied with waiting time to receive care	Satisfied	93 (93.9)
	Not satisfied	6 (6.1)
Satisfied with patient doctor relationship	Satisfied	97 (98)
	Not satisfied	2 (2)
Satisfied with hospital treatment facilities	Satisfied	95 (96)
	Not satisfied	4 (4.0)
Satisfied with the ward environment	Satisfied	88 (88.9)
	Not satisfied	11 (11.1)

**Table-5:** Satisfaction with facility Vesico-vaginal Fistula repair services

(63.9%), Muslims (96.8%), residing in rural areas (93.9%), with no formal education (83.6%). More than half of them (58.2) were separated from their husbands, while 37.8% were divorced. Majority of respondents had their first marriage at < 18 years with median age at marriage of 15 years. Majority of the respondents did not attend any ANC service (73.7%), and delivered at home (80.8%) in the preceding pregnancy (Table 1)

Majority of the respondents knew that prolonged obstructed labour (85.9%), home delivery (62.6%) are risk factors for VVF. Almost two-thirds of the respondent (65.7%) reported that delivery by Traditional birth attendants (TBAs) could not predispose to VVF. Almost half of the respondents (49.5%) opined that female circumcision could not predispose to VVF. More than half of the respondents believed that VVF is due to evil spirit (55.6%) and a third believed that VVF is due to punishment from the Gods (33.3%). (Table 2)

Most of the respondents reported that the VVF they developed resulted in feelings of shame (83.8%), made them feel sad (75.8%) and bitter (59.6%). Less than a third of respondents reported that it led to their divorce, while 17.2% reported that they were rejected by the community as a result of developing VVF. (Table 3)

Seventy-five percent of the respondents rated ease of access to care and waiting time to assess care to be good. (Table 4)

Majority of the respondents were satisfied with ease of access to care (91.9%), waiting time to receive care (93.9%), hospital treatment facilities (96%) and ward environment (88.9%). (Table 5)

Most of the respondents with inadequate knowledge of VVF were between 18-35 years of age. Age of respondents was not significantly associated with knowledge of VVF ( $X^2 = 5.47$ ,  $P = 0.06$ ). The respondents with inadequate knowledge of VVF mostly had their first marriage before the age of 18. Age at first marriage was however not significantly associated with knowledge of VVF ( $X^2 = 4.37$ ,  $P = 0.37$ ). Among respondents with inadequate knowledge, majority resided in rural (96.6%) compared to urban (3.4%) areas. Similarly, among respondents with adequate knowledge more reside in rural (92.8%) compared with urban (7.2%). Majority of the respondents with adequate knowledge of VVF had some

Variables		Knowledge of VVF		Test significance
		Inadequate n (%)	Adequate n (%)	
Age (yrs)	<18	9 (31)	9 (12.9)	X <sup>2</sup> =5.47, P= 0.06
	18-35	20 (69)	56 (80)	
	>35	0 (0)	5 (7.1)	
Age at first marriage	<18	28 (96.6)	56 (80)	X <sup>2</sup> =4.37, P=0.37
	18-35	1 (3.4)	14 (20)	
Place of resident	Urban	1 (3.4)	5 (7.2)	*X <sup>2</sup> = 0.667
	Rural	28 (96.6)	64 (92.8)	
Place of delivery	Home	2 (6.9)	60 (85.7)	X <sup>2</sup> = 54.42, P<0.001
	hospital	27 (93.1)	10 (14.3)	
Educational level	Non formal	2 (40)	3 (18.8)	*P=0.553
	Formal	3 (60)	13 (81.3)	
Occupation	House wife	13 (44.8)	32 (46.4)	X <sup>2</sup> = 16.528, P<0.001
	Casual worker	10 (34.5)	3 (4.3)	
	Petty trading	5 (17.2)	29 (42)	
	Rearing animals	0	2 (2.9)	
	Others	1 (3.4)	3 (4.3)	
Number of ANC attended	0	25 (86.2)	49 (70)	X <sup>2</sup> =2.86, P= 0.24
	1-3	2 (6.9)	11 (15.7)	
	>3	2 (6.9)	10 (14.3)	
Fischers Exact Test				

**Table-6:** Factors associated with knowledge of Vesico-vaginal Fistula

formal education (60%), this was however not statistically significant ( $p=0.55$ ). (Table 6)

## DISCUSSION

The respondents age ranged from 10-50 years with a median age of 21. This contrasts with findings from other studies which reported a much lower median age of 15-16 years.<sup>15,16</sup> A great majority of the respondents did not have any formal education. individuals who have some formal education may be more receptive towards assessing modern health care services, improvement of formal education especially increase enrollment of girl-child education may help reduce incidence of VVF.<sup>17</sup> Government may need to make formal education free and mandatory up to secondary school for children especially the girl-child. Most respondents had their first marriage and first delivery when they were less than 18 years. This finding is also similar to that observed in other studies.<sup>15,16,18</sup> The practice of early marriage is common in Northern Nigeria where girls may be given out in marriage as soon as they attain menarche. This practice is soon complicated by pregnancy at a time when the girl's pelvis is not adequately developed hence resulting in difficulty for the fetus to pass through during labour thereby leading to obstructed labour and its sequelae including obstetric fistula. Non utilization of antenatal care services and lack of skilled birth attendants also play a role in the development of obstetric fistula. Majority of the respondents in this study did not receive any form of antenatal care in the preceding pregnancy. This finding was also observed by other researchers.<sup>15,18,19</sup> Attending antenatal care and having a skilled birth attendant at delivery improves pregnancy outcomes for the mother and her baby thereby reducing morbidity risks for the mother and child. Majority of the

respondents delivered their babies at home. This is in line with the Nigerian national demographic and health survey which reported that 63% of births in Nigeria are delivered at home.<sup>18</sup> Lack of formal education as was the case with majority of respondents in this study may contribute to the increased occurrence of home delivery. This finding was also observed by the National Population Commission.<sup>18</sup> Our finding of increased occurrence of home delivery in the preceding pregnancy however contrasts with findings from a study in Zambia where it was observed that 76.6% of respondents had their preceding delivery at a hospital. The authors of the Zambian study however further stated that some of the respondents that eventually delivered at the hospital might have begun their labour at home and only presented to the hospital when labour became complicated.<sup>16</sup> Reasons usually given for not delivering in the hospital include the following; the child was born suddenly and there was no time to reach the facility, it was not necessary to deliver in the hospital, distance from the facility or cost, lack of trust for the provider or poor quality of service, husbands or family did not allow them to deliver in a health facility, it is not customary to deliver in a health facility etc.<sup>18</sup> Lack of adequate numbers of skilled birth attendants and presence of male health workers in Northern Nigeria also may affect utilization of antenatal and delivery care services. Some men may not feel comfortable with their pregnant wives being attended to by other males, as such preferring Traditional Birth Attendants to attend to their pregnant women. Also, some women in the rural areas associate delivery in the hospital as a sign of weakness or that there is something wrong with her. Most TBAs cannot recognize prolonged obstructed labour when it occurs, they tend to ask the woman in labour to keep pushing thinking that will solve the problem.<sup>19</sup> This however

further compounds the obstruction resulting in pressure necrosis and subsequent VVF. To boost the proportion of skilled birth attendants, the Nigerian government has over the years been recruiting additional midwives and community health extension workers (CHEWs) and supported training of CHEWs on modified lifesaving skills through the Subsidy Reinvestment and Empowerment Programme as well as the Midwives Service Scheme. The government is also looking toward developing a policy on task shifting as a measure to improve personnel deficits in some parts of the country and in underserved areas.<sup>18</sup> Malnutrition, harmful cultural practices, low socio economic status of women, their lack of formal education, limited social roles, lack of emergency obstetric services are other factors that predispose women to VVF in developing countries.

Most of the respondents did not have any formal education and reside in rural areas, this contrasts with some studies which reported that most of the respondents had some formal education,<sup>16,20</sup> but is similar to a study conducted in Kano, which reported that 78.3% of the VVF patients surveyed were illiterate.<sup>15,19</sup> Lack of education may contribute to early marriage, non-utilization of formal health services, delay in presentation of patients to the hospital during labour as well as delay in presenting to a health facility when VVF occurs.<sup>19</sup> Presence of formal education has been associated with positive health seeking behavior. The Nigerian national demographic and health survey reported that Ninety-seven percent of women with more than a secondary education received antenatal care from a skilled provider, as compared with 36 percent of mothers with no education.<sup>18</sup>

Majority of respondents (96%) were no longer with their husbands as they were either separated (58.2%) or had been divorced (37.8%). Other similar studies have reported high divorce rates among this women with VVF.<sup>11,17</sup> Other studies however reported that about three-quarters of women with VVF were still married to their husbands.<sup>16,20</sup> VVF patients suffer from incontinence of urine resulting in an ammoniacal odour surrounding them. This may contribute to marital disharmony resulting in separation or divorce. The characteristic ammoniacal odour makes them socially unacceptable leading to their inability to attend social gathering and loss of self-esteem. Affected women who remain with their husbands may not be allowed to share the same bed with the husband and be deprived of sex.<sup>17</sup> resulting in inability to bear further children for the husband. This further reduces the woman's self esteem and may lead to psychological problems.

The respondents could correctly identify some of the risk factors to development of VVF (prolonged obstructed labour, delivery at home). This is not surprising as the respondents were already on admission in the treatment facility, and would have interacted both among themselves and also with the health workers who are likely to have discussed the predisposing factors with them. Several misconceptions however still exist among the study population as most respondents still believed that births attended to by TBAs could not predispose to VVF, they also believed that VVF

occurred due to machinations of evil spirits and that it could be a punishment from the Gods. It is very important that health workers educate on a continuous basis these patients, ensuring that the patients before their discharge, get all the facts concerning VVF correctly, so that when they return to their respective communities they can provide others with the correct information regarding the risk factors associated VVF.

Most of the respondents were satisfied with majority of the services provided to them at the Centre, this is not surprising as all aspect of treatment (medication, hospital admission, surgery e.t.c) is free and some rehabilitation services (patients are taught how to sew) is also provided to the patients. Finally, before they are discharged home they are provided with sewing machine and N50,000 (USD140) cash by the State Government.

Place of delivery, and occupation of the respondents were found to be significantly associated with knowledge of risk factors of VVF. Surprisingly, however, educational status was not significantly associated with knowledge of risk factors of VVF this might have been due to the very large number of respondents in this study without any formal education (83.6%).

## CONCLUSION

Majority of the respondents knew some of the risk factors associated with development of VVF, although some still associate VVF to punishment from Gods and evil spirit. Most of them reported developing some psycho-social problems as a result of VVF. Most of the respondents were satisfied with the repair related services provided at the facility.

Various state government may need to improve level of formal education for the girl child, Health workers providing Antenatal services also need to do more to dispel misconception of the risk factors associated with VVF. Quick repair of the fistula may go a long way in reducing the psycho-social challenges faced by the patients.

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