

Original Research Article

## Primary Screening for Post-Traumatic Stress Disorder (PTSD) Symptoms among Patients with Obstetric Fistula in Zamko, Plateau State

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### ABSTRACT

**Background:** Obstetric fistula is common among women in developing countries including Nigeria. One of the consequences of this debilitating condition is the development of symptoms of post-traumatic stress disorder. This study set out to assess its prevalence among a cohort of women undergoing surgical treatment at a secondary health facility in north-central Nigeria.

**Methodology:** This was a descriptive, cross-sectional study involving 37 women with vesicovaginal fistula (VVF) in Comprehensive Health Centre, Zamko, Plateau State. An interviewer-administered questionnaire was used to collect data which was entered and analysed using Epi-info version 3.5.4 statistical software. A probability value of  $p \leq 0.05$  was considered statistically significant.

**Results:** The mean age of the respondents was  $47 \pm 14.5$  years. More than half of them, 23 (62.2%) have had VVF for less than 20 years and 14 (37.8%) had had previous surgery for VVF repair but with no success. A total of 24 (64.9%) were positive for PTSD after the screening questions were administered. Religion was seen to be a protective factor as respondents from other religions when compared to Christianity (AOR = 0.034, 95% CI: 0.001-1.090). The study subjects from a polygamous setting had more than twice the risk of having PTSD (AOR = 2.008, 95% CI: 0.220-18.300) as against those from monogamous settings, however it was not statistically significant.

**Conclusion:** The study revealed a high prevalence of PTSD symptoms among the respondents. It is recommended that mental health screening and therapy should be incorporated into the management protocol of all VVF patients in order to successfully rehabilitate them.

**Key Words:** VVF, PTSD, Obstetric fistula

### INTRODUCTION

Vesicovaginal fistula (VVF) is an abnormal opening between the female urinary tract and the genital tract causing a continuous involuntary discharge of urine into the vagina. [1] It results from complications such as prolonged labour during childbirth causing serious morbidity to the mother. [1-2] There are other causes such as focal injuries to the genitourinary tract during caesarean section and hysterectomy, while causes such as congenital abnormalities, infection, trauma

and foreign bodies are relatively rare. [3] It is estimated that globally, 20 million women have VVF and 50,000 to 100,000 new cases occur annually. [4] The burden of VVF is higher among developing countries of the world. [1,5] Nigeria is estimated to contribute to about 40% of the global burden of VVF. [6,7]

Various studies have identified VVF as resulting from factors like poverty, gender inequality, poor access to maternal health care, lack of access to contraceptives, early childbearing age, small stature among

other factors common in low socioeconomic communities. [8,9] Uneducated girls from poverty stricken households are given out early in marriage. Malnutrition in pregnancy and lack of access to health facilities or skilled birth predisposes them to obstructed labour. [8] Women with this condition inadvertently have urine incontinence with a constant malodorous tendency, shame, marital disruption, social segregation and possible destitution. [4,5]

Post-traumatic stress disorder (PTSD) is a mental health condition that develops in people who have experienced life-threatening events. [10] A person with PTSD may keep reliving the event, avoid situations that remind him/her of the event, have more negative beliefs and feelings or feel keyed up. [10,11] The disorder usually develops within weeks, months or even years after the occurrence of the traumatic event. Symptoms of PTSD can include nightmares and flashbacks, insomnia, lack of concentration, and feelings of isolation, irritability and guilt. [2,11-14]

One of the psychological sequelae of VVF is the development of symptoms relating to PTSD. [15] Patients suffering from VVF can present with various symptoms of PTSD such as depression, feelings of shame, loneliness, low self-esteem and suicidal ideation. [8,16] Previous studies conducted among VVF patients have revealed various symptoms of psychological disorders among them. In a cross-sectional study of 252 purposively selected VVF patients in seven centres in six different states in Northern Nigeria, the researchers found that there was a statistically significant correlation between having VVF and the development of stigmatization, low self-worth and loss of rational ability of the patients. [8] Another study in Benin-City, Nigeria on psychosocial problems of patients with VVF showed that of the 20 patients with VVF, 45% were ostracized while 50% reported impoverishment from job loss. [17] Clearly, this situation could predispose them to mental health issues including PTSD.

A study in Niger investigating the psychosocial impact of VVF determined that the women studied reported rejection from society, isolation, divorce or separation from their husbands. They later developed depression and suicidal tendencies. [16] In Tanzania, a study compared the psychological symptoms of obstetric fistula patients to women without fistula. The obstetric fistula patients had a higher prevalence of depression, post-traumatic stress disorder, somatic complaints, and maladaptive coping. [14]

To achieve success in rehabilitating women with VVF who have PTSD, it is necessary to understand the factors that contribute to the development of PTSD among the affected women. Therefore, this study aimed to assess the current prevalence of PTSD among women with VVF and the predictors of PTSD among them.

## **METHODOLOGY**

### **Study Area**

The study was conducted at the Comprehensive Health Centre of the Jos University Teaching Hospital in Zamko, Plateau State during a free medical outreach for VVF patients. The centre is a 35-bed secondary health facility which had about 8,050 patient visits in 2007. Zamko is a rural community located on latitude 9°N and longitude 9.85°E, and found in Langtang North Local Government Area (LGA) which is one of the 17 LGAs of Plateau State in Nigeria.

### **Study Population**

The study population comprised women suffering from VVF and who were greater than 15 years of age who gave consent for the study.

### **Study Design**

This was a cross-sectional study of women who attended the VVF medical outreach programme.

### **Sample size**

All the women diagnosed of VVF were studied. They were 37 in total.

### **Data Collection instrument**

The data collection instrument was an interviewer-administered structured questionnaire. It had 3 sections: socio-demographic information, evaluation of the factors associated with VVF and the PTSD assessment of the women. Four questions adapted from the Primary Care PTSD (PC-PTSD) Screening Tool, an instrument developed by the Education Division of the National Center for PTSD, United States of America, were used to screen for PTSD. [18] Respondents were asked if in the past month, they had had recurring nightmares or unwanted thoughts about the crisis; if they had tried hard not to think about it or went out of their way to avoid situations that reminded them of it; if they were constantly on guard, watchful, or easily startled and whether they felt numb or detached from others, activities, or their surroundings since the crisis. A positive response to three or more questions indicated presence of PTSD. The 4-item Primary Care Post-Traumatic Stress Disorder screen (PC-PTSD) which was used is a simple and effective screening tool to identify symptoms of post-traumatic stress disorder.

### Data Analysis

Data was cleaned and analyzed using SPSS version 20. Data were presented as frequency tables, mean and standard deviation. Binary logistic regression was used to determine the predictors of PTSD among the participants. A confidence interval of 95% was used and a p-value of  $\leq 0.05$  was considered as statistically significant.

### Ethical Consideration

Ethical approval for the study was sought from the Health Research Ethical Committee of Jos University Teaching Hospital, (JUTH). Permission was gotten from the organizers of the medical outreach and an informed consent was obtained from the participants of the study.

## RESULTS

A total of 37 women were interviewed. The mean age of the respondents was  $47 \pm 14.5$  years. Almost half

of the respondents 17(45.9%), were between the age group of 35 and 54 years. Christianity was the predominant religion which accounted for 31(83.8%) respondents. More than half of the respondents were Taroh, 20(54.1%), which is the dominant tribe in Langtang LGA. Greater than half of the respondents 20 (54.1%) did not have any form of formal education. Majority of the respondents 30 (81.1%) were unemployed. More than half of the husbands (54.1%) also had no education and majority of them were farmers (81.1%). Most of the respondents 29 (78.1%), drink alcohol. More than half of them, 23 (62.2%) have had VVF for less than 20 years while only 3 (8.1%) respondents had it for 40 years and above. About a third of the respondents 14 (37.8%) had had previous surgery for VVF repair but with no success (Table 1).

**Table 1: Socio-demographic characteristics of the respondents**

Variables	Frequency (n=37)	Percentage
<b>Age (years)</b>		
15-34	9	24.3
35-54	17	45.9
>55	11	29.7
<b>Marital Status</b>		
Married	18	48.6
Divorced/Separated	19	51.4
<b>Religion</b>		
Christian	31	83.8
Others (Islam, traditional)	6	16.2
<b>Family type</b>		
Monogamous	12	32.8
Polygamous	25	67.6
<b>Ethnicity</b>		
Taroh	20	54.1
Others	17	45.9
<b>Educational status</b>		
None	20	54.1
At least primary	17	45.9
<b>Employment status</b>		
Unemployed	30	81.1
Employed	7	18.9
<b>Husband's Educational status</b>		
None	20	54.1
At least primary	17	45.9
<b>Husband's Occupation</b>		
Farmer	30	81.1
Others	7	18.9
<b>Takes Alcohol</b>		
Yes	8	21.6
No	29	78.4
<b>Duration of having VVF (Years)</b>		
$\leq 19$	23	62.2
20-39	11	29.7
$\geq 40$	3	8.1
<b>Previous Failed Repair</b>		
Yes	14	37.8
No	23	62.2

Responses to the four screening questions for PTSD showed that 19 (51.4%) respondents had recurring nightmares or unwanted thoughts about their medical condition in the past month, 28 (75.7%) admitted that they had tried hard not to think about it or went out of their way to avoid situations that reminded them of it; 24 (64.9%) admitted to being constantly on guard, watchful, or easily startled and 25 (67.%) respondents said they felt numb or detached from others, activities, or their surroundings since the disease started. A total of 24 (64.9%) respondents were positive for PTSD after the screening questions were administered.

Table 2: Prevalence of post-traumatic stress symptoms among respondents.

Variable	Frequency (n=37)	Percentage
<b>Nightmares</b>		
Yes	19	51.4
No	18	48.6
<b>Avoid situations</b>		
Yes	28	75.7
No	9	24.3
<b>Constantly on guard</b>		
Yes	24	64.9
No	13	35.1
<b>Detached</b>		
Yes	25	67.6
No	12	32.4
<b>PTSD</b>		
Yes	24	64.9
No	13	35.1

A logistic regression was performed on the variables listed so as to determine the actual predictors responsible for the PTSD. Although no predictor was responsible for the observed level of PTSD among the respondents, Religion was seen to be a protective factor as respondents from other religions when compared to Christianity (AOR = 0.034, 95% CI: 0.001-1.090). The study subjects from a polygamous setting had more than twice the risk of having PTSD (AOR = 2.008, 95% CI: 0.220-18.300) as against those from monogamous settings, however it was not statistically significant. Other covariates with a high Odds Ratio despite not being associated with developing PTSD were unemployment (AOR = 16.99, 95% CI: 0.453-63.79), husband's other occupation compared to

farming (AOR = 11.042, 95% CI: 0.060-31.761), Use of alcohol (AOR = 5.967, 95% CI: 0.400-8.901), and having VVF for greater than 40 years (AOR = 2.412, 95% CI: 0.056-104.5).

Table 3: Binary logistic regression for predictors of PTSD among respondents.

Variable	Odds ratio	Confidence Interval	p-value
<b>Age of respondent (years)</b>			
15-34	1		
35-54	0.620	0.052-7.458	0.706
>55	0.312	0.011-8.859	0.495
<b>Marital status</b>			
Married	1		
Divorced/Separated	0.509	0.066-3.936	0.518
<b>Religion</b>			
Christian	1		
Others	0.034	0.001-1.090	0.056
<b>Family type</b>			
Monogamous	1		
Polygamous	2.008	0.220-18.300	0.536
<b>Ethnicity</b>			
Taroh	1		
Others	0.297	0.034-2.635	0.276
<b>Educational status</b>			
None	1		
At least primary	0.956	0.0.08-10.337	0.970
<b>Employment status</b>			
Employed	1		
Unemployed	16.994	0.453-63.789	0.126
<b>Husband's educational status</b>			
None	1		
At least primary	0.081	0.003-1.798	0.108
<b>Husband's Occupation</b>			
Farmer	1		
Others	11.042	0.060-31.761	0.160
<b>Use of alcohol</b>			
Yes	1		
No	5.967	0.400-8.901	0.234
<b>Duration of Having VVF (Years)</b>			
0-19	1		
20-39	1.639	0.150-17.895	0.685
>40	2.412	0.056-104.494	0.647
<b>Previous Repair Failed</b>			
Yes	1		
No	2.046	0.287-14.575	0.475

## DISCUSSION

Responses to the four screening questions for PTSD showed that many of the respondents were deeply traumatized and emotionally scarred from the longstanding (more than half of them had been living with VVF for about 20 years) condition. This had given rise to recurring nightmares or unwanted thoughts about it, avoidance symptoms, constant guardedness and in many cases feelings of numbness and detachment from their surroundings. Studies to corroborate these findings have also shown that in addition to these symptoms,

many of them are often depressed and suicidal. [16,19]

Two-thirds of the respondents were positive for post-traumatic stress disorder after the screening questions were administered. This proportion is quite high and it has implications for their care and management. One of the targets of the Goal three of the sustainable development goals which focus on the improvement of maternal health is to prevent and manage obstetric fistula. In the rehabilitation of VVF patients, it is important to consider psychological/psychiatric assessment and care and not just the surgical repair. VVF patients should be properly assessed and treated for psychological disorders especially when they have been found to have undergone several unsuccessful repairs which is the case with many of the women in this study.

This high prevalence of mental health disorder among VVF patients is similar to that of a study conducted among women with obstetric fistulae prior to surgical repair in Bangladesh and Kenya who were screened for psychiatric conditions using a shortened version of the General Health Questionnaire (GHQ-28) which is a validated screening instrument designed to detect current psychiatric conditions. Sixty-six of the 68 women with fistulae screened positive to probable mental health dysfunction compared with 9 of the 28 controls. The study concluded that women with genital tract fistula were at high risk of mental health dysfunction and recommended that management of women with genital tract fistulas must include routine psychological/psychiatric assessment and treatment.

A logistic regression was performed on the variables listed so as to determine the actual predictors responsible for the PTSD. Although no predictor was responsible for the observed level of PTSD among the respondents, Religion was seen to be a protective factor. This implies that in the course of rehabilitating women with VVF, counselling offered by a respected spiritual

leader should be considered. The study subjects from a polygamous setting had more than twice the risk of having PTSD as against those from monogamous settings, and even though this finding was not statistically significant, it is necessary to take into cognizance marital circumstances of the patients during their rehabilitation.

Other covariates with a high Odds Ratio despite not being associated with developing PTSD were unemployment (AOR = 16.99, 95% CI: 0.453-63.79), husband's other occupation compared to farming (AOR = 11.042, 95% CI: 0.060-31.761), Use of alcohol (AOR = 5.967, 95% CI: 0.400-8.901), and having VVF for greater than 40 years (AOR = 2.412, 95% CI: 0.056-104.5).

A limitation of this study is that a screening tool was used to detect presence of PTSD symptoms among the respondents, whereas a more diagnostic assessment may reveal a lower prevalence of stress disorders among them.

## CONCLUSION

This study revealed that majority of the respondents had been living with VVF for more than 15 years and several had had unsuccessful repair of the condition. As a result of this, many of them are now suffering from symptoms of PTSD. Even though this was a screening test, the findings highlight the need to provide psychological relief and services to these women in addition to the surgical repair of the fistulae.

## Recommendations

Although it is desirable that VVF should be completely prevented, this is not so in developing countries which still report a high prevalence of the condition. It is therefore recommended that:

1. Timely rehabilitation of women with VVF should be done in high risk areas to prevent the complications of VVF and subsequent development of PTSD.
2. Mental health intervention should be incorporated as a component of the treatment for VVF.

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BME and IC were part of the data collection team

TYO and IC did the data analysis

All the authors were involved in drafting of the manuscript

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