Reasons for delay in accessing free treatment of obstetric fistula in South-East Nigeria – A qualitative study

DOI: 10.29063/ajrh2022/v26i12.3

Adebayo BC Daniyan¹, Henry Uro-Chukwu¹, Johnson Obuna¹, Ifeoma Mighty-Chukwu¹, Emmanuel Yakubu¹ and Olapeju Daniyan²

National Obstetric Fistula Centre, Abakaliki, Nigeria¹; Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Nigeria²

*For Correspondence: Email: abcdaniyan@gmail.com; Phone: +2348033803982

Abstract

Obstetric fistula continues to be a menace in Nigeria and other low- and middle-income countries. The national policy for its elimination makes surgical repair free in dedicated national centres. However, the majority of the clients present late for repair. The aim of the study was to explore the reasons for this delay in seeking treatment. It was a qualitative (exploratory) study carried out at the National Obstetric Fistula Centre (NOFIC), Abakaliki, Nigeria among obstetric fistula patients who presented for treatment with a duration of leakage of over six months. A consecutive sampling technique was used for patient recruitment. Data was collected from twenty patients using in-depth interviews. Thematic analysis of the responses and recurring patterns was done, with themes illustrated using the word cloud. The mean age of the participants was 37.1 years (range = 21-75 years) while the mean duration of leakage was 64.3 months (range = 8-564 months). Reasons for delay in accessing treatment of obstetric fistula were lack of awareness of the availability of free treatment in a specialized centre, delay in referral from index health care facilities, wrong information from health care workers, failed repairs at other health facilities, secondary delay due to transportation challenges, cultural beliefs and other issues peculiar to the patients. The commonest reason for the delay in accessing treatment for obstetric fistula is a lack of awareness on the part of patients, the public, and health workers. We recommend improved campaigns, advocacy, and community mobilization. (*Afr J Reprod Health 2022; 26 [12]: 23-31*).

Keywords: Delay; free treatment; obstetric fistula; reasons

Résumé

La fistule obstétricale continue d'être une menace au Nigéria et dans d'autres pays à revenu faible ou intermédiaire. La politique nationale d'élimination rend la réparation chirurgicale gratuite dans des centres nationaux dédiés. Cependant, la majorité des clients se présentent en retard pour la réparation. L'objectif de l'étude était d'explorer les raisons de ce retard à se faire soigner. Il s'agissait d'une étude qualitative (exploratoire) réalisée au Centre national de la fistule obstétricale (NOFIC), Abakaliki, au Nigeria, chez des patientes atteintes de fistule obstétricale qui se sont présentées pour un traitement avec une durée de fuite de plus de six mois. La technique d'échantillonnage consécutif a été utilisée pour le recrutement des patients. Les données ont été recueillies auprès de vingt patients à l'aide d'entretiens approfondis. Une analyse thématique des réponses et des schémas récurrents a été effectuée, avec des thèmes illustrés à l'aide du nuage de mots. L'âge moyen des participants était de 37,1 ans (intervalle = 21-75 ans) tandis que la durée moyenne des fuites était de 64,3 mois (intervalle = 8-564 mois). Les raisons du retard dans l'accès au traitement de la fistule obstétricale étaient le manque de sensibilisation à la disponibilité d'un traitement gratuit dans un centre spécialisé, le retard dans l'orientation des établissements de soins de santé de référence, les informations erronées des agents de santé, l'échec des réparations dans d'autres établissements de santé, le retard secondaire dû aux difficultés de transport, aux croyances culturelles et à d'autres problèmes propres aux patients. La raison la plus courante du retard dans l'accès au traitement de la fistule obstétricale est le manque de sensibilisation de la part des patientes, du public et des agents de santé. Nous recommandons d'améliorer les campagnes, le plaidoyer et la mobilisation communautaire. (*Afr J Reprod Health 2022; 26[12]: 23-31*).

Mots-clés: Retard; traitement gratuit; fistule obstétricale; les raisons

Introduction

Obstetric fistula is an abnormal communication between a woman's genital tract and either the urinary tract or the rectum resulting in leakage of urine or faeces from the vagina following childbirth¹. It continues to be a reproductive health problem among women in low- and middle-income countries². Low socio-economic status and reduced access to quality obstetric care have remained key determinants of this problem³. Nigeria has a high burden of obstetric fistula with estimated 12,000 cases occurring annually and 150,000 women awaiting treatment⁴.

Obstetric fistula is typically caused by prolonged obstructed labour. It forms when there is sustained pressure by the fetal skull against the maternal pelvic bone. This compromises blood flow to the soft tissues of the vagina and bladder which are trapped in-between, leading to ischemia then pressure necrosis. Subsequently, the affected tissues slough off and a hole (fistula) is formed between these body cavities leading to continuous and uncontrollable leakage of urine and/or faeces through the vagina⁵.

The condition is associated with enormous medical, emotional and psycho-social problems, most notably continuous involuntary leakage of urine and/or faeces, persistent offensive odour, marital disharmony and social ostracism⁶. Traditionally, surgical repair is recommended three months following delivery⁷. However, immediate repair of fresh cases has been advocated to reduce the period of hardship and discomfort experienced by the women.

Over the years, the Federal Ministry of Health has introduced rapid surgical interventions and service delivery approaches to reduce the burden of fistula in Nigeria⁴. Notable among these measures is the provision of free treatment for women with obstetric fistula at dedicated national centres⁴. However, majority of women with obstetric fistula present late for repair. In our environment, women leak urine or faeces for an average of 42 months before presenting for repair⁹.

It is unclear why many sufferers of this condition delay coming for repair despite their harrowing experiences and the availability of free treatment in designated centres. This study was undertaken to explore the reasons for this delay in seeking treatment. A good understanding of these women's perspectives will enable us to develop policies that will eradicate identified barriers, enhance timely repair thereby restoring the dignity of these women and reducing the burden of fistula in Nigeria.

Methods

Study area

The study was carried out at the National Obstetric Fistula Centre (NOFIC), Abakaliki, South-East Nigeria. NOFIC is the national reference centre established by the Federal Government of Nigeria in 2011 for the management of obstetric fistula in the southern part of Nigeria, caring for fistula patients from the South-East, South-South, South-West and parts of the North-Central geo-political zones of the country and receiving referrals from about 20 states of Nigeria and the Federal Capital Territory. The centre has carried over 3,400 free fistula repairs since inception according to available data at the facility.

Study design

It was a qualitative (exploratory) study in which indepth interviews were administered to consenting patients with obstetric fistula at NOFIC Abakaliki. The study was a hospital-based one conducted over a period of six months, from January to June 2022.

Study population

The study population comprised women who presented at NOFIC, Abakaliki, diagnosed as having obstetric fistula of over six months duration and were being prepared for repair.

Sampling methods

Consecutive sampling technique was applied which yielded a total of twenty patients that participated in the study.

Inclusion criteria

- 1. All women presenting for treatment at NOFIC, Abakaliki and were diagnosed as having obstetric fistula with over six months duration of symptoms
- 2. Patients who consented to the study

Exclusion criteria

- 1. Women who had had previous obstetric fistula repair in our centre were excluded from the study
- 2. Patients under 18 years of age

Data collection

Data collection instrument was in-depth interview (IDI) administered by trained research assistants within the facility using English and Igbo languages

Daniyan et al.

according to patient's preferences. A total of twenty women with obstetric fistula were interviewed using a digital voice recorder, outcomes of which were transcribed and documented as narratives in the patients' own words.

Data analysis

The contents of the responses to the interviews were collated and analyzed into a narrative form using thematic analysis. The themes identified in the narratives were analysed using the word cloud generator and subsequently illustrated in the word cloud as shown in figure 1. Recurring patterns and themes were also identified.

Results

Twenty women were interviewed. The mean age of the women was 37.1 years (range = 21-75 years). The mean duration of leakage was 64.3 months (range = 8-564 months).

Lack of awareness about a specialized centre for fistula treatment

The commonest reason for delay in accessing treatment of obstetric fistula was lack of awareness of the availability of free treatment in a specialized centre. Fifteen out of the twenty women interviewed (75%) stated that they were unaware that such facility existed at no cost. A 35 year-old woman who had leaked urine for eight months said:

"I registered for ante-natal in a mission hospital. The doctor there told me to prepare to deliver through Caesarean section. I informed my husband but he said there was no money. So I was forced to stay at home. It was a nurse who lived close by that came and assisted me in delivering my baby at home. That same week, I noticed I was leaking urine. I did not know about this Centre so I was managing my condition at home. I was able to come to this centre through my mother's friend who informed me that such cases could be treated here".

A 31 year-old woman who had been leaking urine for 12 months also said:

"After 24 hours of labour in the house of a traditional birth attendant, I was referred to a private hospital where I delivered my baby through Caesarean section. The next day I noticed I was leaking urine. I was informed I had developed VVF. The condition disorganized my life and made it very difficult to associate with people. So I engaged in internet searches. I never knew there was a facility that specialized in treating VVF until I got the information from the website of this hospital on the internet".

Delay from seeking treatment in other hospitals

Another common theme among the women in addition to lack of awareness was delay from visiting different hospitals seeking treatment until they were eventually informed and referred to NOFIC Abakaliki. A 36 year-old woman who had been leaking urine for two years said:

"I delivered in a teaching hospital 2 years ago. I had obstructed labour. A few days after delivery, I noticed leakage of urine. I complained at the hospital where I delivered but was referred to another hospital. I went to three other teaching hospitals. It was in the last teaching hospital that I shared my story with someone who referred me to this facility. If I had any idea that there was a facility that specialized in cases like mine, I would have come here earlier".

Another one (24 year-old) who had been leaking urine for fourteen months said:

"I was at the place of the traditional birth attendant for one day and still couldn't deliver after all the force applied by the woman to pull my baby out. I was finally carried back to the hospital where my stillbirth was delivered through Caesarean section. It was after the surgery that I noticed my urine wasn't going into the catheter but was soaking all over the bed. I have been to various hospitals for 14 months seeking treatment. It was just recently a doctor in one of the hospitals I visited referred me to this centre".

Incorrect advice from health personnel

Another narrative was observed in women who were leaking urine following Caesarean section but were discharged and reassured that they would be

Table 1: Reasons for delay in accessing treatment

S/No	Age (years)	Duration of	Reason for delay in assessing treatment
		leakage (months)	
1	33	36	I believed GOD would heal me
2	70	120	I was going to herbal homes
			I did not have transport money (even when I was told about NOFIC early this
			year)
3	33	24	I did not know about this place and I was going to various hospitals seeking treatment until I was recently referred here by a doctor
4	24	14	I was going to various hospitals seeking treatment until a doctor
			referred me to NOFIC
5	30	24	I was not aware that treatment in NOFIC was free, so my husband
			was raising money for the treatment
6	48	156	I thought the leaking would stop
_			I did not know the right place to go for treatment
7	57	50	I never knew about this place until, I went to different places until a doctor in UNTH referred me here
8	36	24	I never knew about this facility, I went to different hospitals until a doctor in
0	50	24	ABUTH. Zaria referred me here
9	34	11	I was not aware of this centre until a nurse in FMC Bayelsa referred me here
10	31	12	I never knew about this facility until I got the information from the internet
11	35	8	I did not know about this centre until my mother's friend informed me about NOFIC
12	29	12	I was not aware of the centre until a doctor in Lagos referred me here
13	24	7	I was writing my final exams
14	24	72	I was not aware of this centre until I was verbally referred here
15	33	8	I was not aware of this centre until I was recently referred here by a doctor in one of the hospitals I went
16	35	36	I did not know about this centre until I was referred here by my aunt who is a nurse
17	48	42	I was not aware of this centre until I was referred here by a friend. I couldn't
1/	-10	42	come immediately because of distance and finance
18	21	18	I kept going to the PHC where I delivered until my pastor referred
			me here. I couldn't come immediately because I had to wait for my father to
			return from his trip
19	75	564	I was not aware of this centre
20	21	48	I was not aware of this centre

fine without appropriate referrals. A 29 year-old woman who leaked urine for 12 months said:

"When I was nine months pregnant, I was sick and I went to a private hospital. I was given an injection to induce labour. After 3 days of taking the injection, there was still no labour. I noticed my baby was not moving again and I was equally bleeding. I was booked for a Caesarean section. After the surgery, I was told my baby was already dead. I was on catheter for 5 days after the surgery and when it was finally removed, I noticed urine was pouring out uncontrollably from my body. I was given drugs and was told I would get better with time. I was not aware of any centre that performs surgery for people with my issue until I travelled to Lagos and visited a hospital where a doctor called my case VVF and referred me to this centre.

Another woman, 33 year-old mother of three who had leaked urine for 8 months said:

"I had a prolonged labour. My baby was already dead. I had an emergency Caesarean section in a private hospital. I was on catheter but I noticed the urine was not passing directly into the catheter but was leaking from the vagina. I called the attention of the nurses to this. When I was discharged, I was placed on drugs and was told I would be fine. When the leakage continued, I kept going from one hospital to the other trying to find out the exact cause of my problem. I was not aware of a place that specializes in cases like this existed. I was just recently told by a doctor in one of the hospitals I visited".

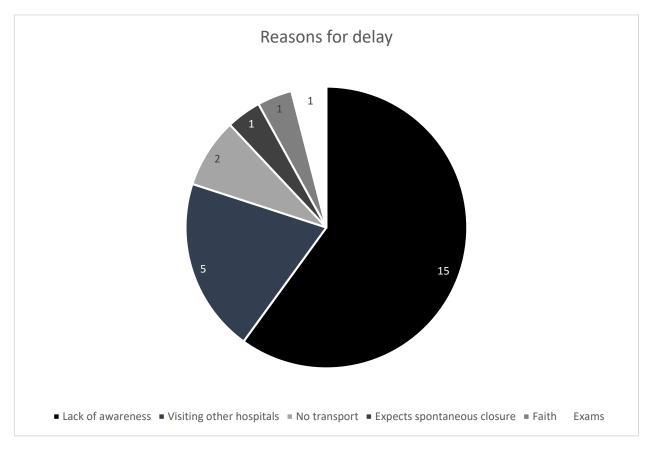


Figure 1: Pie chart showing patients' reasons for delay in seeking free treatment

Attempted (failed) repairs in other facilities

Attempted repairs in other facilities also contributed to delay in seeking free treatment in NOFIC. There were cases of women who sought treatment but had unsuccessful repairs in other hospitals before they were informed about free treatment in NOFIC and were eventually referred. A 34 year-old woman who had leaked urine for 11 months said:

"I labored for 3 days at the home of a traditional birth attendant. The baby's head was stuck so I was referred to a private hospital where a female stillbirth was delivered. I spent 2 weeks in the hospital and was placed on catheter. When I was discharged I started noticing urine was soaking up my clothes without having the urge to urinate. When I went back to the private hospital to complain, I was referred to a Federal Medical Centre where I had a repair but it was not successful. I was *not aware of this centre until one of the nurses there referred me here.*

A 35 year-old mother of three who had leaked urine for 3 years said:

"I delivered my baby in a private hospital after a prolonged labour 3 years ago. I noticed leakage of urine and I went to a general hospital where I had 3 attempted repairs but the leakage continued. It was then that my aunt who is a nurse referred me to this centre after making enquiries from her colleagues. I would have come here first if I had known about this centre".

Lack of information about availability of free treatment

Another reason for delay in accessing treatment of obstetric fistula was lack of information that treatment was free. This is after becoming aware of the availability of treatment or after a referral to the centre. A 30 year-old woman who leaked urine for

Daniyan et al.

2 years delayed coming for treatment due to perceived inability to afford the treatment. She said:

"I noticed urine leakage after childbirth 2 years ago. I had a prolonged labour that lasted for 2 days in a private hospital". I was later referred to a mission hospital where I had an emergency Caesarean section with stillbirth. Few days later, I started leaking urine. I went back to the mission hospital and I was referred to a Federal Medical Centre from where I was verbally referred to this centre for expert management. But as at that time, my husband said there was no money for me to come for the repair because I didn't know that the surgery was free. So we waited till after 2 years when my husband was able to raise the money. Then he asked me to come for the repair. So it was lack of awareness that made me not to come all this while.

Lack of transport fare

Lack of transport money was another reason for delay in accessing treatment of obstetric fistula was. Even after information and referral, some women could not access the centre for treatment because they could not afford the transport. "*I did not have transport money*" said a 70 year-old widow who had been leaking for 10 years:

"When I noticed leakage of urine 10 years ago, I went to different places like herbal home and primary health centres all to no avail. Early this year, someone told me about this centre but I couldn't come immediately because I did not have transport money. So I continued using herbal home until I was able to raise the transport money and we moved down to this place".

A 48 year-old woman who had leaked for 42 months said:

"It started when I had an operation. Few days after the surgery, I started leaking urine. I went about seeking for solution. I went to many hospitals to no avail. We didn't know about this hospital and no one told me. It was last year that a friend heard about this facility and told me. I could not come immediately because of distance and lack of transport money".

Other personal factors

There are other reasons for delaying coming for treatment apart from lack of awareness and transport challenges. A 33 year-old woman who had been leaking urine for three years said although she was duly referred to NOFIC by her doctor, she delayed coming for repair because she believed in divine healing. She said:

"I had an emergency Caesarean section 3 years ago and a stillbirth was delivered. After the surgery, I noticed I was leaking urine. I called the attention of the doctor who said it would correct itself. After two months, the leaking persisted. I went to the doctor who referred me to this place. When I came here, a doctor checked me and asked me to come back after 3 month so I could recover from the Caesarean section. I went home and I felt that GOD would heal me without coming for the repair, so I did not come back until after three years".

A 24 year-old woman who was leaking faeces for seven months presented early but willingly stayed back to write her examinations. She said:

"After my delivery, I was told I had a tear which was sutured immediately. Two weeks later, I noticed faeces coming through my vagina. I told my husband about it and he made enquiries and asked me to come to this centre. When I came, I was given appointment but due to my final exams in the school, I delayed coming for the surgery and focused on writing my exams".

Discussion

Obstetric fistula is one of the most devastating conditions faced by women in our environment. To reduce the suffering experienced by these women, there is need to identify the causes of delay in accessing treatment. Eliminating these factors will not only reduce the period of hardship faced by the women but also reduce the backlog of women living with fistula.

The mean age of the women was 37.1 years. This is comparable to the mean age 35 years among women with obstetric fistula patients in a previous study in Abakaliki, South-East Nigeria⁹.

However, a mean age of 29 years was observed among women with vesico-vaginal fistula in Jos, North-Central Nigeria¹¹. The mean duration of leakage was 64.3 months. In a previous study in the same centre, the women leaked urine or faeces for an average of 42 months before presenting for repair⁹.

The commonest reason for delay in accessing treatment of obstetric fistula was lack of awareness of the availability of free treatment in a specialized centre. Many women suffering from obstetric fistula are not aware of availability of treatment facilities⁴. This implies that a good number of the women affected are literarily suffering in silence and ignorance. This is surprising given the enormous campaigns and sensitization that have been carried out on obstetric fistula and its treatment in this environment over the years as well as the commemoration of the International Day to End Obstetric Fistula on May 23 of every year. The condition has been shown to have received increased global attention in recent times¹². A study in Ethiopia showed poor awareness of obstetric fistula among women of childbearing age¹³. A Tanzanian study also showed that inadequate knowledge about obstetric fistula contributed to delay in seeking treatment¹⁴. As new cases of fistula continue to occur, increased awareness creation is needed using both the conventional and social media to enable more patients present early for treatment.

Another common reason among the women in addition to lack of awareness was delay from visiting different hospitals seeking treatment until they were eventually informed and referred to NOFIC. It is common to find women who have visited many hospitals while seeking solution to the problem. By the time they are eventually referred, they would have wasted considerable time and resources. This delay could be as a result of poor awareness among health workers. A previous study in our environment revealed poor awareness of obstetric fistula among health workers in primary and secondary facilities¹⁵. The awareness of vesicovaginal fistula among health workers in Zamfara state was however found to be good¹⁶. Continuous sensitization and education of health workers in rural areas of South-East Nigeria about fistula is advocated to reduce this delay. Another narrative was observed in women who were leaking urine

following Caesarean section but were discharged and reassured that they would be fine without appropriate referrals. Incorrect and misleading information from health workers is contributory to the delay in seeking treatment of fistula. This is in addition to poor knowledge of catheter use for conservative management of fistula, ignorance about availability of specialized fistula hospitals and poor referral system. In the Tanzanian study, women with fistula were falsely reassured that leaking would stop while some were given antibiotics and sent back home¹⁷.

Attempted repairs in other facilities also contributed to delay in seeking free treatment in NOFIC. There were cases of women who sought treatment but had unsuccessful repairs in other hospitals before they were informed about NOFIC and referred. These women would have wasted time and money despite availability of prompt and free treatment in a dedicated fistula centre. Previous unsuccessful repairs by untrained personnel is not only a cause of delay in seeking expert care but also a risk factor for another failed repair¹⁸. Health workers should be educated on the importance of early referral of identified cases to dedicated fistula centres for prompt and free treatment. The national strategic framework for elimination of fistula advocates partnership between the national fistula centres and other tertiary hospitals in areas of training, technical support, referral of women with fistula and provision of free services⁴.

Another reason for delay in accessing treatment of obstetric fistula was lack of information that treatment was free. After becoming aware of the availability of treatment or after a referral to the centre, patients and relations delay treatment while trying to source money for the treatment of obstetric fistula. Lack of finance is a known barrier to obstetric fistula treatment¹⁹. To overcome this delay, information provided at the point of referral should be detailed with emphasis on the fact that treatment is entirely free.

Lack of transport money was another reason for delay in accessing treatment of obstetric fistula. Even after information and referral, some women could not access the centre for treatment because they could not afford the transport fare. Transportation is another identified barrier to obstetric fistula treatment¹⁹. This is because a good number of the women come from rural areas far

away from the state capital. We advocate partnership between the centre and the transporters whereby the latter bring the patients to the hospital and get paid on arrival. Referring hospitals may also ameliorate the hardship experienced by these patients by conveying them to the treatment centre in an ambulance.

Belief in divine healing is also a cause of delay in accessing free repair of obstetric fistula even after a doctor's referral to a treatment centre. This may be because some women believe their problem is not medical but spiritual or because they do not want to undergo surgery. Such religious belief has also been identified as a cause of delay in accepting surgical repair of fistula²⁰. Hoping that urine leakage will stop may also be associated with a patient's belief system. Religious belief is one of the coping mechanisms among obstetric fistula patients²¹. However, adequate counseling is needed to overcome negative religious coping.

Ethical consideration

Ethical approval was obtained from the Research and Ethics Committee of the hospital. The details and benefits of the study were explained to the participants and only those who gave informed consent were involved. All information obtained from the participants was kept strictly confidential. Patients whose narratives provoked sad memories as shown by their expression were counseled by the clinical psychologist.

Conclusion

The commonest reason for delay in accessing treatment of obstetric fistula is lack of awareness of the availability of free treatment. Other reasons include delay from visiting different hospitals seeking treatment before eventual referral, misinformation from health workers, attempted repairs in other facilities, lack of transport money, belief in divine healing, optimism that urine leakage will stop and other personal issues. More sensitization of health worker and the general public, collaboration with referring hospitals and transporters, use of ambulance for referred patients and adequate counseling before referrals will help overcome these delays.

References

- Tebeu PM, Fomulu JN, Khaddaj S, Bernis LD, Delvaux T and Rochat CH. Risk factors for obstetric fistula: a clinical review. *Int Urogynecol J* 2012; 23: 387-94.
- Daniyan B. Obstetric fistula an unceasing scourge in the developing world. *J Neonatal Biol* 2017; 6: 244. doi: 10.4172/2167-0897.1000244.
- Bello OO, Morhason-Bello IO and Ojengbede OA. Nigeria, a high burden state of obstetric fistula: a contextual analysis of key drivers. *PAMJ* 2020, 36. Doi: 10.11604/pamj.2020.36.22.22204
- Federal Ministry of Health (FMOH) and United Nations Populations Fund (UNFPA). National strategic framework for the elimination of obstetric fistula in Nigeria 2019-2023. Abuja: Federal Ministry of Health. 2019:1-62.
- 5. Wall LL. Obstetric fistula is a "neglected tropical disease". *PLoS Negl Trop Dis* 2010; 6: e1769.
- Sunday-Adeoye I, Daniyan ABC, Eliboh MO, Mighty-Chukwu I, Ekwedigwe KC, Nweke U, Chigbo E and Anah C. Re-integration of women who had repair of obstetric fistula – a pilot study. *Ijsrm Human* 2017; 8: 15-28.
- Pope R and Beddow M. A review of surgical procedures to repair obstetric fistula. Int J Gynecol Obstet 2020; 148: 22-6.
- Waaldijk K. The immediate management of fresh obstetric fistulas. Am J Obstet Gynecol 2004; 191: 795-9.
- Daniyan ABC, Obuna JA, Daniyan OW, Yakubu EN, Ekwedigwe KC and Mbamalu SO. Predictors of late presentation for obstetric fistula repair in Abakaliki, South-East Nigeria. *Afr J Reprod Health* 2021; 25: 76-81.
- Sunday-Adeoye I, Okonta P and Ogbonnaya L. Prevalence, profile and obstetric experience of fistula patients in Abakaliki, Southeast Nigeria. Urogynecologica 2011; 25: 20-4.
- 11. Daru PH, Karshima JA, Mikah S and Nyango D. The burden of vesico-vaginal fistula in North Central Nigeria. J West Afr Coll Surg 2011; 1: 50-62.
- 12. Browning A. Where we currently stand on obstetric fistula treatment and prevention. *Int J Gynecol Obstet* 2021; 148: 1-2.
- 13. Aleminew W, Mulat B and Shitu K. Awareness of obstetric fistula and its associated factors among reproductiveage women in Ethiopia: a multilevel analysis of Ethiopian Demographoc and Health Survey data: a cross-sectional study. *BMJ Open* 2021; 11: e053221 doi: 10.1136/bmjopen-2021-053221
- 14. Lyimo MA and Mosha IH. Reasons for delay in seeking treatment among women with obstetric fistula in Tanzania: a qualitative study. *BMC Women's Health* 2019; 19: 93 doi: 10.1186/s12905-019-0799-x
- 15. Obuna JA, Madubueze UC, Daniyan ABC and Uro-Chukwu. Are primary and secondary healthcare workers in rural parts of Ebonyi State of Nigeria aware of obstetric fistula? *IJRRGY* 2021; 4: 47-52.
- 16. Maiwada AM, Rahman NAA, Rahman SA, Mamat NM, Azad AK and Baba TM. Awareness of vesicovaginal

fistula among health workers in some health facilities of Zamfara State, North-West Nigeria. *Pharmacology Online* 2017; 1: 89-97.

- 17. Cichowitz C, Watt MH, Mchome B and Masenga GG. Delays contributing to the development and repair of obstetric fistula in Northern Tanzania. *Int Urogynecol J* 2018; 29: 397-405.
- Holt LM, Potluri T, Tanner JP, Duffy S, Wasingya L and Greene KA. Riskfactors for failed surgical repair of urogenital fistulas. Am J Obstet Gynecol 2020; 222. doi:10:1016/j.ajog.2019.12.103
- 19. Baker Z, Belloes B, Bach R and Warren C. Barriers to obstetric fistula treatment in low-income countries: a

systematic review. *Tropical Medicine and International Health* 2017; 22: 938-59.

- 20. Nalubwama H, El Ayadi AM, Barageine JK, Byamugisha J, Kakaire O, Obore S, Mwanje H and Miller S. Perceived causes of obstetric fistula and predictors of treatment seeking among Ugandan women: insights from qualitative research. *Afr J Reprod Health* 2020; 24: 129-40.
- 21. Watt MH, Wilson SM, Joseph M, Mesanga G, MacFarlane JC, Oneko O and Sikkema KJ. Religious coping among women with obstetric fistula in Tanzania. *Glob Public Health* 2014; 9: 516-27