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Prevention and Post-Delivery Care of Obstetrical Fistula Patients in developing countries like Nigeria: A Systematic Review

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Abstract

The study aimed to explore the prevention of obstetrics fistula, critically evaluate the numerous works on the subject, and address gaps and unmet requirements in psychosocial care for teenagers with fistula in developing countries like Nigeria. This critical analysis was culled from literature from PubMed, Google Scholar, African Journals Online, BMC, and open-access journals of international organizations such as WHO, UNFPA, USAID, Engender Health, Fistula Foundation, and Fistula Care Plus published between 2012 to the present. Out of the 42 articles identified, 11 were relevant for the research purpose. Psychosocial support, social reintegration, and rehabilitation of adolescents with obstetrical fistula in developing countries have not been given the same attention it deserves as given to surgical treatments. Most of the psychosocial interventions in the articles published on obstetrics fistula excluded adolescents below 18 years, and most only dealt with surgical repair of the damaged tissues exclusively. In developing countries, such as Nigeria, there is a need to integrate post-surgical care with mental health care for obstetrics fistula patients. In addition, ongoing support and promotion of outreach projects are needed for case identification and counseling to create awareness about myths concerning obstetric fistula to aid the social reintegration and rehabilitation process for teenagers, specifically those who are under 18 years.

Keywords: *Obstetrical Fistula, Developing countries, Psychosocial, Confidence, Stigma*

Background

Obstetrics fistula is an anomalous opening between the vaginal tract and the urinary bladder that causes urinary incontinence. It is a childbirth injury caused by prolonged, obstructed labor. The sustained pressure of a baby's head against the mother's pelvis cuts the blood supply, causing tissue disintegration that leads to an opening between the genital tract and the bladder. (1). Consequently, there is a continual leak of urine and/or feces out of the vaginal without control, thus leading to medical complications, including infections (2). Fistulas are a condition that affects childbearing women of all ages. However, it disproportionately affects young women in developing countries and is more severe in countries where child marriage and adolescent pregnancies are prevalent (3). As a result, the condition has become a significant public health concern in these countries. Fistulas are preventable and avoidable, yet the increasing prevalence in developing countries highlights the lack of financial resources available and the deficit in healthcare infrastructure, particularly in maternal healthcare. Further, this highlights the inability of the healthcare system to offer accessible and effective treatment during delivery. As a result, fistulas result in stillbirths and maternal mortality in 90% of cases (4).

Although some studies suggest that surgeries often lead to gynecological fistula (5), most authors assert that obstructed labor is the primary risks factors for fistulas (2, 6, 7, 8, 9). Further, Doe (10) posits that obstetrics fistula is a condition associated with poverty. The difference from other poverty-related conditions is that it affects women exclusively. Therefore, it is reasonable to deduce that improved nutrition will help prevent stunting and subsequently obstructed labor. However, further consideration must be given to other disposing of factors. For example, previous studies have highlighted factors such as poor follow-up in prenatal clinics during pregnancy, home delivery, lack of quality facilities, unskilled workers or traditional birth attendants, and cultural norms supporting early marriage (9,11). In addition, further studies have noted the importance of considering demographic factors such as socioeconomic status and no education as predisposing factors for developing obstetric fistulas (4,8,12).

Evidence suggests that early pregnancies result in poor outcomes for young girls, such as death during childbirth, vesicovaginal fistula (VVF) or rector vaginal fistula (RVF), or both because these childbrides give birth at a very young age when they are not physically or physiologically able to deliver a baby (4). In addition, the World Health Organization (13) reports that childhood marriage and adolescent pregnancy are linked to 90% of adolescent births in the developing world, such as Nigeria. Similarly, the WHO (14) reported that difficulties encountered during pregnancy and childbirth are the leading cause of death for girls between the ages of 15 and 19 in most developing countries. Furthermore, compared to women who become pregnant in their 20s, stillbirths and newborn mortality are 50% more prevalent among women under the age of 20 (14). In the same vein, the United Nations Children Fund (15) asserts that the risk of RVF from child marriage is as high as 88 percent because most of these young girls have limited access to contraceptives, which increases the likelihood of early pregnancy. This implies that access to contraceptives could significantly reduce the incidence of obstetric fistula.

The United Countries Population Fund (UNFPA) states that about 500,000 women and girls live with obstetrics fistula, with thousands more cases happening yearly in more than 55 countries spanning sub-Saharan Africa, Asia, the Pacific, the Arab States, Latin America, and the Caribbean. About 50,000 and 100,000 women get fistula each year while trying to give birth. However, over 400,000 women are still untreated, and Nigeria accounts for 40% of all cases globally (16, 17). Similarly, the United States Agency for International Development (5) and WHO (1) assert that an estimated two million women are left with untreated VVF. Nigeria accounts for over half of the cases in developing countries. Arguably, inadequate funding, a lack of adequate medical equipment to match the national burden, a shortage of skilled medical personnel to handle the backlog, a lack of accurate prevalence and incidence data, and inaccurate maternal morbidity data are challenges that complicate addressing this burden.

Obstetric fistula is prevalent in countries with scarce resources, especially in Sub-Saharan Africa and South Asia (4). Developing countries like Ethiopia, Nigeria, Malawi, Uganda, Tanzania, Mali, Kenya, India, and Somalia have a high burden (2). While obstetric fistula has almost completely disappeared in developed countries, it has persisted in these developing countries because of poverty, illiteracy, and harmful cultural customs. In addition, a lack of quick access to effective maternal healthcare systems has made only marginal progress over time (18). This has resulted in countless women in developing countries continuing to experience the extreme hardship brought on by the condition (4).

Recent studies have shown that fistulas affect a women's physical, social, emotional, and psychological health (19, 20 ,21, 22, 23, 24). Generally, women that have obstetrical fistulas typically experience severe psychosocial issues. These include loss of income, low self-esteem, bullying, shunning from society, outright abandonment by their male partners, feelings of rejection, stigmatization, depression, stress, anxiety, embarrassment, loneliness, divorce, and loss of sexual gratification. In addition, the loss of societal status—including that of motherhood, for those whose children are stillborn also presents societal embarrassment.

Unfortunately, barely anything is being done at the international and national levels to address the issue, despite knowing its severity and how much it contributes to the poor state of women's reproductive health and rights in developing countries. There is an indication that the government and other relevant authorities are beginning to give this issue the attention it deserves (16, 17). In response to these, several international conferences, including the Fourth World Conference on Women and the International Conference on Population Development, have recognized the prevention, treatment, and rehabilitation of women affected by obstetric fistulas as crucial human rights and public health objectives. These issues must be addressed to enhance women's reproductive health and social status in developing countries (16, 17).

So far, three strategies have been proposed by WHO to address the issue of obstetric fistulas. These include delaying the age of first getting pregnant, ending detrimental cultural practices, and quick and timely access to obstetric care (1). That notwithstanding, the United Nations Population Fund (16,17) notes that timely access to obstetric care without high-quality medical education will make these strategies ineffective. Further, providing family planning that includes access to contraceptives can benefit these initiatives as unwanted pregnancy, and subsequent fistula could be avoided.

Similarly, Bello et al. (3) opine that promoting excellent birth practices, fostering broader aspects of community development, reducing cultural and traditional norms that encourage early marriage, and supporting women's economic empowerment is part of primary prevention that will be ineffective without a contextual effort by policymakers to include reintegration and re-establishment of these fistula patients. Further, Shallon et al. (25) assert that interventions are currently being carried out to address these concerns in various regions of Africa on social reintegration and rehabilitation of obstetric fistula patients before and after treatment in sub-Saharan Africa.

Nevertheless, these initiatives will take some time to be accomplished, and it will probably take these countries several years of multi-sectoral social and economic development before any noticeable changes can occur. Therefore, while primary prevention initiatives are being consolidated, strategies for lowering the number of women affected through treatment, counseling, and mental health intervention, are needed. It is essential to focus on delaying marriage and expanding women's access to trained birth attendants within countries. Reducing teenage pregnancies and improving comprehensive sex education should also be a part of the prevention strategy.

Epidemiological Facts of Obstetric Fistula Burden

Due to the difficulties in gathering accurate maternal morbidity data for obstetric fistula in low-income countries, efforts to create suitable and coordinated responses to the disease have been hampered by the absence of reliable data on obstetric fistula prevalence and incidence (4). Women with fistula are typically poor, socially

secluded, geographically isolated, and have limited political influence (26, 27, 28). As a result, it is challenging to identify these women for reliable prevalence or incidence data.

Since UNFPA and other organizations launched the "Campaign to End Fistula" in 2003, awareness among decision-makers has dramatically improved (16,17). As noted, reliable data needed to develop a coordinated response is lacking, so the actual prevalence of obstetric fistula has yet to be wholly known. Nevertheless, in 2006, the WHO reported an estimated two million obstetric fistula cases globally, with 50,000 to 100,000 new cases reported annually (29). However, these estimates were based upon data from over ten years and it is unclear if there are any recent data and which methodology was used to ascertain this globally quoted figure. Hence, the number of women with obstetrical fistula may be larger because it is more challenging for researchers to detect untreated women who never make it to a medical facility, and sample biases are challenging to prove. In addition, most studies are facility-based, and the few population-based studies needed to be more appropriate to identify those with obstetric fistula reliably.

Therefore, our understanding of the incidence and prevalence of obstetric fistula relies on low-quality data, such as epidemiologic literature reviews. Given these, most writers divided the population-based estimates of obstetric fistula into several groups. Unfortunately, the first group of estimates disclosed in the scientific literature needed to include information about how they were obtained. These include estimates of the prevalence of fistulas in northern Nigeria, the annual number of new cases in Tanzania and Ethiopia, the percentage of pregnant women with fistulas in Pakistan, and the percentage of married women with fistulas observed in Bangladesh.

Given that most of these sample sizes of the studies were insufficient to produce reliable estimates, these estimates had limited reliability when applied to populations across different countries. For example, Adler et al. (30) conducted a recent systematic review in South Sudan and discovered an overall prevalence of 30 cases per 1,000 women of reproductive age. However, the study was based on 10 cases and was geographically limited. Besides, it used local informants, the Key Informant Method, who were trained to identify fistula patients that obstetricians later confirmed. The study may have overlooked women who have yet to go to a hospital or live in isolated communities. Uncertainty around these figures and the difficulty in determining the scope of the issue highlight the challenges in developing a successful response for fistula treatment and prevention (31).

Minimal reports about adolescents with obstetrical fistula post-delivery care mental health and social reintegration care have been documented, which raises a serious public health concern. As noted earlier, bullying, shunning from society, and outright abandonment by their male partners is widespread. The patient's surgical needs represent an important, urgent fix, but the enduring mental health problem requires ongoing counseling intervention. While Nigeria accounts for most obstetrical fistula in the developing world, a significant deficiency exists in mental health care provided to these patients compared to other countries. Therefore, it is on this premise that the current study sought to critically examine the prevention and post-delivery care of adolescents with obstetrical fistula in developing countries.

Specific Aims and Research Questions

The review aims to critically analyze various kinds of literature on obstetric fistula in developing countries like Nigeria, the mental health care of pre-and postsurgical patients, demographic and health surveys, and reports of those who have worked on fistula. In addition, the review will answer the following questions:

1. What steps could be taken to minimize obstetrics fistula?
2. What steps could be taken to augment obstetric fistula patients' unmet medical and psychosocial needs in developing countries?
3. What steps can help to address the gaps in psychosocial support of adolescents with obstetrical fistula in developing countries such as Nigeria?

Methods

The following inclusion and exclusion criteria were utilized as the purpose of this review is to show the need for psychosocial support for adolescents with obstetrical fistula.

Articles were only included for further review if (a) studies were free full text, (b) literature from low-income countries with a high prevalence of obstetric fistula, (c) literature with study size with at least ten patients, (d) population-level studies of estimates, (e) works focused on the impact of surgical repair on the quality of life and or psychosocial symptoms of obstetric fistula patients, (f) longitudinal studies with follow-up data after a minimum of three months postsurgical repair, and (g) original/primary studies. To be included in further review, studies were required to be in English or have an English abstract available. The study participants were women who experienced obstetric fistula due to obstructed labor complications in developing countries. For further analysis, only articles that were published in 2012 were included. To be as thorough as possible without concentrating on research that might include out-of-current data, 2012 was chosen as the end date. Five publishers' pages of journals, including the International Journal of Gynecology and Obstetrics, International Urogynecology Journal, British Journal of Obstetrics and Gynecology, The Lancet, and Health Policy and Planning, were individually searched for additional studies after studies were identified through database searches. Based on their frequent appearances in database searches and reasonably high impact factors, these journals were chosen for further investigation. The same keywords words used in database searches were utilized to search publisher pages. We looked through several network and organizational websites in search of more studies or papers. Google searches for fistula campaigns, and organizations, and used for other relevant websites. This web search included the websites of Engender Health, Human Rights Watch, Fistula Care, United Nations Population Fund (UNFPA), Campaign to End Fistula, United Nations Children's Fund, World Health Organization (WHO), Worldwide Fistula Fund, and Fistula Foundation.

Using the critical terms in Appendix A in PubMed, BioMed Central, and Google Scholar, a total of 42 articles about the prevention and post-delivery care of patients with obstetric Fistulas were identified. Those articles were narrowed to open-access studies published in 2012 and later. Once the duplicates were removed, thirty articles met the inclusive criteria. Papers that did not address the association between surgical repair and psychosocial support were excluded. Review articles were also excluded. A total of 11 articles from Ethiopia, India, South Sudan, Somalia, Malawi, Kenya, Uganda, Tanzania, and Mali, met the criteria for review.

The core themes identified included were prevention and surgical and mental health interventions. Data on each theme will be examined in turn.

Countries Reviewed

Ethiopia

Belayihun and Mavhandu-Mudzusi (32) conducted a longitudinal study to study the impact of fistula repair on depression and anxiety in obstetric fistula patients. The study's objectives identified shifts in depression and anxiety severity and examined the association between mental health and post-surgical repair. Six fistula care centers around the country provided 219 fistula patients for the study. For a six-month follow-up visit, 200 of the 219 patients returned. The levels of depression and anxiety were assessed before surgery and six months afterward using the Patient Health Questionnaire-9 (PHQ-9) and General Anxiety Disorder-7 (GAD-7) questionnaires. Two hundred patients (91.3%) exhibited depressive symptoms, while 174 patients (79.5%) had anxiety symptoms. Prior to admission, depression and anxiety symptoms were present in 91% and 79% of patients, respectively. The prevalence rate was 27% and 26% following surgical correction. The variations in the proportion of women who tested positive on screens were statistically significant (P 0.001). The result demonstrates the mental health impact of obstetrics fistula. However, only 17% of the selected populations were adolescents. Furthermore, the study showed no record of mental health intervention, social reintegration, or rehabilitation services provided for obstetric fistula patients after surgical procedures.

India

Singh et al. (33) looked at the variation in the quality of life in 101 fistula patients in India before and after surgery. The recruited population consists of women aged 20-40. Prior to surgical repair and three months after successful rehabilitation, the WHO quality of life-BREF (WHOQOL-BREF) questionnaire was utilized to track the change in the patient's quality of life. There was an improvement in the overall quality of life, in the physical and psychological, and segments of the WHOQOL-BREF questionnaire post-surgical repair. However, the study did not include adolescents, the most at-risk population for this condition. Furthermore, the study showed no record of social reintegration and rehabilitation services provided for the patients after their surgeries.

Kenya

To identify characteristics that impact social rehabilitation and effective support mechanisms during the postsurgical healing of vaginal fistulas, Khisa et al. (34) conducted a study in Kenya. Sixteen participants from three healthcare facilities were studied using interviews before and during the six-month follow-up after surgery. The responses were examined, and social isolation and reintegration into society were noted. The responses revealed of the interview revealed that the individuals dealt with social stigma, inadequate role identification, and diminished self-worth prior to surgical repair of the fistula. However, following repair, these emotions disappeared as the individuals were eager to regain their lives. Consequently, the participants noted an improvement in quality of life. Even after repair, several individuals continued to endure physical and psychological abuse, adversely affecting their mental health and social reintegration. The researchers understood that successful social reintegration into society required ongoing holistic care for obstetric fistula patients following surgery. The study's goal is consistent with this research on the importance of psychosocial support for the successful social reintegration of patients with obstetric fistulas. However, the study utilized a small sample size which was insufficient to provide meaningful estimations.

Malawi

Kopp et al. (35) studied Malawian women who had undergone surgical repair at least a year earlier and were evaluated for residual incontinence, depression, and quality of life. With 290 participants, the study was conducted at the fistula care center. A pad test, which involves weighing urinary pads that the patients have worn after one hour, was used to gauge the severity of self-reported urine incontinence. After wearing, pads with a weight rise of 1.5 grams or more were deemed incontinent. In addition, the King's Health Questionnaire, a validated questionnaire for female urine incontinence, was used to measure the quality of life and quantify the depression component. Symptoms of depression were reported in 3.5% of women that reported continuing urinary incontinence after surgery compared to 19.3% before surgery. However, adolescents, who are the most at-risk population for this condition, were not included in the study. Furthermore, the study showed no record of social reintegration and rehabilitation services provided for obstetric fistula patients after their surgeries.

Mali

The most recent research on obstetric fistula and its connection with mental health in this country was by Watt et al. (37). The researchers aimed to assess the social and mental health status of Mali women who had fistulas and to analyze how the pilot program for mental health screening affected policy change in the country. The sample consisted of 207 women. Before surgical repair, baseline data were gathered, and the second set of data was gathered at follow-up (3 months post-repair). The findings revealed that patients with fistulas had a high rate of depression. However, the study did not specify the age range of the participants included in the research. Furthermore, the study showed no record of mental intervention and social integration provided for the patients after the procedure.

Somalia

Mohamed et al. (38) investigated the post-corrective surgery experiences of twenty-one women with obstetric fistulas. Through open-ended interview questions, data was gathered. At two different fistula treatment facilities, 21 patients had undergone surgical repairs. Most participants (52.4%) had less than four years of history of a fistula. One lived with a fistula for 29 years and attributed it to a curse from her husband. About 86% of the individuals had undergone one surgical repair, while 9.5% had three to four repairs. All individuals were married before acquiring a fistula, but the results indicate that 47.6% of them divorced after acquiring a fistula. The study focused on women's experiences after repair but showed no record of social reintegration or mental health intervention after their procedures.

Tanzania

Wilson et al. (37) conducted a study that met the requirements for inclusion in this review. The study's objective was to examine how obstetric fistula repair affected the mental health of women who had obstetric fistula for an average of 11 years before repairs. The same hospital performed the surgery for all patients. Before repair, baseline data were obtained, and follow-up data were gathered three months later. Self-reported physical symptoms were present. Despite the physical symptoms of an untreated fistula self-reported by 17 of the 28 participants, the data demonstrated an overall improvement in mental health. Prior to surgery, patients with obstetric fistulas reported much greater levels of depressive symptoms, PTSD symptoms, and trouble coping with significantly poorer social support. However, they did not report post-surgical mental health outcomes. It called for the need to address the mental health needs of the patients. The age requirement for study eligibility was 18 or older. Although the study focused on psychosocial symptoms after repair, the study provided no record of social reintegration and rehabilitation services.

Another study by Watt et al. (38) explored a pilot for mental health b way of a nurse-facilitated intervention for obstetric fistula patients in Tanzania. The intervention's goals were to 1) determine whether a randomized controlled trial (RCT) of a mental health intervention with patients who had obstetric fistulas could be conducted, 2) ascertain the possibility and acceptability of a six-session, nurse-involved mental health intervention for patients with obstetric fistulas; and 3) consider the intervention's potential efficacy on outcomes for the mental health of fistula patients. The sample size was 60 participants. Women were considered eligible if they were above 18 and were being treated in the hospital for an obstetric fistula. The participants found the intervention effective and acceptable. As a result, there were gradual but noticeable improvements in mental health outcomes, with no indication of variations by condition. However, the study was based on females aged over 18 years and showed no record of social reintegration.

Furthermore, a study by Dennis et al. (39) looked at Tanzanian women who underwent obstetric fistula repair surgery's experiences with social support in the time leading up to the procedure and after reintegration. The number of participants was 59. Women older than 18 who were hospitalized for obstetric fistula surgery were eligible. The poll found that women's experiences with social support from partners and family members varied significantly, with half of the sample reporting typically high levels of social support. Some of these women found their voice for their rights to treatment and family support. For those women who received less family support assistance, the fistula occasionally led to divorce or separation. Adolescents were excluded, but the study highlighted the importance of social support and the benefits of resiliency.

Uganda

El Eyadi et al. (40) studied the relationship between physical and psychological symptoms in women from Uganda one-year after fistula repair. The primary objective was to investigate physical and mental health trends and how these variables interacted among Ugandan women who had fistula repair. The same hospital in Kampala provided a sample of 60 participants. The Stanford Self-Rated Health measure for overall health and the International Consultation on Incontinence Questionnaire Short Form (ICIQ-SF) self-reported symptoms

were combined to measure physical health. Some instruments used to measure psychosocial health included the WHOQOL-BREF to evaluate the quality of life and the Hopkins Symptom Checklist (HSC) to measure depression (scores above 1.75 are favorable for depressive disorder). The study reported significant physical and psychosocial improvements following surgery, reduced stigma, and improved reintegration, self-esteem, and quality of life. The recruited population consists of women aged 21-36 years. The study did not include adolescents, the most at-risk population for this condition. Furthermore, the study showed no record of social reintegration services provided after surgery.

South Sudan

To investigate the effects of group psychological treatment (GPT) on the mental health of fistula patients, Ojengbede et al. (41) utilized a descriptive study design. There were 60 individuals in the sample, ranging from 14 to 50 years. With a median of 3.4 years, the duration range from the time of manifestation was three months to 27 years. The percentage of individuals with a depression score of 4 or above decreased from 71.7% to 43.4% following the GPT. In contrast, the percentage of participants with a score of less than 4 climbed from 28.3 to 56.6 percent. These modifications were statistically noteworthy. In terms of self-esteem, the percentage of people with low self-esteem decreased from 65.0% to 18.3%.

In contrast, the percentages of people with low and moderate self-esteem increased from 18.3% to 26.7% and 16.7% to 55.0%, respectively. In addition, the percentage of people who were assessed as having severe (15.0 to 0%), moderate (16.7 to 5.0%), or mild (25.0 to 21.7%) suicidal ideation or self-harm thoughts decreased consistently. In contrast, the percentage of people who did not have such thoughts rose (from 43.3 to 73.3%). Group psychotherapy aims to enhance psychological well-being. However, despite reassurances, some participants were reluctant to address their psychosocial issues openly. The study was relevant to the focus of this research because it showed the benefits of GPT after repair. However, it did not look at the social reintegration of the patients.

Nigeria

Several studies in Nigeria have documented the effect of obstetric fistula and treatment (3,19,24). However, no study was found that documented mental health intervention or support for sufferers of fistula. This review suggested a dire need for counseling centers to help an adolescent in Nigeria who is affected by fistula reintegrate into society and lead everyday lives.

Findings

Steps to Minimize Obstetrics Fistula

According to WHO (2018) and the United Nations Population Fund (16,17), postponing the age of the first pregnancy is the most effective way to decrease the number of women developing obstetric fistula. Between 7 and 30 percent of pregnancies in developing countries are teenage pregnancies. Since teenage pregnancy is linked to cephalopelvic disproportion, attempts to reduce obstetric fistulae should concentrate on preventing teenage pregnancy (42).

However, one major setback of this preventive approach is that it does not address that these young women must be educated and well-informed on the consequences of early pregnancy. Furthermore, in regions where gender inequality is still prevalent, improvised women lack the will to make decisions independent of the family or male interference. Therefore, the education and empowerment of the girl child should be a top priority in preventing obstetric fistula especially in these countries, especially in family planning.

In addition, Wall (43) argues that family planning programs should strive to lower the rate of pregnancies in a particular community and, consequently, morbidities associated with pregnancy in general. This implies that unmarried adolescents should also have access to contraceptives without facing discrimination from vendors. Furthermore, despite the Sustainable Development Goals (SDGs-5.3) of the United Nations calling for an end

to early child marriage by 2030, as early child marriage is still prevalent in most developing countries. For example, about 22 million women and girls in Nigeria were married as children between 2005 and 2017, accounting for approximately 40% of all child marriages in the Sub-Saharan area (44). Available evidence suggests that banning child marriage will expedite efforts to prevent obstetric fistula by enhancing maternal and child health, income, and educational attainment (16,17,44). This calls for action to address the population dynamics and demographics in developing countries and integrate this into sectoral plans and programs that address child marriage and high levels of adolescent pregnancy.

The most prevalent harmful traditional practices in developing countries like Nigeria are early marriage and female genital mutilation (FGM). This practice carries significant public health risks and has profound adverse effects on adolescent females' education, health, and overall development. These practices continue to be a significant challenge in developing countries concerning reproductive health. Moreover, international organizations have attempted to either change or eliminate these customs, but these efforts frequently encounter resistance from the communities that still practice them (45, 46).

FGM is often carried out on female children or adolescents. Traditional birth attendants in Northern Nigeria ignorantly perform most of these procedures during labor to supposedly widen the outlet of the pelvis to relieve obstructed labor and facilitate delivery. It is reported that 30.3% of women who underwent this surgery were reported to have developed an obstetric fistula (Bello et al., 2020). Therefore, the need for female education as a type of prevention strategy is paramount. Olayemi (2016) asserts that education acts like a vaccine, capable of inoculating girls from harmful practices and empowering them to make independent choices in the future, including family planning.

A critical approach is the education of teenage girls and their families about the consequences of early pregnancy, which primarily stems from early marriage. It will also minimize cultural male dominance which plays a significant role in early marriage in some developing countries. An educated woman is likelier to refrain from subjecting herself or her children to harmful practices like FGM or early marriage.

Steps to Augment Obstetric Fistula Patients' Unmet Medical Needs in Developing Countries

Early and timely access to proper and adequate obstetrics care can be an important step that prevents obstetric fistula, a consequence of cephalopelvic disproportion seen in these teenagers. It could also prevent stillbirths and the death of these teenage moms who spend hours and sometimes days in labor. The cost of providing adequate preventive obstetric services would be far less than the financial burden to the families and the larger community. These include the cost associated with the treatment of comorbidities like depression, anxiety, bullying, and rejection

The capacity and resources of the health system are associated with the rate of maternal and newborn mortality (48). One of the challenges with healthcare in low income is the lack of access to high-quality obstetric care and counseling, leading to a rise in mother and infant mortality rates. A woman's failure to receive prenatal care, the most basic kind of obstetric care, will prevent her from learning about preventive measures and receiving emergency obstetric counseling, thus increasing her risk of maternal morbidities, including obstetric fistula and mortality. The primary cause of obstetric fistula in these low-income countries is the lack of geographic and financial access to cesarean section procedures. Yao (10) described fistula as a dilapidated condition of poverty. Therefore, attention should be given to increasing the number of facilities with emergency obstetric care capability and improving the quality of facilities. Both of these identify and address the barriers to rural women that will significantly lower maternal morbidity and mortality rates in low-income countries.

Overall, a woman's lack of autonomy affects help-seeking behaviors because she must obtain her spouse's or family's consent before visiting a hospital, which delays receiving emergency care. Raising awareness about obstetric fistula and expanding pregnant women's access to quality maternity care could address this embedded women's rights issue.

Steps to Address the Gaps in Psychosocial Support of Adolescents with Obstetrical Fistula in Developing Countries

Without equivocation, girls suffering from obstetrics fistula struggle with mental health issues such as depression, anxiety disorder, and shame resulting from bullying and rejection. Few pertinent research studies on the quality-of-life improvements before and after a fistula repair were found during this study. Very few studies concentrated on improving mental health problems after surgical repair. Additionally, other research investigated the connection between psychological illnesses and recurrent incontinence after surgical repair. As a result, this study examined the requirement for ongoing counseling intervention for adolescents before and after surgical repair. The analysis was conducted for some developing countries to evaluate mental health implications better. This approach highlighted that obstetric fistulas have the same debilitating effects on patients' mental health regardless of their religion, region, custom, culture, or demography. It also highlights the requirement to implement psychosocial care for adolescents with obstetric fistula.

Findings indicate that mental health intervention and the process of social reintegration and rehabilitation of adolescents with obstetrical fistula in developing countries have not been given the attention it merits, as well as its treatment. Most articles published on obstetric fistula excluded adolescents from the study/intervention and suggested only surgical repaired fistula tissues for women. Thus, recent studies investigating mental health problems for obstetric fistula patients are rare. After a thorough literature search, 11 studies from 9 countries from the past decade met the inclusion criteria for this analysis. It conveys the lack of awareness and understanding of obstetric fistula and the dire need for more research on the mental health implication and adolescents with obstetrics fistula. They recommended that obstetric fistula patients receive integrated mental health care for their best psychosocial health and social reintegration. Up until six months after surgical repairs, there was a noticeable increase in quality of life across all countries for those who received some psychosocial support.

On the other hand, data showed that women with more extended histories of fistulas had lost their babies or had undergone hysterectomies and showed worsening psychological symptoms. Those women had to deal with incontinence and the possibility of infertility, which had devastating implications for them. There was an association between depressive symptoms and persistent incontinence in these countries. The more burdensome the incontinence, the more problematic the psychological symptoms. In addition, Tanzanian researchers showed a connection between the extent of depression and lingering incontinence. However, the most striking finding was that women with mild incontinence exhibited avoidant behaviors, demonstrating the importance of providing mental health services and teaching coping mechanisms to all patients.

None of the countries reviewed have a national interventional approach to mental health services and the social reintegration of post-surgical fistula patients. Although there are a few individual provider interventions there are no national standardized approaches to address these needs. A study to address the mental health needs of these patients would be desirable and should be a part of the national healthcare strategic plan of developing countries.

Discussion

Limitations

Comparing the study across different countries with varying health systems is a major limitation that makes conducting a complete study exceedingly challenging. Pertinent data was, nevertheless, discovered that could aid in this analysis. Comparing the study locations across many countries revealed that some had specialized fistula centers while others treated obstetric fistula patients at regular hospitals. Some countries used a single surgeon to perform the operations, while others hired a team of surgeons without including a therapist or counselor. The research also included patients who had a variety of obstetric fistula histories. For example, while participants in Malawi had a median fistula history of 35.5 months before surgical treatment, participants in India had an entire fistula history of 3 months.

Another major limitation is that most studies are facility-based, and a few are population-based. Therefore, they may not have been appropriate to identify obstetric fistula reliably, indicating a dearth of data on obstetric fistula patients who lack access to healthcare facilities. It is also limited by the varying numbers of surgical repairs that each participant had undergone before psychosocial intervention and the different lengths of time of these interventions. There were no case-control studies. In contrast to India, most Mali patients had already had fistula repairs. The study's duration and its variables also varied. While some studies only investigated changes three months after surgery, others looked at changes six months or even up to twelve months later. The review is also limited in that most of the data on the psychological component was self-reported through surveys or interviews. As observed by the researcher, adolescents were excluded from most of the studies analyzed since eligibility for most of the studies are women aged 18 and above. Teens make up a sizable number of patients with fistula due to the reasons stated earlier. The survey also revealed no record of social reintegration and rehabilitation services provided for these teen patients.

Strengths

One strength of the study is that all the patients in these resource-limited countries are resources limited countries and come from basically the same similar demographic footprint. The confirmation of the diagnosis of obstetric fistula made it certain that the same disease across all countries. Knowing this, participants in Ethiopia and Malawi who had unsuccessful procedures saw a decline in their quality of life. In Uganda, there were instances of poor self-perception and evidence of reduced quality of life at 12 months. When data were gathered from patients who had undergone surgery within 12 months in Malawi, there were fewer quality-of-life incidents and more suicidal thoughts.

Moreover, women in Somalia and Mali shared similar psychosocial profiles at post-surgical follow-ups as with obstetric fistula patients who did not receive the surgical repair. Participants expressed gender role challenges, self-isolation, divorce, depression, and increasing financial hardships, similar struggles that earlier research patients had before repair (22, 49). Those with a long history of fistula believed it to be either a curse or a form of divine retribution (28). Kenya's findings may help explain the overall improvement in quality of life within three months of surgical repair, irrespective of the success rate in these trials. Here, data from interviews revealed whether the surgical repair was effective. Obstetric fistula patients experienced a momentary sense of relief. However, they were so traumatized by the illness that they were terrified of what lay ahead. The thought of how challenging social reintegration would be offset those happy feelings. Even though obstetric fistulas are primarily physical injuries, they have serious consequences that influence the patients' interactions with their families and communities. Similar findings were found in a different Malawian study by Drew et al. (50). The result showed that individuals worried about their future capacity to establish new relationships, have children, and resolve financial obligations. Participants also expressed concern about future fistula repairs. Although all the analyzed studies proved that surgical repairs quickly improve patients' quality of life, they also revealed the limitations of only surgical treatments. They highlighted the significance of developing a holistic approach to treating the condition.

Implications

All studies showed short-term improved quality of life after postsurgical repair. This analysis illustrates that surgical repair, although necessary, is insufficient to support improved quality of life. There is a need for long-term psychosocial support to help facilitate the healing process for sufferers of fistula following surgical repair of obstetric fistula.

Conclusion

Regardless of the outcome of surgical repair, every patient with an obstetric fistula history should receive a mental health screening and be paired with a mental health specialist who assists in managing psychosocial distress and developing more robust coping mechanisms. Furthermore, improved social reintegration plans should be implemented in countries with high obstetric fistula prevalence. Additionally, there should be increased financing for more research, better training for regional surgeons to shorten wait times for surgical repairs, the establishment of specialized fistula care facilities with the necessary resources and qualified staff, and public awareness campaigns. Furthermore, routine screening data on mental health h within the health system will improve the overall quality of care of fistula repair programs by addressing patients' overall health requirements and informing community reintegration strategies for specific patients.

It was deduced from this study that one of the consequences of the condition is self-isolation and stigmatization. Without awareness, obstetric fistula patients in the community are likely to continue to experience shame and self-isolation at a time when they need social and individual support. As a result, advocacy and sensitization programs are required for case identification, counseling, stigma reduction, and awareness creation on the causes of obstetric fistulas, their risk factors, prevention, and ways to improve the status of mothers after repair.

Prenatal education that promotes family planning is an essential component of the approach to prevention and treatment. Pre-and post-repair requires a holistic process that includes setting up counseling units in every health center, including units that would help very young teens affected to reintegrate into society after surgery by building coping mechanisms. However, it does not suggest that no mental health interventions occur at the individual level. A study that addresses the mental health of patients in the country, including those under 18, is desirable since they are most likely to be at risk for obstetric fistulas. There is a need to integrate ongoing mental health interventions for fistula patients in the healthcare strategic plan of a country like Nigeria with a high burden of fistula. In addition, there is still a need to support and promote outreach projects for case identification, counseling, and home-based care and create awareness about myths concerning obstetric fistula. These patients' social acceptance and rehabilitation pre- and post-surgery are critical to long-term physical and mental health recovery. Although these affected adolescents may never get their old lives back, they should still be able to lead happy lives free from stigma and self-isolation. The community's acceptance will allow these adolescents to participate again in social, cultural, and religious life. They might be able to remarry, have kids, and regain their social standing. Rehabilitation projects would help patients regain their confidence and gain the abilities and skills necessary to sustain themselves and their families, regaining improving their economic standing and securing a stable source of income in the long run.

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Biography

Dr. Ogubuike Emejuru received a Bachelor of Science in Biology from the University of Alabama in Huntsville, Alabama, and a Doctor of Medicine from the American University of the Caribbean School of Medicine. He completed his graduate studies in Pediatric Internship and Residency, and a fellowship in Sickle cell disease at Howard University Hospital, in Washington, D.C.

Dr. Emejuru holds a Master's degree in Public Health from The Milken Institute School of Public Health of George Washington University, Washington, DC.

He is in professional practice and owns and operates the pediatrics practice, Children's Health Associates of Tidewater, and CHAT Behavioral Services in Virginia. He is an attending pediatrician at the Children's Hospital of the King's Daughters in Norfolk, Virginia, and an Assistant Professor of Pediatrics at Eastern Virginia Medical School.

Dr. Emejuru has been keenly involved with significant efforts to improve healthcare delivery in Nigeria and has partnered with major American organizations such as Physicians for Peace and AmeriCares to improve health in rural Nigeria.

He was one of a few physicians invited to the White House to be honored by President George Bush for medical volunteer missions in Nigeria. https://physiciansforpeace.wordpress.com/2008/05/.../pfp-at-the-white-house.

He is certified by the American Board of Pediatrics and a Fellow of the American Academy of Pediatrics, a member of the sections of International Child Health and Community Health of the American Academy of Pediatrics, and served as a board member of several civic organizations, including the Chesapeake Schools Health Advisory Board, Minority Affairs Committee of the Eastern Virginia Medical School.
As a physician and a passionate practitioner of medicine, he is committed to eradicating or mitigating healthcare issues that affect the rural population of Nigeria.

Appendix A

Methods

Search of Bibliographic Databases

Bibliographic database searches used specified key terms to identify studies for potential inclusion in the review. Databases searched include PubMed; BioMed Central; Science Direct; World Health Organization and Bioline International. Key terms used were:

"Obstetric fistula", "vesicovaginal fistula", "Rectovaginal fistula", "Urogenital fistula", "challenges of fistula", "Prevention of fistula", "Risk factors", "Psychosocial support" "social reintegration" "social rehabilitation" of women were key words used to search relevant papers and the search protocol was as follows: "Obstetric fistula" [MeSH Terms] OR "Obstetric fistula" [All Fields] OR"VVF" [MeSH Terms] OR "Vesicovaginal Fistula[MeSH Terms] OR" "Rectovaginal Fistula" [MeSH Terms] OR "RVF" [MeSH Terms] OR "Urogenital fistula" [MeSH Terms] AND " Psychosocial support" [MeSH Terms] OR" Prevention" [All Fields] OR "Challenges" [All Fields] OR "Lived experience" [All Fields] AND "Developing countries" [All Fields] OR "sub-Sahara Africa" [All Fields].

Appendix B

Figure 1: PRISMA flowchart of literature selection and inclusion criteria