

Patterns of Exposure To Communication Interventions On Obstetric Fistula Among Men In Ebonyi State, Nigeria

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Abstract

Male involvement in maternal health issues continues to draw the attention of all stakeholders in Nigeria. Obstetric vesico vagina fistula is a maternal health outcome in developing countries like Nigeria, where social and economic factors combine to perpetuate the situation. Communication interventions in obstetric fistula remain core eradication agenda strategy and exposure to intervention messages among men, may facilitate increased men's involvement in eradication initiatives. While there are empirical evidences showing women's obstetric fistula communication intervention exposure patterns, men's perspectives in this regard, is largely unknown. As a result, the study assessed patterns of exposure to obstetric fistula communication interventions among men in Ebonyi State, south-east, Nigeria. From a population of 1,064,156 as estimated by National Bureau of Statistics, a randomized total sample of 480 respondents was studied in a structured questionnaire survey with the aid of the Cochran sampling technique. Pearson's r correlation coefficient of 0.75 confirmed the reliability of the questionnaire instrument. Data were analyzed in simple percentages and mean values with the aid of statistical package for social sciences (SPSS) version 17.0. Findings showed that: (i) majority ($n= 361$, 80.4%; $N= 449$) of the respondents were exposed to intervention messages, (ii) radio remained the highest medium ($n= 94$, 26%, $\bar{x}= 9.0$) of exposure among respondents, (iii) audio related formats (songs) were the major genre ($n= 77$, 21.3%, $\bar{x}= 14.2$) in which exposure occurred. These outcomes suggest a strong role for mass media communication interventions in support of investments in obstetric vesico vaginal fistula campaign for men's involvement in the eradication of obstetric fistula in Ebonyi State. Among others, recommendations include the need for Advertisers and health care practitioners to find better ways of improving song related advert messages/campaigns so as to improve men's participation in the prevention and treatment of obstetric fistula.

Introduction

Obstetric vesico vagina fistula is an unpleasant health outcome of female reproductive health in developing countries like Nigeria, where social and economic factors combine to perpetuate the situation. Wall et al (2010) and the HERA Draft Report (2009) found that Obstetric fistula is inextricably linked to maternal and reproductive health and the childbirth process and that Nigeria is one of the 13 countries contributing 70% of the fistula incidence in the world. Currently, the annual obstetric fistula incidence in Nigeria is estimated at 2.11 per 1000 births (Umoyioho & Inyang-Etoh, 2012, p. 194). While it is estimated that 33,000 new cases of OVVF incidence occur yearly in Sub-Saharan Africa, Nigeria has over 20,000 of new cases added yearly to the prevalent population of unrepaired cases (Umoyioho, 2012; UNFPA, 2010).

Obstetric fistulae are caused by prolonged, obstructed labour without timely medical intervention. The pressure of the baby's head in the birth canal causes a hole to form between the bladder and the vagina (VVF) or between the rectum and the vagina (recto-vaginal fistulae). As a result, the women become incontinent. Additionally, such complicated labours result in the death of the baby in 90% of cases. Untreated obstetric fistulae lead to chronic medical, social and psychological problems and represent one of the most degrading morbidities resulting from childbirth (Fiander & Vanneste, 2012, p.77).

Male involvement in maternal health issues continues to draw the attention of all stakeholders. According to Davis et al (2013), men can positively influence maternal health in a variety of ways. Male involvement includes men making informed decisions with their partners about family planning or seeking and sharing information about appropriate health behaviours and care during pregnancy, childbirth and postpartum (Salam, 2012). Men can encourage and support antenatal care (ANC) attendance, ensure good nutrition and reduced workload during pregnancy, assist with birth preparations, and provide emotional support (Kauzara et al, 2011). Ensor et al (2014) found a strong relationship between ante-natal care service usage and better obstetric outcomes.

One of the strongest advocacies in recent times for men's involvement in maternal care was made by United Nations Secretary-General Ban Kimoon at the World Population day: "As partners for maternal health, men can save lives. The support of an informed husband improves pregnancy and childbirth outcomes and can mean the difference between life and death in cases of complications, when women need immediate medical care" (Salam et al, 2012, p.3). However, male involvement should not be viewed as limited to men's participation in clinical services alone. In practice, male involvement includes the wide variety of actions that men can take to support and protect the health of their spouses. To realize this objective, there is every need that men are adequately informed about maternal health risk factors. But recent studies show that health promotions to improve maternal health have been focused only on women, leaving men out of important health messages that may affect pregnancy outcomes as well as family well-being (Guadagno et al 2013).

Literature shows that making maternal health information essential for men minimizes misconceptions about causes and stigma associated with maternal health issues (Kazaura et al, 2011). Studies have gone further to show that changes in behaviour towards birth control, family planning, wife beating and gender preferences among men were associated with information and education (Olugbenga-Bello et al, 2013). Perhaps, the most powerful role of the media is setting the appropriate agenda in the goal of prevention, care, and support in health related issues, especially given that the way a problem is defined determines the way the people try to solve it. As a result, Okidu (2013) has observed that the ability of health communications to convey adequate and accurate information can be highly effective and successful in creating awareness and knowledge that can lead to changes in social contexts within which individuals operate, especially in developing countries.

Studies recommend sustained media campaigns, combined with other communication interventions strategies, as effective strategy to increase knowledge and decrease the likelihood of negative health outcomes (Ugwu, 2013; FAO, 2004). This may explain why Health communication programmes often use multiple and mutually reinforcing media in intervention efforts because, in various instances communication interventions have brought about positive health behavioural outcomes including those that threaten maternal health like obstetric vesico-vagina fistula (OVVF) (Nwodu and Ezeoke, 2013).

As part of policy action, government, through her agencies and other private partnerships, embark on health communication programmes which create awareness on risk or predictive behaviours with the hope of reducing the incidences or negative health outcomes (Edgar & Volkman, 2012). These communication programmes aim to bring about change in individual behaviours and social norms using combination of (1) mass media, (2) community level interventions (e.g community mobilization), (3) interpersonal communication and other communication outlets.

Exposure to various media and genre of intervention message is the core objective of fistula eradication agenda. As a result, researchers are interested in knowing the patterns of exposure to such messages that come in diverse media and formats. One of the reasons why this is important is because advertisers and programme managers use such information in campaign planning and strategies.

Statement of Research Problem

The increasing advocacy to eradicate obstetric fistula and improve maternal health, has identified the need to involve men in intervention efforts, especially in the goal of creating awareness through communication campaigns. Part of the focus of intervention is to provide information that will facilitate knowledge of risk factors as well as influence behaviour towards obstetric fistula eradication. As a result, several communication strategies have been implemented to provide the needed information necessary to influence desired behaviour change among stakeholders and the at risk population. The notion that exposure to communication may influence behaviour has foundations in the behaviour change communication model. While there are corpus of studies that have examined women's patterns of exposure to obstetric fistula, patterns of exposure to fistula eradication messages among men has remained unexamined empirically. As a result, men's patterns of exposure to obstetric fistula communication are largely undocumented and unknown.

Ignoring to have empirical evidence on men's exposure to obstetric fistula communication interventions may result in fistula intervention campaign failures and inability to improve men's involvement in the battle against fistula. This study therefore, assessed the patterns of exposure to obstetric fistula communication interventions among men in Ebonyi State, Nigeria

Objectives of the Study

The main purpose of this study is to examine the pattern of men's exposure to obstetric fistula health communication intervention messages. Specifically, the study will:

- i. Ascertain if men were exposed to obstetric fistula messages in Ebonyi State.
- ii. Determine the medium/media of exposure to intervention messages among men.
- iii. Examine the genres to which men were exposed to in intervention messages.

Research Questions

The following research questions guided the study:

- i. To what extent were men exposed to obstetric fistula messages in Ebonyi State?
- ii. What were the media of exposure to intervention messages among men?
- iii. What were the genres to which men were exposed to in intervention messages?

Literature Review

Considerable amount of literatures on female reproductive health have identified the role of men in that process (Agadjanian, 2002; Ezeh et al, 1996; Greene and Biddlecom 2000; Isiugo-Abanihe 1994). Agadjanian argued that male partners' opinions and choices are crucial in shaping couples' reproductive and contraceptive practices across the sub-Saharan Africa. Communication intervention in this regard is very important. However, since fistula is basically a female related health problem, the content of communication interventions seems to be targeted at women only. Such communication interventions seem not to take into account the role that the men folk could play in their spouses' reproductive health, especially, if such health communication interventions examined men's perspectives specifically.

Despite the fact that fistula is a major maternal health problem confronting families in all the geopolitical regions in Nigeria, the level of its awareness among men remain scanty. According to Umoyoho & Inyang Etoh (2012), though a rich collection of clinical data has shown that obstructed labour is a leading predictor of obstetric fistula, most women do not know this and research has shown that men are equally less informed.

The research literature on health and communication campaigns is rich and vast (Kadira, 2014; Imoh, 2014; Rice, 2013; Airhihenbuwa and Obregon, 2012; Grilli, Ramsay and Minozzi, 2009). There is now overwhelming evidence that the provision of relevant information on maternal health and the concomitant improved treatment of obstetric related issues is highly desirable for an effective intervention and control. One of such evidences show that the mass media frequently cover health related topics, are the leading source of information about important health issues, and are targeted by those who aim to influence the behaviour of health professionals and patients (Grilli, Ramsay and Minozzi, 2009). However Imoh (2014) observed that the process of communicating change in knowledge, attitudes, beliefs, behaviours and practices relating to health in Africa has been problematic. And therefore, mass mediated messages alone may not be the sole determinant of the impact of communication. On the contrary, Kadira et al (2014) in their study, *Knowledge and treatment seeking behaviour of university of Ilorin students in Nigeria*, found that effective information was relevant for promoting and encouraging preventive as well as effective treatment practices.

Other studies have shown how mass mediated campaign on health can transform and achieve desired health behaviour change. In this regard, Noar (2006) found that well executed health mass media can have small-to-moderate effects on knowledge and most times such impact may transcend knowledge to include behaviour. In another study, Noar (2009) showed that mass media campaigns demonstrated effects on behavioural intentions.

Studies show that health campaigns on mediated channels other than the mass media, also influence health behaviour (Nwodu, 2008; Udoakah and Iwokwagh; 2008). Nwodu (2008) in his study, *Securing the future: An empirical examination of the influence of the Zip UP campaign on students' sexual behaviour*, found that respondents' sexual behaviour changed to the positive due to exposure to the billboard campaigns. Nwodu's findings agree with the findings of Udoakah and Iwokwagh (2008) who showed that a combination of non-mass mediated communication channels (counseling, guided age group discussions, responsive public information and community mobilization) empowered respondents with the right sexuality information which resulted in positive behaviour (risk avoidance) in HIV/AIDS in Benue State. Their study is inconsistent with the study of Bashir and Gapsiso (2008), *Adolescents' sources of information and perception of reproductive health in Adamawa State*, which found that respondents were influenced in their view of reproductive health issues by mass mediated sources of information than other sources of information like interpersonal channels and health facilities. This agrees with the study of Grilli et al (2009), *Mass media interventions: Effects on health services utilization*, which found that channels of communication have important role in influencing the use of health care intervention services.

Health and Communication Interventions in Obstetric Fistula in Ebonyi State Nigeria

In March 2010, the National Council of Health approved the South-east fistula centre as National Fistula Centre in Ebonyi State, South-east, Nigeria. In July 2010, a team from the Federal Ministry of Health carried out a technical assessment of the Centre and initiated discussions on the handover of the Centre (NOFIC, 2013). The long term vision for the South East Fistula Centre is to become a centre of excellence providing

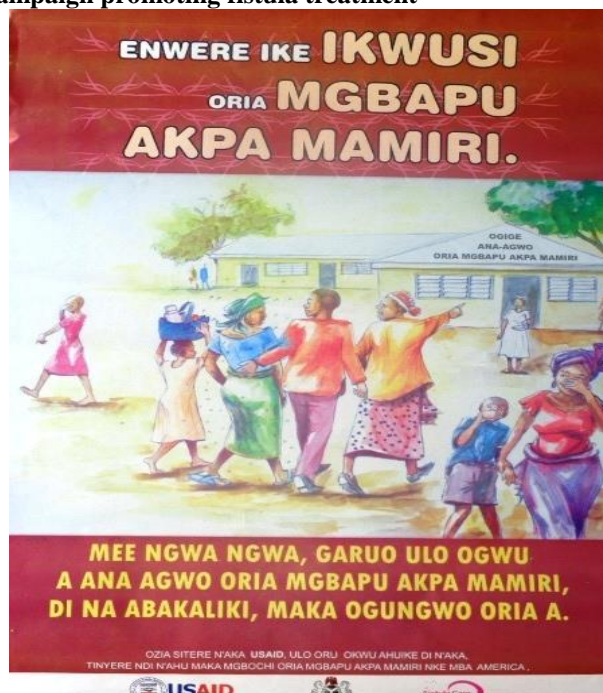
treatment and training for obstetric fistula, as well as carrying out research. Presently seven research initiatives are on-going including one on microbial patterns in obstetric fistula surgery and another one analysing the outcome of fistula repairs.

Programs to prevent obstetric fistulas will need to incorporate both immediate and long-term strategies for fistula prevention. The long-term components of fistula prevention include: advocacy for programs to improve the health and nutrition of girls and adolescents so that they enter their childbearing years as healthy as possible; campaigns to increase the educational level attained by girls, thereby raising the age at which first pregnancy occurs (thereby avoiding adolescent pregnancy) and developing more knowledgeable mothers; campaigns to end harmful traditional practices such as female genital cutting and the additional risk factors for fistula formation that result; and accessible and effective family planning programs. Since these factors are behavioural, communication intervention will be more appropriate in influencing exposure to health issues (Mefalopulos, 2008; FAO, 2004; Moemeka, 2012, Odoemelam 2012; Odoemelam et al 2013; Odoemelam and Ekwueme, 2013; Pate, 2012).

These clearly present clear cut responsibilities for communication campaigns seeking to change behaviour towards obstetric fistula. It is clearly feasible to incorporate programs for education, advocacy, and prevention into the overall fistula repair initiative.

Key messages delivered related among others to the need for pregnant women to attend antenatal clinics and deliver at the hospital, dangers of teenage pregnancy, dangers of female genital cutting, need for girl-child education and breast self-examination, causes of obstetric fistula and the need to support women with fistula. The Free Mobile Clinics are also used for awareness raising and community mobilization (MCCI, 2010). Traditional leaders, ward coordinators, Development Centre Coordinators, members of the Maternal and Child Care Initiative (MCCI) and the Chairpersons have played key roles in these activities, while radio and TV jingles produced in English and local languages are aired to promote issues of maternal health. Two radio programmes hosted by MCCI address the thematic areas of MCCI with respect to obstetric fistula (MCCI, 2010). The figure below shows an example of a campaign strategy:

Fig 1: Campaign promoting fistula treatment



(Source: *Fistula care, Nigeria, 2014 and Odoemelam, 2014. Interpretation:* “Fistula can be treated! Make haste to access medical treatment at the National Fistula center Abakiliki, Ebonyi State Nigeria”).

Theoretical Framework

- **The Health Belief Model**

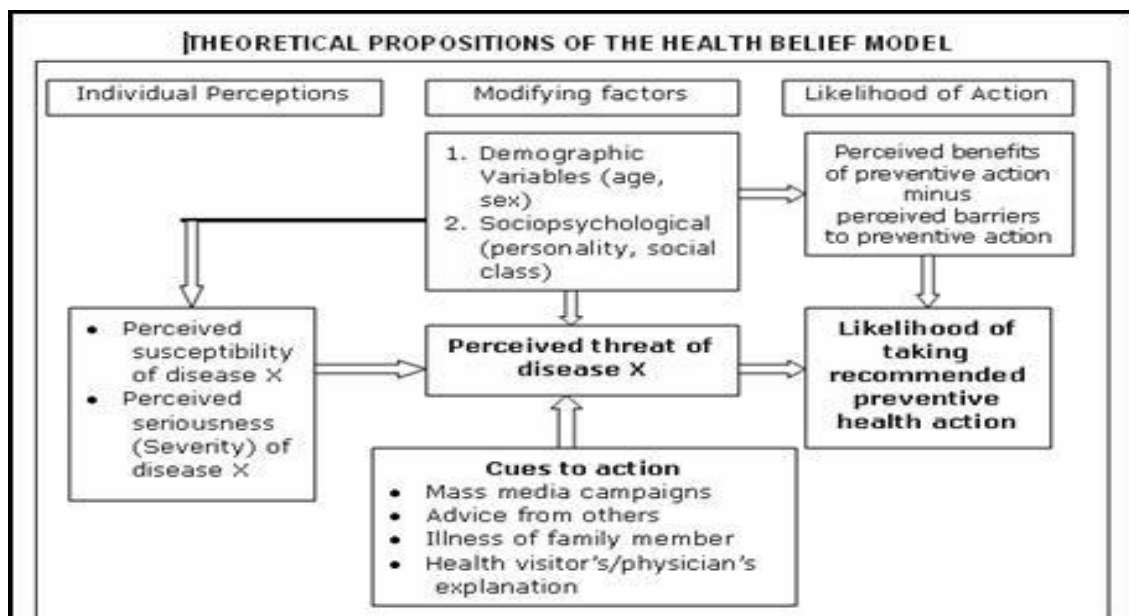
The Health Belief Model (HBM) is one of the first theories of health behavior. It was developed in the 1950s by a group of U.S. Public Health Service social psychologists who wanted to explain why so few people were participating in programs to prevent and detect disease (www.Wikipedia).

HBM is a good model for addressing problem behaviors that evoke health concerns (Croyle RT, 2005). The health belief model proposes that a person's health-related behavior depends on the person's perception of four critical areas:

- i. the severity of a potential illness,
- ii. the person's susceptibility to that illness,
- iii. the benefits of taking a preventive action, and
- iv. the barriers to taking that action.

The model postulates that health-seeking behaviour is influenced by a person's perception of a threat posed by a health problem and the value associated with actions aimed at reducing the threat. HBM addresses the relationship between a person's beliefs and behaviors. It provides a way to understanding and predicting how people will behave in relation to health issues and how they will comply with health promotion and behaviour change communication.

Fig. 2: A diagram below showing the theoretical propositions of the Health Belief Model



(Source: Croyle, 2005)

The Major Concepts and Definitions of the health belief Model

According to Croyle (2005), there are six major concepts in HBM:

1. Perceived Susceptibility
2. Perceived severity
3. Perceived benefits
4. Perceived costs
5. Motivation
6. Enabling or modifying factors

1.) **Perceived Susceptibility:** refers to a person's perception that a health problem is personally relevant or that a diagnosis of illness is accurate. Communication intervention on obstetric fistula may produce positive

outcomes if the messages and strategies show how avoiding the risk factors (those within male spouses' purview as discussed in the literature) is relevant to their positions as husbands in the home and family.

2.) **Perceived severity:** When individuals perceive the severity of the health situation to be high enough to have serious organic or social complications that affects them directly or indirectly, they may adjust their behaviour. As literature show, obstetric fistula has serious social, economic and physical consequences for the man and his wife and on the family as a whole. When an intervention message incorporates this in the content of the intervention communication, there may be a positive outcome.

3.) **Perceived benefits:** refers to the patient's belief that a given treatment will cure the illness or help to prevent it. Examining how communication's influence on men's knowledge of obstetric fistula the intervention messages would be beneficial to the overall health of the family is a strategy in HBM.

4.) **Perceived Costs:** refers to the complexity, duration and accessibility of the treatment. Showing how negative consequences of not adopting preventive measures by the husbands, far outweigh the initial cost of preventive measures is essential.

5.) **Motivation:** includes the desire to comply with a treatment. In this respect, one of the ways of motivating the male spouses is to show how positive behaviour is a reinforcement of men's social and cultural positions as leaders in their households especially as it relates with, gender power relations, patriarch analysis and cultural practices.

6.) **Modifying factors:** include personality variables and socio-demographic factors. Gender-based analysis, patriarch perspectives and dominance constructs are some of the considerations of modifying variables in producing a male focused communication intervention on obstetric fistula.

The Health Belief Model would involve an individuals' opinion and perspectives about a certain health risk and their behavior constitute a risk. The HBM may be applied in VVF prevention and treatment concept to help determine and come to an overall understanding of how the influence of health communication interventions on men's knowledge, attitude and practice on obstetric fistula prevention and treatment, how it is understood by men, their behaviors towards risk factors, and their willingness to help their spouses to seek remedy in cases where there is an incidence. Odoemelam & Ekwueme (2013) in their study, *Integrated Development Communication Interventions in Vesico-Vaginal Fistula Prevention and Treatment in Ebonyi State of Nigeria*, applied the Health belief Model as a theoretical fulcrum to provide insight on how intervention communication may foster health development aspirations by making those at risk to have understanding of how their risk perspectives may culminate in positive behaviour change. In this present study it is assumed that, applying the HBM provides context to understanding men's exposure to communication intervention on obstetric vesico vaginal fistula (OVVF).

Methodology

The study adopts the survey method. The justification to use survey draws from its three basic characteristics. First, survey research is used to quantitatively describe specific aspects of a given population. These aspects often involve examining the relationships among variables. Second, the data required for survey research are collected from people and are, therefore, subjective. Finally, survey research uses a selected portion of the population from which the findings can later be generalized back to the population (Kraemer, 1991, cited in Glaswo 2005, p. 1). The population of this study will comprise all males in the south east geo-political zone of Nigeria. However the specific target population will be married men only. Men are the target because Obstetric fistula, which is the focus of this study, is a maternal challenge.

The population of Ebonyi state is 1064156 (National Bureau of Statistics, 2009; NPC, 2006). Below is a distribution of male population in Ebonyi State:

Table 1: **Male Population by Local government in Ebonyi State, South-East, Nigeria**

S/N	EBONYI STATE	Male Population
1	Abakaliki	72,518
2	Afikpo North	80,632
3	Afikpo South	79,093
4	Ebonyi	60,388
5	Ezza North	70,341

6	Ezza South	66,373
7	Ikwo	99,855
8	Ishielu	72,671
9	Ivo	62,049
10	Izzi	112,832
11	Ohaozara	75,093
12	Ohaukwu	94,479
13	Onicha	117,832
TOTAL	13	1,064,156

(Source: National Bureau of Statistic, 2009; National population commission, 2006)

The sample was drawn, using the Cochran sampling formula cited in Bertlett et al (2001:47). The Cochran formula is calculated in stages with an alpha level of .05 and error limit of 5%, and an estimated standard deviation of the scale as .5.

Cochran:

$$no = \frac{(t)^2 * (p)(q)}{(d)^2}$$

Where t = value for selected alpha level of .025 in each tail = 1.96. (The alpha level of .05 indicates the level of risk the researcher is willing to take that true margin of error may exceed the acceptable margin of error).

Where (p) = estimate of variance of 50% which is the maximum possible proportion, represented as (.5).

Where (q) = 1 minus the estimate of variance of 50% which is represented as (1- p).

Where (p) (q) = estimate of variance = .25. (maximum possible proportion (.5) * 1- maximum possible proportion (.5) produces maximum possible sample size).

Where d = acceptable margin of error for proportion being estimated = .05 (error researcher is willing to accept).

Step 1: Basic Sample Size

Applying these variables to the formula therefore, the following calculations would be arrived at.

$$no = \frac{(t)^2 * (p)(q)}{(d)^2}$$

$$no = \frac{(1.96)^2 * (.5)(1 - .5)}{(.05)^2} = 384$$

$$no = \frac{(1.96)^2 * (.5)(.5)}{(.05)^2} = 384$$

$$no = \frac{3.8416 * 0.25}{0.0025} = 384.16$$

$$no = \frac{0.9604}{0.0025} = 384.116$$

Approx n= 384.

Step 3: Contingency

The sample size was further increased to accommodate for contingencies such as non-response or recording error. Bertlett, Kotrlik and Higgins (2001: 46) citing Salkind (1997: 107), Fink (1995: 36) and Cochran (1977: 396) recommended oversampling when they noted that “if you are mailing out surveys or questionnaires... count on increasing your sample size by 40% - 50% to account for lost mails and uncooperative subjects. Oversampling can add cost to the survey but is often necessary. A second consequence is, of course, that the variances of estimates are increased because the sample actually obtained is smaller than the target sample”. Bertlett, Kotrlik and Higgins (2001: 46) suggest that if the researcher decides to use oversampling, let him estimate the response rate as a means of calculating for contingency. To calculate for the oversampling procedure, a response rate estimate of 80% was adopted. The calculation for the contingency is presented below:

$$n_2 = \frac{\text{Minimum sample size}}{\text{Anticipated response rate}}$$

Where anticipated return rate = 80%.

Where n2 = sample size adjusted for response rate.

Where minimum sample size was = 384.

Therefore:

$$n_2 = \frac{\text{Minimum sample size}}{\text{Anticipated response rate}} = \frac{384}{80\%}$$

$$n_2 = 384 / .80 = 480.$$

The sample size for the study was 480 respondents.

Results and Discussions

Out of the 480 copies distributed, 31 were found unusable making the mortality rate to be 6.5%. Therefore a total of 449 valid copies of the questionnaire were used for the analysis.

Table 2: Frequency and percentage distribution of respondents based on their demographic characteristics

Age (years)	%	Mean
21-30 (117)	26	
31 -40 (170)	37.8	
41-50 (98)	21.8	25
51 and Above (64)	14.2	
Marital status		
Living with spouse (320)	71.2	25
Not living with spouse (73)	16.2	
Divorced (32)	7.1	
Widower (24)	5.3	
Education		
No formal education (40)	8.9	
FSLC (40)	8.9	

SSCE (163)	36.3	25
Tertiary education (206)	45.8	

Entries in the table above shows that those who were within the age range of 31-40, had the highest outcome which was 170 representing 37.8%. This was followed by those within 21-30 which was 117 (26%). Those within 41-50 were 98 (21.8%). Those who were above 51 were 64 (14.2%). This showed that, those who were age 31-40 were the highest among the respondents. This finding is inconsistent with Adenike et al (2013): *Perception, attitude and involvement of men in maternal health care in a Nigerian community*, which found that majority of the respondents, were between the age group of 20-39.

Entries in the table also show that those whose wives stay with them were 320 (71.2%). Those who were living separate from their wives were 63 (16.2%). Those who were divorced were 32 (7.1%) while those widowed were 24 (5.3%). This showed that those who were living with their wives had the highest frequency. This is normal since the essence of marriage was for companionship. However due to economic and job reasons, some families stay apart with the husband working indifferent town, apart from the wife. However other studies show that due to economic and job reasons, some families stay apart with the husbands working indifferent town apart from their wives (ADF, 2007).

Entries in the table reveal that respondents with tertiary education had the highest representation with 206 (45.8%). Those with secondary school education were 163 (36.3%). Those with first school leaving certificate were 40 (8.9%). Those without formal education were 40 (8.9%). This shows that majority of participants were those who had tertiary education. While the least among the respondents were those without formal education (6.5%). This is consistent with Adenike et al (2013), who found in a similar study that 40.6 % of the men had post secondary education. The possible explanation for this pattern of outcome could be because of the area that constituted the study.

Research question one: Were men exposed to obstetric fistula messages in Ebonyi State?

Table 3: Frequency and percentage distribution of respondents according to exposure to obstetric fistula campaigns

Exposure	%	Mean
Yes (361)	80.4	-
No (88)	19.5	-

Table 3 above shows respondents' exposure to obstetric fistula communication interventions. To ascertain if respondents were aware of the term obstetric fistula, they were asked, "have you heard of obstetric fistula or *Ngbawa Akpamamiri Umu nwanyi* (Igbo language term for obstetric fistula). Those who indicated affirmatively were 361 (80.4%). Those who said they were not familiar with the term were 88 (19.5%). This showed that majority, 361 (80.4%) were aware of obstetric fistula. Subsequent analyses were based on the opinions of (n=361) respondents. Nwodu (2008) used this technique to select respondents who participated in a study on the influence of "Zip Up" billboard campaigns on students' sexual behaviour in South Eastern Nigeria tertiary institutions. Findings of this study contrasts with Kazaura et al (2011) who found, in a study using focus group discussion among men and women in Southern Tanzania that, majority of the participants were not aware of the term fistula; which showed that they were never exposed to the intervention campaigns. It also contrasts with the findings of Sambo (2008) who found that even though obstetric fistula was a major maternal health problem confronting families in Nigeria, the level of its awareness among men remain scanty (Sambo, 2008). A possible explanation to this difference could be due to the disparity in the intervals in which the studies were carried out. It is possible that interventions may have reduced the difference.

Research question two: What were the media of exposure to intervention messages among men?

Table 4: Media of exposure to intervention messages among men

Medium/Media of exposure	%	Mean
Radio (94)	26	
TV (56)	15.5	
Posters/Hand bills (19)	5.2	
Newspapers (30)	8.3	
Magazines (20)	5.5	

Billboards (16)	4.4	9.0
Religious leaders (31)	8.5	
Town Criers (24)	6.6	
Mobilization (29)	8.0	
Internet (22)	6.0	
Others (20)	5.5	

Table 4 above shows the medium through which respondents were exposed to obstetric fistula information. Ninety four (94) respondents indicated radio, representing (26%). Those who indicated TV were 56 (15.5%); Handbills were 19 (5.2%). Those who indicated newspapers were 30 (8.3%). Magazine was 20 (5.5%). Billboards were 16 (4.4%). Those who got their information from religious leaders were 31 (8.5%). Town crier was 24 (6.6%); community mobilization 29 (8.0%); Internet was 22 (6.0%); others 20 (5.5%). This is an indication that majority of the respondents got information on obstetric fistula from communication campaigns on radio. This agrees with the findings of Moemeka (2012) who found that radio was the most popular medium for the dissemination of health and development information. A plausible reason for this could be found in the characteristic of the radio as a medium of communication. Studies show that the radio is affordable, mobile, less complicated to operate, transcends language and literacy barriers, ubiquitous and does not rely on the availability of electricity or power supply. However, findings of a study by Tuncalp et al (2014) in Kebbi and Cross River States of Nigeria, underscored the importance of community-based mobilization and its ability to reach a greater and different population than that reached by the fistula repair centers. In another study, *involving men in maternity care: health service delivery issues*, Mullick, Kunene and Wanjiru (2005) found that the use of interpersonal channels to disseminate health intervention messages was significantly effective in changing communication patterns among men in couple communication.

Research question three: What was/were the genre(s) to which men were exposed to in intervention messages?

Table 5: content genre to which men were exposed to in intervention messages

Genre(s) of exposure	%	Mean
Drama (43)	11.9	
Song/jingles (77)	21.3	
Advertisement (70)	19.3	
Panel Discussion (41)	11.3	14.2
Public Address (64)	17.7	
Pictures (32)	8.8	
Others (34)	9.4	

Table 5 above shows the format in which respondents heard or saw issues on obstetric fistula. Songs had the highest entry 77 (21.3%). Those who saw or heard it in drama were 43 (11.9%); advertisements were 70 (19.3%); panel discussions were 41 (11.3%); Public address was 64 (17.7%) while pictures were 32 (8.8%). Those who indicated 'others' were 34 (9.4%). This was ascertained from the genres the respondents indicated were campaign formats in which exposure to fistula message occurred. Why songs came out as the highest among formats cannot be explained. Further studies are required to ascertain the place of songs in health intervention campaigns. What aligns more with the assumption of this study, is contained in the findings of a previous study by Rice (2013) who found that health communication campaigns use various media formats (soap operas, text messages, games, social games, virtual worlds, web sites), and environments (home, school, work, play, waiting rooms) to encourage people to improve their health behavior.

Summary and Conclusion

Obstetric fistula is a substantial burden on maternal health and male participation to improve maternal health is highly emphasized in fistula eradication agenda as well as in the declaration of the International Conference on Population and Development and is considered a strategy to achieve the Millennium Development Goals. Communication interventions are part of the strategy to eradicate fistula. Previous studies have shown that exposure to intervention messages is related to behaviour change. Therefore, this study assessed the pattern of men's exposure to health communication interventions on obstetric fistula in Ebonyi state, South-east Nigeria.

Findings showed that majority of the respondents were exposed to intervention messages. Radio remained the highest medium of exposure among respondents and audio related formats (songs) were the major genre in which exposure occurred. These outcomes suggest a strong role for mass media communication interventions in support of investments in obstetric vesico vaginal fistula campaign for men's involvement in the eradication of obstetric fistula in Ebonyi state. The study offers insight in to the opportunity for the delivery of timely obstetric fistula promotion messages directly to men and this capacity is potentially high. Therefore, interventions targeting men's knowledge in all obstetric fistula risk factors are recommended.

This has implications for communication campaigns as a change agent to educate men and to stimulate discussions on men's role in obstetric well being. The implication is that, such platforms may contribute to improved birth outcomes in the South East and Nigeria as a whole.

Recommendations

Based on the above findings, the following recommendations are made:

- i. Advertisers and health care practitioners need to find better ways of improving advertising messages so as improve the prevention and treatment of obstetric fistula. This is due to the finding of this study which showed that the highest format of exposure to obstetric fistula message was song related campaigns.
- ii. There is high need to explore the medium of newer technologies (mobile phone and the internet) in the dissemination of obstetric messages across the south-east geopolitical zone. While the literature shows that this has been implemented in other regions of Africa where there are growing concerns to eradicate fistula, there is no empirical data indicating that in neither Nigeria nor the south-east this policy has been implemented.

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