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Influence of Radio Messages: On Vesico-Vaginal Fistula Disease among Female Audience in North-West Nigeria

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Abstract

The increasing incidence of vesico-vaginal fistula (VVF) in Nigeria has justified the need for continued exploration of ways to prevent the occurrence of this debilitating maternal morbidity and rehabilitation of affected women. This study was conducted to find out how radio has responded to VVF campaign among females in North-west Nigeria and to establish whether radio's response contributed to creating awareness about the disease in the study area.The study adopted survey design and focused on two groups of females, namely, healthy women attending antenatal care and women receiving treatment at designated VVF centres. Multi-stage sampling technique was used to select 389 females through the administration of questionnaire while descriptive statistics was used to analyze the data. The findings showed that most of the participants (73.8%) have heard about VVF while only 27% were aware of radio programme on the disease. Those exposed to radio messages on VVF benefitted and gained new informationin several wayswhich empowered them to understand and make informed decisions about the disease. The radio messages covered essential information vital to ensure a basic level of knowledge and understanding of the disease. The messages impacted and increased knowledge on causes, symptoms, treatment and preventive measures against VVF.The radio messages created good educational and learning opportunities on VVF among the participants in this study that need to be strengthened.

The study concluded that radio provided the needed information on VVF for women that heard the messages and to a large extent impacted on them in many ways. The study emphasized the need for allocation of adequate time for messages on the radio so that people in the study area can be more informed about the disease.

Keywords: Vesico-vaginal fistula, Influence, Female audience, Radio messages, Knowledge.

Introduction

Vesico-vaginal fistula (VVF), an abnormal communication between the bladder and the vagina causing urinary incontinence is an unpleasant health outcome of female reproductive health that is common in developing countries such as Nigeria, where social and economic factors combine to perpetuate the situation. Predisposing factors to VVF include early age at delivery, home delivery, early marriage, obstructed labour, unskilled birth attendant, economic and socio-cultural factors among others (Ijaiya & Aboyeji, 2004). Prolonged obstructed labour is the main cause of obstetric fistula in developing countries and in Nigeria 96.5% of the VVF cases are as a result of obstructed labour (Wall, Karshima, Kirschner & Arrowsmith, 2004). United Nations Population Fund (UNFPA, 2010) noted that the effects of VVF are life shattering and it could have physical, physiological, social and economic effects on the victim.

United Nations Population Fund (UNFPA, 2012) estimates that 2 to 3.5 million women suffer untreated fistula globally; and at least 50,000 to 100,000 women develop a fistula every year. While it is estimated that 33,000 new cases of VVF incidence occur yearly in Sub-Saharan Africa, Nigeria has the highest prevalence of the disease in the world, with between 400,000 and 800,000 women living with the problem and about 20,000 new cases occurring annually; 90 percent of the cases go untreated. This implies that about 55 women are infected by Vesico Vaginal Fistula and 18,000 cases are untreated daily. The disease is rampant in the Northern part of Nigeria due to several prevailing social-cultural factors, such as early marriage /pregnancies and low status of woman coupled with poor access and utilization of antenatal services (UNPFA, 2010; Akpeji, 2012). Federal Ministry of Health (2014) reports that despite several efforts to provide information to people in the country about VVF, there appears to be little change as the number of cases has continued to grow. This underscores the

importance of the implementing policies that will lead to increased funding for VVF awareness campaigns, establishing more VVF facilities and supporting personnel in a bid to eradicate this health problem in the country. This is more so that it is increasingly believed that VVF can be prevented and radio messages would play a significant role in its prevention as it has done successfully in Africa and particularly in Nigeria (Agu, 2015; Christian & Uche, 2015).

It has been empirically proven that the radio can be effectively used to promote health related issues. This is based on quan-tifiable and statistically analyzed results focusing on women's rights promotion, HIV rates reduction, family planning, reproduc-tive health issues, and prevention of child trafficking by the Population Media Centre which uses radio to produce behavioural change among large audiences in 15 countries in Africa, Asia, and Latin America (Centre for International Media Assistance, 2007). This has made the Population Media Centre to rely on the radio as the most appropriate and cost-effective medium to reach its target audiences. The United Nation Children Fund ((UNICEF, 2014) acknowledges that people get information on disease through different channels but most especially from the radio. This is an indication that radio has a great role in information provision and is an influential behavioural change medium of mass communication.The medical condition called VesicoVaginal Fistula (VVF) can only be given prominence if radio decides that it is news worthy. This is because health promotion is concerned with social change at the individual and community levels. That is why for a change to be initiated as a process, there must be adequate information for the audience consumption to be able to make informed choices (Moemeka, 2011).The broadcast media, particularly the radio is said to be strategic in the development process, including health development. Justifying the advantages of the radio over other channels of mass communication, Maputseni (2006) observed that for almost a century, the radio has been used as an educational tool in both development and literacy programmes for the reason that it is a universal and versatile medium of communication that can be used for the benefit of the society.

Because of the prevalence of VVF disease in Nigeria, a lot of awareness campaigns have been initiated by the government,

International organizations, Non-Governmental Organizations, private individuals and organizations. These bodies overtime have sponsored campaigns geared toward controlling and preventing the disease in North-west Nigeria and the mass media, tend to be the major carriers of the VVF campaign messages. Despite all the campaigns going on in Nigeria,the Federal Ministry of Health (2014) reports thatwith these efforts to provide information to people in the country, there appears to be little change as the number of cases has continued to grow in the region.However, it is not certain how radio stations responded to the dissemination of the information on the disease in North-west Nigeria, which is unexplored in the region. It is in the light of this that this study was designed to gain insight intowhat the female audiencein Kano and Katsina States in North-west Nigeria felt was the influence of radio messages on VVF in their communitiesand how they thought it has enhanced knowledge on the causes, prevention and treatment of the disease. It is envisaged that the findings of this study would help in the design of a protocol for health enlightenment and counseling of Nigerians on how this very important maternal morbidity can be prevented.

Theoretical Framework

The study is anchored on Health Belief Model. The Health Belief Model (HBM) is one of the first theories of health behavior. This model was suggested by Rosentock (1966) and modified originally to explain preventive health behaviour, but it has also been applied to illness behaviour. The model attempts to explain and predict health behaviour by focusing on the attitudes and beliefs of individuals. Originally developed in the 1950s, and updated in the 1980s, the model was part of efforts by social psychologists in the United States Public Health Service to explain the lack of public participation in health screening and prevention programmes (e.g., a free and conveniently located tuberculosis screening project). Since then, the HBM has been adapted to explore a variety of long- and short-term health behaviour including VVF. The model is based on the theory that people's willingness to change their health behaviour 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 behaviours. 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. The Health Belief Model according to Sheeran and Abraham(1995) version, action in the HBM is guided by six major concepts:

i. **Perceived Susceptibility:** It refers to or the beliefs about how vulnerable a person consider himself or herself in relation to a certain illness or health problem. It refers to one's subjective perception of the risk of contracting a health condition. Thus, women will not change their health behaviour unless they believe that they are at risk. For example, those who do not think that they are at risk of VVF disease are unlikely to use a preventive measure.

ii. **Perceived severity:** These are feelings concerning the seriousness of contracting an illness or of leaving it untreated (including evaluations of both medical and clinical consequences and possible social consequences).The probability that women in this study will change their health behaviour to avoid a consequence depends on how serious they consider the consequence of VVF disease to be.

iii. **Perceived benefits:** It 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 coverage of VVF intervention messages would be beneficial to the overall health of the family is a strategy in HBM.

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

v. **Motivation:** includes the desire to comply with a treatment. In this respect, one of the ways of motivating the females is to show how positive behaviour is a reinforcement of females social and

cultural positions as housewives in their households especially as it relates with, gender power relations, patriarch analysis and cultural practices.

vi. **Modifying factors:** This includes 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 female focused communication intervention on obstetric fistula.

The application of this model to this study is that the way people perceive media campaigns on health related issues determines their behaviour towards it. This means, if they see VVF campaigns as a very severe campaign, and that they might be victim (susceptible) of such health condition, they are likely to adjust their attitude and practices to the messages of the campaign, especially when it is within their reach to do so. Invariably, for media campaigns about VVF, to induce change in the attitude and practices of the people, the people have to see the health condition as something that can really affect their wellbeing. It is this belief in the danger of the health situation that propels the people to look at the ways of avoiding the condition. The campaign also would have to suggest ways through which the people can easily adjust their previous behaviour with it cost; because the cost of adjusting behaviour plays a paramount role on whether the people will adjust or not. HBM suggest that where it is easy for the people to adjust their behaviour (self-efficacy) by involving in issues that prevent VVF, they may not be infected. In this study, it is assumed that, applying the HBM provides context to understanding female's exposure to communication intervention on VVF.

Materials and Methods

Study Area

The study was conducted in Kano and Katsina States, located in the North-West geopolitical zone of Nigeria. The zone has been noted to have a high prevalence of VVF due largely to early marriage and failure to utilize modern maternity services during pregnancy and delivery (Ijaiya & Aboyeji, 2004). The National Population Commission estimated the population of females to be

6,100,781 in Kano State and 3,781,640 in Katsina State in 2016. Both states share the same culture and Hausa people (sometimes grouped with the Fulani as Hausa-Fulani) are the largest ethnic group. The local people engage in peasant farming, petty trading and cattle rearing. There are thirteen radio stations in Kano State while Katsina State has four. The availability of these radio stations implies that the population of the study area has access to a broad variety of health care intervention messages.

Research Design and Population of the study

The study adopted survey design using questionnaire as an instrument for data collection.The design was used because of three basic characteristics. First, survey research is used to quantitatively describe specific aspects of a given population. 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 be used to generalize for the entire population. The population of this study comprised females in Kano State and Katsina States. The study focused on two groups of females, namely, healthy women attending antenatal care and women receiving treatment at designated VVF centres. This classification was carried out to eliminate any stigmatization of affected women and to allow the participants to express themselves freely without any bias. The record departments of the selected health centres provided information on the number of women attending antenatal care and those receiving treatment.

Sample Size Determination

The sample size for this study is made up of 389 women, comprising of 210 VVF patients receiving treatment in the selected health facilities and 179 non VVF respondents attending antenatal care in the selected health facilities. All women receiving treatment at Laure Fistula Centre, Kano (112) and National Obstetric Fistula Centre, Katsina (98) were enumerated. The sampling frame used for the selection of non VVF respondents from Aminu Kano Teaching Hospital, Kano and Federal Medical Centre, Katsina was the total number of women attending antenatal care in the hospitals. A total of 106 women from the 140 and 73 from a total

of 85 that were registered at the antenatal clinic of Aminu Kano Teaching Hospital, Kano and Federal Medical Centre, Katsina respectively were chosen. Krejcie and Morgan (1970) table for determining sample size was used to determine the proportion of questionnaire administered to women attending antenatal care in the two hospitals. They simplify the process of determining the sample size for a finite population with a table using sample size formula as:

Where:

S = Required Sample size
X = Z value (1.96 for 95% confidence level)
N = Population Size
P = Population proportion (assumed to be 50%)
d = Degree of accuracy (5%), it is margin of error

Thus, with a known population of 140 for women attending antenatal care in Aminu Kano Teaching Hospital:

$$S = \frac{1.96^2(140)(0.5)(1-0.5)}{(0.005^2)(140-1) + 1.96^2(0.5)(1-0.5)}$$

$$S = \frac{(3.8-16)(140)(0.5)(0.5)}{(0.0025)(139) + (3.8416)(0.5)(0.5)}$$

= 107.802, which is approximately 108

For a known population of 85 women attending antenatal care at Federal medical centre Katsina:

$$S = \frac{1.96^2(85)(0.5)(1-0.5)}{(0.005^2)(84-1) + 1.96^2(0.5)(1-0.5)}$$

$$S = \frac{(3.8416)(85)(0.5)0.5)}{(0.0025)(84) + (3.8416)(0.5)(0.5)}$$

=72.75, which is approximately 73.

Sampling Technique and Procedure

Kano and Katsina States were used in this study because they have designated health centres for the treatment of VVF in the North-West geo-political zone.In each state, two hospitals, a VVF treatment hospital and a tertiary health centre were selected. In Kano State, Laure Fistula Centre and Aminu Kano Teaching Hospital were selected while National Obstetric Fistula Centre and Federal Medical Centre Katsina were selected in Katsina State. Laure Fistula Centre was selected because it the largest VVF treatment Centre with the highest VVF patients in Kano and is a referral hospital in the North-West Nigeria and neighboring country, Niger. The hospital has been consistently used as the venue of communication campaigns for VVF held in Kano state since 1990. The choice of Aminu Kano Teaching Hospital,Kano is informed by the fact that it is a tertiary health centre and communication campaigns for VVF have over the years been conducted in the hospital. In Katsina State, the Federal Medical Centre Katsina was chosen because it a tertiary health centre, while the National Obstetric Fistula Centre was chosen because it is a key fistula repair and referral site in the state.

At Federal Medical Centre Katsina and Aminu Kano Teaching Hospital, Kano, eligible respondents for selection were women receiving antenatal care services within the period of data collection. They were contacted through a systematic random sampling procedure. On each antenatal clinic day, the total number of women registered in the clinic was obtained and thereafter, in each hospital at specified intervals of either every third or fifth woman was selected; depending on the number of women that attend clinic. Where there is any resistance or unwillingness by respondent, other women who were willing to divulge information were contacted. In all, a total of 389 females participated in the study. The data generated from the questionnaire were subjected to descriptive analysis. Ethical approval was obtained from the Aminu Kano University Teaching Hospital and National Obstetric Fistula Centre Babbar-Ruga Katsina Research and Ethics Committee, while verbal informed consent was obtained from the individual respondents.

Results

Socio-Economic and Demographic Characteristics of the Sampled Population

Table 1 contains information on the socio economic and demographic characteristics of the respondents that participated in the study. The table revealed that, of the 389 sampled population, 171 respondents representing 44% were from Katsina State while 218 representing 56% were from Kano State. Over half (58.9%) reside in the rural as against the urban areas (36.5%). A majority (87.6%) were married and were between the reproductive age brackets(97.2%).Most (83.3%) of the study respondents belonged to the Islam religion while 16.7% were of the Christian faith. The ethnic groups of the respondents' shows that 46.5% were Hausa, 9.3% were Fulani, while 44.2% were other tribes. One third(33.9%) of the respondents had no formal education and were housewives(31.9%).Most(76.9%) of the respondents earned N20, 000.00 and below monthly. This is generally low given the present economic situation in the country. This will also have an implication for the treatment of VVF disease as most females cannot afford treatment of the disease.

Table 1: Socio-Economic and Demographic Characteristics of Respondents

Variable	Characteristics	Frequency	Percentage
State	Katsina	171	44.0
	Kano	218	56.0
	Total	389	100
Locality status	Urban	142	36.5
	Rural	229	58.9
	Others	18	4.6
Age group	<15	11	2.8
	15-19	18	7.2
	20-24	111	28.5
	25-29	66	17.0
	30-34	119	30.0
	35-39	53	13.6
	40 and above	01	0.3
Religion	Islam	324	83.3
	Christianity	65	16.7
Ethnic group	Hausa	181	46.5
	Fulani	36	9.3
	Others	172	44.2
Educational status	No formal education	132	33.9
	Primary	12	3.1
	Secondary	71	18.3
	Tertiary	143	36.8
	Others	31	8.0
Occupation	Farming	35	9.5
	Business	104	28.3
	Civil servant	62	16.9
	Housewife	117	31.9
	Others	49	13.4
Income per month	<5,000	114	48.7
	5,000-10,000	35	15.0
	10,100-15,000	01	0.4
	15,100-20,000	30	12.8
	20,100-25,000	18	7.7
	35,100-40,000	18	7.7
	Above 40,000	18	7.7
Marital status	Married	325	87.6
	Single	29	7.8
	Divorced	13	3.5
	Separated	04	1.1
	Total	**389**	**100**

Awareness of Radio Campaigns on VVF Disease

Table 2 revealed that a majority (73.8%) of the respondents has heard about VVF. This number (26.2%) of women without information on VVF is high and has not been reached by media campaigns. Over two thirds (73%) reported that they were not aware of VVF radio campaign programmes and only 27% said that they were aware. The implication of this finding is that while there was low presence of VVF campaign in most communities, some respondents have heard about the disease. Respondents were asked if there were VVF radio campaign organizations in their communities (Table 2). While two thirds (93.7%) of the respondents reported that they were not aware of any VVF campaign organizations in their areas, only 6.3% agreed that they were aware.

Table 2: Awareness of Radio campaigns on VVF disease

Variable	Characteristics	Frequency	Percentage
VVF campaign organization in community	Yes	20	6.6
	No	304	93.7
Ever heard of VVF radio	Yes	287	73.8
	No	99	26.2
Awareness of any VVF radio programme	Yes	105	27.0
	No	284	73.0

Influence of the Radio Messages on VVF disease

Views of respondents were sought on what they felt was the influence of radio messages on VVF disease in their communities generally (Table 3). The Table Shows that 32.4% reported thatthe radio messages on VVF increased their awareness on signs and symptoms of the disease, 28.6% believed that the information is instructive on prevention and treatment, while 20.9% opined that it has helped to mobilized them against the spread of the disease. Those that believed that it has helped to correct erroneous beliefs about the disease in their communities constituted 18.1% while 12.4% reported that it has helped them to advocate for victims of the disease. There were those that perceived that it has helped to reduced stigma associated with the disease (21.9%) and increased number of VVF patients being taken to hospital (10.5%).Only 8.2% and 7.6% believed that the messages did and did not disseminate information on all of the above respectively.

On whether the respondents were told of the benefits of preventing VVF or seeking medical treatment for the disease in the radio messages, the responses as shown in Table 3 revealed that the radio messages on VVF contain the third component of the health belief model which is perceived benefits, even though not all the respondents indicated that indeed they were told of the benefits of preventing or seeking medical treatment for VVF illnesses. With only 30.5% of the respondents saying that radio campaigns for VVF disease have made significant impact in their communities, it can be concluded that these messages need to be done using a different approach. However, this is also an indication that somefemales were listening to the radio and paying some attention to media campaign messages.

Table 3: Views on the Influence of Radio Messages

Views on influence of radio messages	Frequency	%
Impact of VVF radio messages	32	30.5
Increase awareness on signs and symptoms	34	32.4
Instructive on prevention and treatment	30	28.6
Mobilized against spread of the diseases	22	20.9
Corrected erroneous beliefs about the disease	19	18.1
Advocated for victims of the disease	13	12.4
Reduced stigma associated with the disease	23	21.9
Increased number of VVF patients being taken to hospital	11	10.5
All of the above	09	8.6
None of the Above	32	7.6

According to Table 4, the information received from the radio empowered most (85.7%) of the respondents to gain confidence (self-efficacy) in seeking information on prevention of VVF or seeking treatment while 14.3% did not agree that they gained confidence as a result of the information from the radio messages. The responses obtained indicate clearly that the radio messageson VVF contain information that enhance self-efficacy (confidence), the sixth component of the health belief model. Self-efficacy is an important component of health messages because people who have a strong sense of self-efficacy regarding health and self-care behaviours are more likely to have a healthy lifestyle, to seek and

follow medical advice when ill, to avoid life crises, to cope with crises that do occur, and to establish closer personal ties so that social support is available to buffer against illness. However, those with low self-efficacy think of themselves as helpless; they are more likely to become ill and to cope ineffectively with medical problems Respondents gained new information about VVF from the radio messages they received. Table 4 revealed that most women (86.7%) reported that they gained new informationin several waysabout VVFas a result of the radio messages. This implies thatthe radio messagesbroadened the scope of knowledge of some women who before then had some misconceptions and doubts about the disease. The new information gained from the radio messages will also enable them to acquire knowledge of VVF disease that they did not have before.

This will lead to new and knowledgeable thoughts about the disease which will lead to attitude change. This attitude change towards VVF will be evident in the reduction of stigma against the disease. Only 13.3% reported that they did not gain new information. Respondents were also asked whethertheradio messages empowered them to understand and make informed decisions on VVF.Table 4 shows that majority (84.8%) of the respondents agreed that the radio messages were empowering them to understand and make informed decisions on VVF. This was done probably through health education messages. Only 15.2% were not empowered with the messages. Table 4 shows the views of the participants on whether the radio messages were succeeding in educating people (general public and women in particular) in the study area on VVF disease. Majority (75.2%) agreed that information through radio messages were succeeding in educating people about VVF. Only 24.8% did not agree that the radio messages were educating people about the disease. The implication of Table 4 is that radio programmes for VVF held in the study area have been effective in enhancing knowledge.

Table 4: Perception of influence of the radiomessages on VVF

Variable	Characteristics	Freq.	%
Gain confidence in seeking	Yes	90	85.7
information on VVF	No	15	14.3
Gain new information about	Yes	91	86.7
VVF	No	14	13.3
Empowered due to radio messages on VVF	Yes	89	84.8
Success of radio messages	Yes	79	75.2
educating people on VVF	No	26	24.8

Influence of radio messages on knowledge of VVF Disease

The influence of the radio messages on VVF was also assessed by asking participants whether the information they heard improved their knowledge about the causes, symptoms, prevention and treatment of the disease (Table 5). This information is important because it will help to identify the probable areas of intervention for the control of the disease. Table 5 shows that the radio messages on VVF improved knowledge of majority of respondents about the risk factors of the disease recurrence. They reported correctly that the radio messages have improved their knowledge that the disease is caused by prolonged obstructed labour (85.7%), violent rape (74.2%). Other knowledge gained by the messages about the cause of VVF are early marriage (93.3%), teenage pregnancy (88.6%), female circumcision (74.2%) and harmful traditional practices (72.4%).

The care a female receives when suffering from VVF is influenced by her understanding and recognition of the symptoms of the illness. It also depends on how she connects the signs with VVF. Table 5 shows that 95.2% of the respondents believed that their exposure to radio messages improved their knowledge that fluid flowing out of the vagina is a common symptom of VVF in females. This was followed by foul-smelling discharge or gas (84.6%) and infected or sore genital area (74.2%).

Radio messages made 87.6% of the respondents know that VVF is a preventable disease. Those that reported knowing attending antenatal care as a strategy for preventing VVF were 97.1%. Knowledge of avoiding teenage pregnancy to prevent VVF

was 88.6% while 93.3% and 90.5 % knew that avoiding early marriage and traditional birth practices respectively will prevent VVF. A critical look at Table 5 indicates that there exists some level of ignorance about how VVF can be prevented among the respondents despite the radio messages on how VVF can be prevented.

Table 5 further shows that the radio messages have enhanced the knowledge base of respondents that VVF can be treated (90.4%), early seeking of emergency obstetric care is beneficial (82.8%), treatment at hospital is important (85.7%) and a woman suffering from the disease will die if the disease is not treated (83.8%). This suggests that some women still believe that the disease does not kill and some will seek help from a variety of sources. This is in spite of the fact that the message of VVF intervention emphasizes the proper treatment using the health centre or hospital resources. Overall, the responses indicate that despite the fact that respondents have heard radio messages on VVF; some still are not sufficiently knowledgeable about some of the causes, symptoms, prevention and treatment of VVF illness. This is an indication that radio messages have not increased levels of knowledge of VVF among some of these respondents.

Table 5: Influence of Radio Messages on Knowledge of VVF Disease

Variable	Characteristics	Frequency	Percentage
Causes of VVF	Prolonged obstructed labour	90	85.7
	Violent rape	78	74.2
	Early marriage	98	93.3
	Teenage pregnancy	93	88.6
	Female circumcision	78	74.2
	Traditional birth practices	76	72.4
Symptoms of VVF	Fluid flowing from vagina	100	95.2
	Foul smelling discharge or gas	89	84.6
	Infected or sore genital area	78	74.2
Prevention of VVF	Attendance of antenatal care	102	97.1
	Avoidance of traditional practice	95	90.5
	Avoidance of early marriage	98	93.3
	Avoidance of teenage pregnancy	93	88.6
	VVF is preventable	92	87.6
Treatment of VVF	Treatment at hospital	90	85.7
	Seek help immediately when symptoms noticed	87	82.8
	VVF can be treated	95	90.4
	Woman can die if VVF is not treated	88	83.8

Discussion

The increasing incidence of VVF in Nigeria has justified the need for continued exploration of ways to prevent the occurrence of this disease. This study was conducted to find out how radio has responded to VVF campaign among females in North-west Nigeria and to establish whether radio's response contributed to creating awareness about the disease in the study area. The study found that there were only very few VVF campaign organizations in North-west Nigeria. This was revealed by two thirds (93.7%) of the sampled population who indicated that they were not aware of any VVF campaign organizations in their area. Findings of this study contrasts with Mpingaga, Hofnie & Friedman (2010) who found in a study in Namibia that there were a variety of radio campaign organizations which disseminate health information in the area.

Participants in this study who said they were familiar with the term VVF disease were 287 (73.8%). Findings of this study contrasts with Kazaura, Kamazima and Mangi (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). The information females received from radio campaigns on VVF covered essential information vital to ensure a basic level of knowledge and understanding of the disease. The content of the radio programmes covered information on signs and symptoms, prevention, causes, treatment, erroneous beliefs, campaigns, advocacy for victims, stigmatization, severity of the disease and susceptibility.

This information is necessary to increase their knowledge and skills on disease prevention. Since the radio programmes had messages on susceptibility to VVF, it shows that communication campaigns for VVF have one of the components of the health belief model which is perceived susceptibility. The Health Belief Model predicts that as an individual's level of risk assessment regarding a disease increases, chances of compliance with recommended

prevention measures also increase.It is therefore, expected that when females get messages on how susceptible they are to VVF, they will stop behaviours that put them at risk of contracting the disease or seek treatment immediately they detect they are VVF ill. They were given information on the severity of the disease in the radio campaigns. This also shows that radio campaigns for VVF contain another component of the health belief model which is perceived severity. This information is necessary as Kadira,Ahmad and Mustapha (2014) found that effective information was relevant for promoting and encouraging preventive as well as effective treatment practices.

In this study, respondents reveal that they received a variety of information from radio campaigns that has impacted and increased their knowledge on causes, symptoms, treatment and preventive measures against VVF. This means that radio campaigns messages created good educational and learning opportunities on VVF among the participants in this study that need to be strengthened. They reported that the radio campaign messages have improved their knowledge that the disease is caused by prolonged obstructed labour, violent rape, early marriage, teenage pregnancy, female circumcision and harmful traditional practices.Their exposure to radio campaigns improved their knowledge that fluid flowing out of the vagina is a common symptom of VVF in females. The radio campaigns helped them to know that Foul-smelling discharge or gas and Infected or sore genital area respectively is symptoms of VVF. They know after the information that VVF is a preventable disease. Other strategies they know for preventing VVF are: attending antenatal care, avoiding teenage pregnancy, avoiding early marriage and traditional birth practices. The radio campaigns have enhanced the knowledge base of respondents that VVF can be treated, early treatment of VVF disease is beneficial, treatment at hospital is better and a woman suffering from the disease will die if the disease is not treated. The implication of this finding is that females that were exposed to media messages; were able to pick up the campaigns on VVF and this might have made them to be aware of certain issues concerning the disease condition or situation.

The study showed that females reported a significant change in their knowledge after exposure to the radio campaign messages. This is made evident considering the fact that previous studies

carried out in Nigeria by National Demographic Health Survey (NDHS,2008), Daru, Karshima, Mikay. & Nyango (2011) and Federal Ministry of Health (2012) showed low level of knowledge. The results in this study support Iipinge, Hofnie and Friedman (2004) that community members including youths knowledge of health issues improved which comes from exposure to radio health information campaigns. Findings also revealed that exposure of the study participants to VVF campaign messages on the radio to a large extent impacted on them in many ways. This is because radio incorporated many enlightening messages on VVF and through these programmes people gained confidence in seeking information about the disease. The information they received from the radio campaign(s) empowered them to gain confidence (self-efficacy) in seeking information on prevention of VVF or seeking treatment. Self-efficacy is an important component of health messages because people who have a strong sense of self-efficacy regarding health and self-care behaviours are more likely to have a healthy lifestyle, to seek and follow medical advice when ill, to avoid life crises, to cope with crises that do occur, and to establish closer personal ties so that social support is available to buffer against illness.

Participants in this study that were exposed to radio messages on VVF benefitted and gained new informationin several waysabout the disease. This information broadened the scope of knowledge of those who before then had some misconceptions and doubts about the disease. The finding support Keating, Meekers and Adewuyi (2006) assertion that exposure to radio messages on health related matters helped youths to dismissed myths and misconceptions about diseases. The new information also enable them to acquire knowledge of VVF disease that they did not have before. This has lead to new and knowledgeable thoughts about the disease which has lead to attitude change. This is an indication that the radio campaigns for VVF held in Katsina and Kano States has impacted and enhanced knowledge for those that were exposed to the messages. They reported radio as responding to enlighten people about VVF in North-west Nigeria by providing different kinds of instructive messages to correct misconceptions and beliefs about the disease, educate them on methods of prevention and treatment. It is glaring in this study that radio campaigns for VVF contain messages that has enhanced self-

efficacy (confidence), people gained new information about the disease, people have been empowered to understand and make informed decisions on VVF, and has succeeded in educating the public and women in particular in the study area on VVF disease. However, these impacts were rated by only 30.5% with 69.5% indicating that radio campaigns for VVF disease have not made any significant impact in the study area.

Conclusion

The study reveals how the radio has been reporting about VVF and calls for support to increase media exposure as part of the fight against fistula. The radio provided the needed information on VVF and, for those that heard the messages, they used such information to enhance their knowledge of the disease. The radio messages on VVF disease contain information that has enhanced self-efficacy (confidence), new information about the disease, empowered people to understand and make informed decisions on VVF, and succeeded in educating the public and women in particular in the study area on VVF disease. The content of the messages impacted and expanded the knowledge base of most females such that they could identify causes, symptoms, prevention and treatment issues raised in the radio campaigns. Messages on life repulsive health condition, such as Vesico-vaginal fistula should be frequently aired, possibly, broadcast on a daily basis. This will help to sensitize the public on the seriousness of the condition and prevent them from those practices and attitudes that lead to it. This is because radio programmes that are aired more often have been found to achieve the best outcomes when it comes to the scope of message dissemination. Interventions targeting women's knowledge in all VVF risk factors are recommended.

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