

KNOWLEDGE ATTITUDE AMONG MARRIAGE WOMEN OF
REPRODUCTIVE AGE TOWARDS
VESICO VAGINAL FISTULA IN KEBBI STATE NIGERIA

Mrs Saudat Abdullahi Basheer

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Public Health Program in Public Health
College of Public Health Sciences
Chulalongkorn University
Academic Year 2012

Copyright of Chulalongkorn University

บทคัดย่อและแฟ้มข้อมูลฉบับเต็มของวิทยานิพนธ์ตั้งแต่ปีการศึกษา 2554 ที่ให้บริการในคลังปัญญาจุฬาฯ (CUIR)
เป็นแฟ้มข้อมูลของนิสิตเจ้าของวิทยานิพนธ์ที่ส่งผ่านทางบัณฑิตวิทยาลัย

The abstract and full text of theses from the academic year 2011 in Chulalongkorn University Intellectual Repository(CUIR)
are the thesis authors' files submitted through the Graduate School.

ความรู้ เจตคติ ต่อการเกิดรู้อั้วระหว่างกระเพาะปัสสาวะและช่องคลอดในหญิงสมรส
ที่อยู่ในวัยเจริญพันธุ์ในรัฐเคบปี ประเทศไนจีเรีย

นางซัวแดท อับดุลลาฮี บาเซอร์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธาณสุขศาสตรมหาบัณฑิต

สาขาวิชาสาธาณสุขศาสตร์

วิทยาลัยวิทยาศาสตร์สาธาณสุข จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2555

ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

Thesis Title KNOWLEDG ATTITUDE AMONG MARRIAGE WOMEN
 OF REPRODUCTIVE AGE TOWARDS VESICO VAGINAL
 FISTULA IN KEBBI STATE NIGERIA

By Mrs. Saudat Abdullahi Basheer

Field of study Public Health

Thesis Advisor Tepanata Pumpaibool, Ph.D.

Accepted by College of Public Health Sciences, Chulalongkorn University in
Partial Fulfillment of the Requirements for the Master's Degree

.....Dean of the College of Public Health Sciences
(Professor Surasak Taneepanichskul, M.D.)

THESIS COMMITTEE

.....Chairman
(Assistant Professor Ratana Somrongthong, Ph.D.)

.....Thesis advisor
(Tepanata Pumpaibool, Ph.D.)

.....External Examiner
(Assistant Professor Manopchai Thamkantho, M.D., M.Sc.)

ซัวแดท อับดุลลาฮี บาเซอร์: ความรู้ เจตคติ ต่อการเกิดรูรั่วระหว่างกระเพาะปัสสาวะและช่องคลอดในหญิงสมรสที่อยู่ในวัยเจริญพันธุ์ในรัฐเคบี ประเทศไนจีเรีย (KNOWLEDGE ATTITUDE AMONG MARRIAGE WOMEN OF REPRODUCTIVE AGE TOWARDS VESICO VAGINAL FISTULA IN KEBBI STATE NIGERIA) อ.ที่ปรึกษาวิทยานิพนธ์
 หลัก: อ.ดร.เทพนาฏ พุ่มไพบูลย์, 90 หน้า.

วัตถุประสงค์หลักของการศึกษาแบบการวิจัยเชิงพรรณนา ณ จุดเวลาใดเวลาหนึ่งแบบตัดขวางนี้ คือ เพื่อประเมินความรู้และเจตคติที่มีต่อการเกิดรูรั่วระหว่างกระเพาะปัสสาวะและช่องคลอด และหาปัจจัยที่เกี่ยวข้องกับความรู้ และเจตคติที่มีต่อการเกิดรูรั่วระหว่างกระเพาะปัสสาวะและช่องคลอด ใช้การสุ่มตัวอย่างแบบมีระบบในการเลือกชุมชน 30 แห่งจาก 321 แห่งในพื้นที่องค์การบริหารราชการส่วนท้องถิ่นเบอร์นิน เคบี รัฐเคบี ประเทศไนจีเรีย มีผู้หญิงเข้าร่วมในการศึกษานี้จำนวน 380 คน โดยใช้แบบสอบถามที่สร้างขึ้นในการเก็บข้อมูลและวิเคราะห์ข้อมูลโดยหาค่าร้อยละ ค่าเฉลี่ย และส่วนเบี่ยงเบนมาตรฐาน และวิเคราะห์ความแตกต่างของสัดส่วนความถี่ด้วย Chi-square โดยมีค่าระดับความแตกต่างอย่างมีนัยสำคัญทางสถิติที่ 0.05 การสนทนากลุ่มในหญิงสมรสที่มีและไม่มีรูรั่วระหว่างกระเพาะปัสสาวะและช่องคลอดมีขึ้นเพื่อประเมินความรู้และเจตคติที่มีต่อการเกิดรูรั่วระหว่างกระเพาะปัสสาวะและช่องคลอดกับการเกิดรูรั่วดังกล่าว จากผลพบว่า ความชุกของการเกิดรูรั่วระหว่างกระเพาะปัสสาวะและช่องคลอดเท่ากับร้อยละ 9.5 ผู้หญิงร้อยละ 65.8 มีความรู้ในเรื่องนี้ในระดับต่ำ ในขณะที่ร้อยละ 60.8 มีเจตคติต่อการเกิดรูรั่วดังกล่าวในระดับปานกลาง จากการทดสอบด้วย Chi-square พบว่าระดับความรู้มีความสัมพันธ์อย่างมีนัยสำคัญทางสถิติในระดับสูงกับการเกิดรูรั่วระหว่างกระเพาะปัสสาวะและช่องคลอด ($p < 0.001$) เมื่อเทียบกับระดับเจตคติซึ่งไม่พบความสัมพันธ์อย่างมีนัยสำคัญทางสถิติกับการเกิดรูรั่วดังกล่าว ($p = 0.432$) ผลการศึกษาแสดงให้เห็นว่าผู้หญิงมีระดับความรู้ในเรื่องวิธีการป้องกันการเกิดรูรั่วดังกล่าวนี้เมื่อเทียบกับความรู้เรื่องปัจจัยเสี่ยง สิ่งบอกเหตุและอาการ แสดงให้เห็นว่าในกลุ่มผู้หญิงยังมีความตระหนักเกี่ยวกับการเกิดรูรั่วระหว่างกระเพาะปัสสาวะและช่องคลอดที่ไม่เพียงพอ ด้วยเหตุนี้ โปรแกรมที่จะเพิ่มความตระหนักที่มีต่อการเกิดรูรั่วระหว่างกระเพาะปัสสาวะและช่องคลอดนั้นมีความจำเป็น และการศึกษาในระดับชุมชนควรมีมากขึ้นเพื่อที่จะหาอุปสรรคและความสำเร็จที่แท้จริงที่เกิดขึ้นได้

สาขาวิชา..... สาธารณสุขศาสตร์..... ลายมือชื่อนิสิต.....

ปีการศึกษา..... 2555..... ลายมือชื่ออ.ที่ปรึกษาวิทยานิพนธ์หลัก.....

##5578805753: MAJOR PUBLIC HEALTH

KEYWORDS: VESICO VAGINAL FISTULA/ MARRIED WOMEN/
REPRODUCTIVE AGE/KNOWLEDGE/ATTITUDE

SAUDAT ABDULLAHI BASHEER: “KNOWLEDGE ATTITUDE AMONG
MARRIAGE WOMEN OF REPRODUCTIVE AGE TOWARDS VESICO
VAGINAL FISTULA IN KEBBI STATE NIGERIA”. ADVISOR:
TEPANATA PUMPAIBOOL, Ph.D., 90 pp.

The main purpose of this cross sectional study was to assess the knowledge and attitude of women towards vesico vaginal fistula and determine factors associated to knowledge and attitude towards the occurrence of vesico vaginal fistula. A systematic random sampling was used to select 30 settlements from 321 settlements in Birnin Kebbi Local Government area of Kebbi State, Nigeria. There were a total of 380 women involved in this study. Data were collected by constructed questionnaire and analysed by percentage, mean, standard deviation and chi-square. Data was analysed by using level of significant at 0.05. A focus group discussion was carried out amongst women with and women without VVF to assess their knowledge and attitude towards vesico vaginal fistula and occurrence of VVF. The result showed that the prevalence of VVF was 9.5%. Women had low knowledge regarding vesico vaginal fistula 65.8%: While, they seemed to have moderate attitude towards the disease (60.8%). Chi-square test revealed that knowledge level found to be highly significant ($p < 0.001$) when compared with the knowledge level, attitude level was not found to be significant with the occurrence of VVF ($p = 0.432$). The result also indicates that women have less knowledge about preventive measures as compared with the risk factors, signs and symptoms. These indicate that there is inadequate awareness among women regarding vesico vaginal fistula. Therefore, there is need for more awareness programs regarding vesico vaginal fistula and also the need for wider research on community-based study in order to determine the actual level of incidence and prevalence.

Field of Study.....Public Health.....Student’s Signature.....

Academic Year.....2012.....Advisor’s Signature.....

ACKNOWLEDGEMENTS

First and foremost, I would like to express my sincere gratitude towards my advisor Ms. Tepanata Pumpaibool and my beloved husband Mohammad Basheer Yahya for their kindness, support and guidance and has always providing me with encouragement and suggestions throughout the process of this study.

I also would like to give a great thank to Assist Prof. Ratana Somrongthong my chair person and Assist Prof. Monophchai Thankhantho as an external examiner in my thesis committee member for giving me remarkable advices to accomplish my study.

I would like to thank Professor Dr. Surasak Taneepanichsakul, Dean of the College of Public Health Sciences, and all the kind and friendly lecturers and staff of the College of Public Health Sciences, Chulalogkorn University.

Deep appreciation is also extended to Kebbi State Government for their kind support in providing me with scholarship to attend this very important course.

I would like to extend my heartfelt to Ministry of health and Kebbi State Primary health care Agency and World Health Organization Kebbi field office for their indispensable support during my data collection period without whom the study would not have been possible.

Finally, I would like to dedicate this study to my parents, husband, son and my lovely grandson Muhammad Basheer for their unwavering love and support and thank them for being there for me always.

CONTENTS

	Page
Error! Bookmark not defined.	

LIST OF TABLES

	Page
Table 1 Socio Demographic and Socio-cultural Characteristics	36
Table 2 Utilization of maternal health services by the women.....	38
Table 3 Reasons for not visiting health facility	39
Table 4 Mode of financing health services	39
Table 5 Availability of Female Health Workers at Health Facility	40
Table 6 Ante natal and Post natal Care visit	40
Table 7 Mode of Child birth by Women.....	41
Table 8 Age of Onset of Fistula	41
Table 9 Causes of Vesico vaginal fistula for the women.....	42
Table 10 Symptoms of VVF	42
Table 11 Years of Living with VVF	42
Table 12 VVF Cases diagnose by medical doctor	43
Table 13 Source of information regarding knowledge and preventive measures of VVF.....	43
Table 14 Frequency of respondents that correctly answered to the knowledge questions.....	44
Table 15 Knowledge Level amongst respondents.....	45
Table 16 Percentage of women's attitude towards each question.....	46
Table 17 Attitude level towards vesico vaginal fistula	47
Table 18 Relationship between socio demographic/socio-cultural characteristics and occurrence of VVF	49
Table 19 Relationship between utilization of maternal health services and occurrence of vesico vaginal fistula	51
Table 20 Relationship between knowledge, attitude and the occurrence of VVF	52

LIST OF FIGURES

	Page
Figure 1 Map of 36 Nigeria showing location of Kebbi state.....	6
Figure 2 Conceptual Framework	8
Figure 3 Diagram showing obstructed labor.....	14
Figure 4 Diagram showing contributing factors towards VVF	19
Figure 5 Map of Kebbi State Showing Birnin Kebbi LGA	25

LIST OF ABBREVIATIONS

FMOH	Federal Ministry of Health
MOH	Ministry of Health
NPHCDA	National Primary Health Care Development Agency
WHO	World Health Organization
UNICEF	United Nation Children's Fund
UNFPA	United Nation Fund for Population Activities
MDG	Millennium development Goals
DPH	Director Public Health
VVF	Vesico Vaginal Fistula
ANC	Antenatal Care
PNC	Postnatal Care
NDHS	National Demographic Health Survey
NPC	National Population Commission
SBA	Skilled Birth Attendant
HF	Health Facility
LGA	Local Government Area
MNCH	Maternal Neonatal Child health
TBA	Traditional birth attendant
FGD	Focus group discussion

CHAPTER I

INTRODUCTION

1.1 Background and rationale

Approximately, about 7 million women were affected from complications of pregnancy and child birth worldwide. Out of the estimates, 6.5million women are from the developing countries (Abu-Zahra, 1998).

According to the data from West African Journal of Medicine (Ijaiya and Aboyeji, 2004) the prevalence of obstetric fistula in West Africa is around 1-4 per 1,000 deliveries.

Nigeria records the highest population among the African countries with a total estimates of 162, 470,737 (NPC, 2008), and 49% of the total population are women out of this, 51% are women of child bearing age (NPC, 2008). Nigeria has to be the 2nd with highest number of maternal mortality death beside India (Ujah et al., 2005). Maternal death can be described as number of women who die per 100,000 live birth as the cause of pregnancy-related complications.

Globally, 500,000 women die each year as a result of pregnancy and childbirth complications while, 55,000 of the death are from Nigeria. (Ramsey et al., 2007). The most devastating is obstetric fistula (WHO, 2005). There is slow progress and challenges in improvement of maternal health in Nigeria. Maternal mortality rate slightly decreased from 800 death per 100,000 live birth in 2003 to 545 death per 100,000 live birth in 2008 projected to reduce to 136/100,000 live birth by 2015 (NDHS, 2008). Life Expectancy of women at birth is 47 years in 2008 and projected to increase to 70 years by 2015. Total Fertility rate is 5.7 (NDHS/FMOH, 2008).

Maternal morbidity and mortality is among the major problem for women in Nigeria. Study shows that, for each death that occurred 20 or more women will be affected by childbirth injuries and most of this is obstetric fistula (Ramsey et al., 2007).

Obstetric fistula is one of the maternal morbidities and mortality problem in Nigeria which is an issue of concern to Public Health (Muleta, 2006). Obstetric fistula is a

painful and serious condition that occurs as a result of an abnormal opening of a hole between the woman's vagina and bladder which urine leaks continuously as a result of prolonged or long stay in child birth (Umoiyoho and Inyang, 2012). These affect almost more than two million women worldwide; Nigeria alone has 1 million cases (Kelly et al., 1993). Also 500,000 new cases occur every year mostly found in Sub-Saharan African and Asian countries, this shows that most of the affected women remain hidden (Cron, 2003), (Vangeen et al., 2001). In Nigeria the situation is being more evidence in the northern part of the country, 5% of these cases are from the northern region. There could probably be an incidence of 20,000 new cases every year, only 33 surgeons are qualified for fistula repair with a limited number of 2,000-4,000 fistula cases being repaired every year (UNFPA/Engender Health Report, 2003). Nigeria counts 40% of the worldwide fistula prevalence (Duysburg et al., 2009). Statistic report from (Ramsey et al., 2007) stated that, majority of fistula patient visited the Health centers are below 20 years of age.

Vesico vaginal fistula has been prevalence since 2000BC and 2050BC by an Egyptian mummy who's during Ebers Papyrus refers it as genital fistula (Riviz, 1999). Though, Vesico Vaginal fistula is preventable but, is more common among the poor population, illiterate women, young girls whom mainly live in the rural areas with difficulty in accessing emergency obstetric care and mostly skilled birth attendance are limited or not utilized (Lewis et al., 2006).

A study report on campaign to end fistula stated that, most of the community has little knowledge regarding vaginal fistula which they relate it cause to be Punishment, 'God making', sexual transmitted disease (Velez et al., 2007).

However, Nigerian Government has planned in addressing the issue of reproductive health and maternal health problems yet, the intervention has not met the average impact required. These also can be due to lack of implementation and low level of government spending on health. Though, obstetric fistula program is now taking over by Donor Agencies (Duysburg et al., 2009).

In Nigeria UNFPA consider integrating obstetric fistula into its program not because of its major problem in the country, but the condition is being part of

reproductive health which also affects gender as part of their mandate. However, obstetric fistula is not being recognized to be a national priority and has not been integrated into MNCH strategy in 2007 and also there is no budgetary allocation regarding to obstetric fistula at all levels (Duysburg et al., 2009).

Beside this, most of the studies conducted in Nigeria are health facility-based which are only limited to those seeking for care (Ijaiya et al., 2010). Most of the Demographic Health surveys conducted, incidence and prevalence of obstetric fistula were not appearing in their data and previous studies carried out are not population based surveys which will give the actual incidence and prevalence of obstetric fistula (Wall et al., 2003).

For decade of research shows that, maternal death and morbidity can be prevented if women have access to appropriate health care during pregnancy, childbirth and immediately afterwards (Duysburg et al., 2009).

Generally, Prolong obstructed labor is the main cause of obstetric fistula in the developing countries (Ijaiya, 2004). It is a hidden international condition that affects young women in the poor and rural areas who delivered with a little or no access to obstetric care/services (Ashford, 2002). The underlying factors of obstructed labor is early marriage/pregnancy and poverty which resulted to poor health care, inadequate nutrition, inaccessibility to maternal health services, illiteracy, lack of transportation and limited power/decision in seeking medical care which also contribute to the cause of obstetric fistula among the northern Nigerian women (Kabir et al., 2003).

Nigeria faces so many challenges of health care providers; with estimates of 58-39% trained skilled attendance for Ante-Natal and delivery (Midwives) attached to the health facilities (NDHS, 2008). Federal Government through National Primary Health Care Development Agency (NPHCDA) introduce Midwives Service Scheme (MSS) in order to increase skilled birth attendance (SBA) and reduce maternal, newborn and child mortality and morbidity rate (NPHCDA/Nigeria, 2009).

In Nigeria, early marriage contribute 23% of the maternal death which due to it resulted to severe hemorrhage, obstructed and prolong labor which may also resulted to obstetric fistula and sometimes still birth. Most of the women in the rural

areas (69%) of them face difficulties in accessing medical care that made them to have home deliveries by unskilled birth attendant. This can be resulted in delay from the community in seeking medical care, social cultural barriers, ignorance in detecting signs of difficult labor, poverty/ financial constraint (Lindros and Lukkkainen, 2004).

Other contributing factors can be attitude of service providers that discourage patient in seeking care at health facility, shortage of female health worker at rural health facilities (Mal-distribution of staff), shortage of drugs or stock out at health facility made patient to purchase at private medical store, erratic power supply or outage delays in surgery (Wall, et al., 2004); (Ibrahim et al., 2000). Female Education in Nigeria is below average, 36% of women 15-49 years in the north with no formal education, only 9% of them attain more than secondary education. Median age at first marriage is 18.3 for women 25-49 years (NDHS, 2008).

Kebbi State is located in the North-West geo-political zone of Nigeria. The state has a Land mass of 36,800 square kilometers with 21 Local Government Areas and 225 Political wards divided into four Emirate councils (Gwandu, Argungu, Yauri and Zuru). It shares bordered with Sokoto State in the North-East, Zamfara State by the Eastern axis, Niger State at the Southern part and Niger and Benin Republics by the Western part. It has an estimated population of 3,889,671 with 855,728 being women of child bearing age (15-49yrs) (NPC/NDHS, 2008).

Majority of them are predominantly Muslim with different ethnic groups. Agriculture is the major source of revenue of the populace especially in the rural areas. Most of the women are engage into household activities, animal rearing, poultry and petty trading (Nigeria Galleria.com website). It has a particularly low socio –economic indicators. Maternal mortality rates for the region was estimated at 1,000/100,000 live births and being 12% of the women attended ante-natal care from skilled health provider with 13.7% delivered by skilled birth attendance and only 4.8% delivered at health facility (NDHS, 2008). The fertility rate in the State is 6.0 which are above the national average.

As cited from a daily newspaper (Leadership Nigeria) published on 19th April, 2012 stated that, Kebbi State rank among the highest rate of maternal death in the country. Most of the direct causes of maternal death are hemorrhage, sepsis, eclamsia

and anemia. While long and obstructed labor has been responsible for both maternal morbidity and mortality such as vesico-vaginal fistula.

Another survey conducted by UNFPA shows that, the state faces serious maternal challenges. Age at marriage in the state is 12-13 years and most of them became pregnant by 13-14 years old (UNFPA/Nigeria, 2005). VVF victims can be found in all part of the state with approximate of 226 cases undergone surgery from October 2011 to October 2012 (VVF center, B/Kebbi). Birnin Kebbi Local Government has about 30 cases being reported for medical care and majority of these cases are still hidden. It is difficult to get the actual data of incidence and prevalence of fistula cases in Kebbi State being to it nature of stigmatizations, lack of accurate database, illiteracy and poverty. Number of cases obtains only for those that present themselves for care at health facility (Kebbi VVF Centre) which is the only fistula facility in the State.

Birnin Kebbi Local Government area is located in the capital city of Kebbi State and also Headquarter of Gwandu Emirate. It occupied 1,327 square Kilometers with an estimated population of 532,979 and 117,256 are women of reproductive age (15-49 yrs). It is the largest LGA in the state with 15 Political wards only 4 wards are located in the urban city while 11 are in the rural areas. (NPC/NDHS, 2008).The average age of women into first marriage is 15-18yrs (NDHS, 2008).

Most of the surveys carried out on vesico vaginal fistula in Kebbi State are clinical -based studies. To the knowledge of the researcher there is no community-based study on vesico vaginal fistula carried out in the state.

This study is aims to get more information regarding the situation of Birnin Kebbi LGA by conducting community-based study on “Knowledge and Attitude amongst married women of reproductive age towards vesico vaginal fistula in Birnin Kebbi Local Government Area of Kebbi State Nigeria. The study was carried out in collaboration with Ministry of Health, Ministry of Women Affairs and Birnin Local Government of Kebbi State, Nigeria. The study conducted involved both women with VVF and women without VVF.

The key findings of the result has indicate the actual level of knowledge regarding vesico vaginal fistula and the way women without vesico vaginal fistula concern about fistula as a serious condition and their attitude towards fistula women.

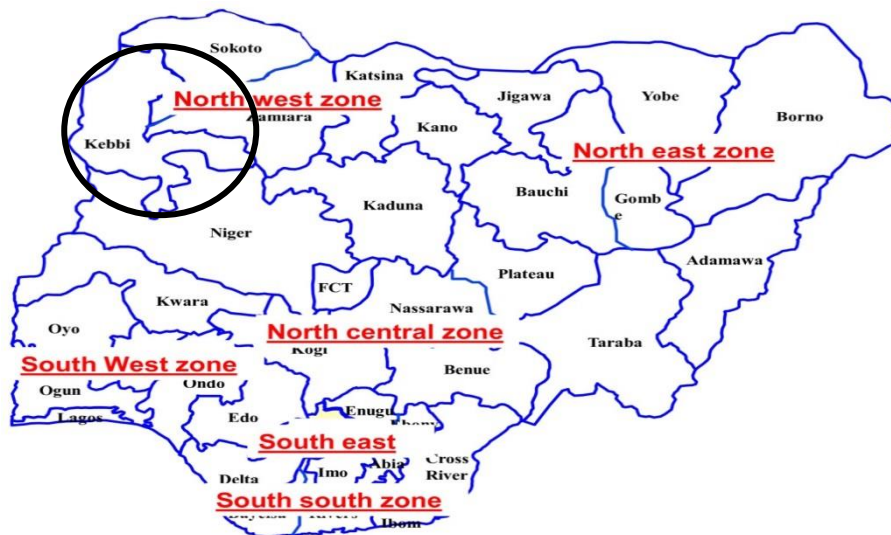


Figure 1 Map of 36 Nigeria showing location of Kebbi state

Source: - Biomedcentral.com

1.2 Research Questions

- 1) What is the prevalence of self-reported cases of VesicoVaginal Fistula among married women?
- 2) What are the levels of knowledge and attitude of women towards vesico vaginal fistula in Birnin –Kebbi LGA of Kebbi- State, Nigeria?
- 3) What are the associations between knowledge and attitude of women towards vesico vaginal fistula and occurrence of vesico vaginal fistula in Birnin Kebbi Local Government of Kebbi State, Nigeria?

1.3 Research Hypothesis

- 1) There is no association between knowledge of women towards vesico vaginal fistula and the occurrence of vesico vaginal fistula in Birnin Kebbi Local Government of Kebbi State, Nigeria.

2) There is no association between attitude of women towards vesico vaginal fistula and the occurrence of vesico vaginal fistula in Birnin Kebbi Local Government of Kebbi State, Nigeria.

1.4 Research Objectives

1.4.1 General objectives

To assess the knowledge and attitude of women towards vesico vaginal fistula in Birnin Kebbi LGA of Kebbi State, Nigeria.

1.4.2 Specific objectives

- 1) To study the prevalence of vesico vaginal fistula in Birnin Kebbi LGA.
- 2) To assess the level of knowledge of married women on the contributing factors of vesico vaginal fistula.
- 3) To determine the attitude towards women with vesico vaginal fistula.
- 4) To determine the possible risks factors related to occurrence of vesico vaginal fistula
- 5) To analyze the association of knowledge and attitude towards the occurrence of vesico vaginal fistula.

1.5 Conceptual Framework

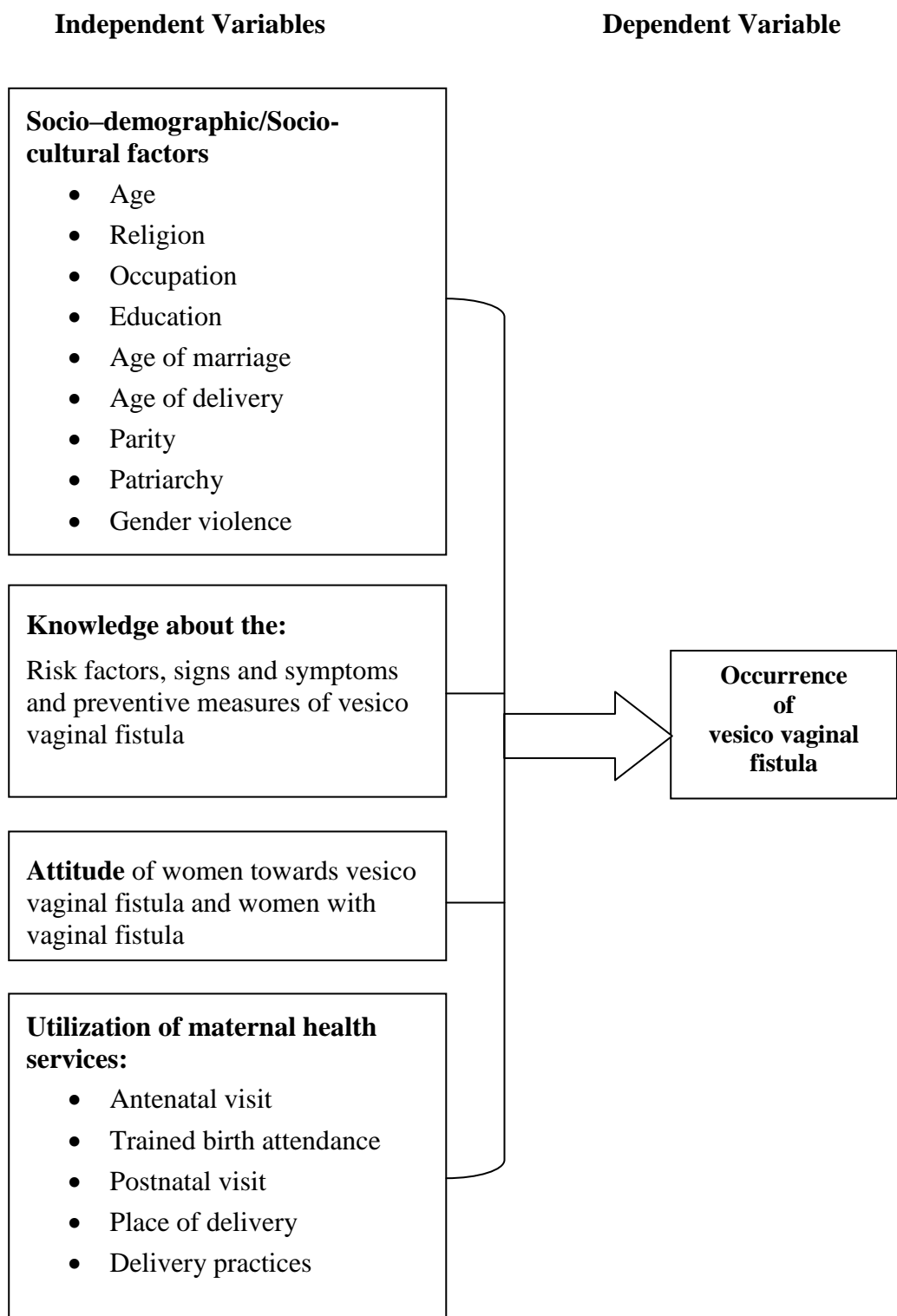


Figure 2 Conceptual Framework

1.6 Operational Definitions

Age of Marriage: - refers to getting marriage between the ages of 15- 18 years which is the authorized age of marriage in the State.

Patriarchy: - A male is the head of the house whose decision is final

Gender violence: - This is basically done by the husband or both of the partners when they are not happy with each other and sometime this takes place behind closed doors.

Delivery practices: - This refers to mode of childbirth by women and which could be place of delivery and assistance during childbirth.

Trained birth attendant: - A Skilled personnel and qualified to assist childbirth.

Parity: - Multiple births with low and short spacing.

Patriarchy: - A male is the head of the house whose decision is final.

Antenatal visit: - Is a contact with a professional health worker to follow-up pregnancy which has a positive effect on the health of both mother and baby.

Postnatal visit: - Is a contact with professional health worker to follow-up within the first six weeks after birth, which is a critical stage to the health and survival of a mother and her newborn baby.

Knowledge: - Knowledge in this study refers to the knowledge regarding the signs and symptoms and risk factors of VVF.

Attitude: - In this study refers to what people think about vesico vaginal fistula as a disease and what they also think about women who suffer from vesico vaginal fistula.

Occurrence of vesico vaginal fistula: - The occurrence of vesico vaginal fistula in this study means the women who suffer from vesico vaginal fistula.

1.7 Expected Benefit and Applications

- The findings of this study will determine the level of knowledge and attitude of married women living in Birnin- Kebbi Local Government towards vesico vaginal fistula.

- It is the first study to be carried out in the LGA and State which can also be used as a baseline for the State Government and donor agencies and NGOs working in the field of reproductive health to formulate health policy that will help in eliminating the disease in the state.

- The result of the study will also motivate legislators to enact laws on age of first marriage for girls and girl child education in order to reduce the development of VVF amongst young women.

CHAPTER II

LITERATURE REVIEW

The literature review will deal with the following aspects of vesico-vaginal Fistula:

- History Vesico Vaginal Fistula
- Types of Fistula
- Causes of vesico vaginal Fistula
- Signs and Symptoms of Vesico Vaginal Fistula
- Social Consequences of vesico vaginal Fistula
- Preventive measures for Vesico Vaginal Fistula
- Treatment of vesico vaginal Fistula
- Global situation of vesico vaginal Fistula
- Situation of Fistula in Nigeria

2.1 History of Vesico Vaginal Fistula

Vesico vaginal fistula or obstetric fistula has been identified to be a major issue for women of child bearing age since decades. In 1935 professor Derry from Cairo stated that, the remains of Queen Henhenit (2050 BC) were the oldest to discover fistula. Around 1845 James Marion Sims has improved the surgical techniques of fistula repair where he successfully repaired VVF from 3 female slaves in Montgonery Albana (Derry, 1935). While linking difficult labor to fistula, he advised on pregnancy prevention especially among teenagers where women are married very young. Later, in 1852 he established a VVF repair center where many affected patients from America and Europe came for surgery (Zacharin, 2000).

A discovery during 1550 BC in the ancient Egypt, Aviceenna was a famous Arabian physician to differentiate VVF and obstetric fistula (Derry, 1935). Another innovation came up in 1838 from Peter Mettnauer from Virginia who stated the relationship between obstructed labor and VVF. He has also been identified to be the first surgeon to close fistula in United State (Zacharin, 2000).

Study indicates that, during the 19th Century, women with fistula in United State and Europe were caused by dystocia (Russell). In the early 20th century, more experiments and techniques came up to improve the quality of VVF repair. Again, in 1942 Latzko published a new procedure in repairing post -hysterectomy of VVF which recorded 95-100% success (VVF MedScape, 2003). Many historical innovations and advanced technique by surgeons has been recorded while, more researches and experiment are still ongoing for the improvement and better solution towards VVF.

2.2 Types of Fistula

Many surgeons have described fistula according to their experience during repair. However, each author describes his own classification based on the anatomical features of the injury or the stage of the fistula (Wall et al., 2003).

In 1852 Sims stated the following classification of vaginal fistula by its location on the vagina: 1) urethra-vaginal fistula the anomaly was restricted to the urethra 2) Fistulas located ‘at the bladder neck or root of the urethra, usually destroy the trigon’. 3) Fistulas which affect both the body and the floor of the bladder 4) utero-vasical fistulas is an abnormal opening that communicated with the uterine cavity or cervical canal (Wall et al., 2003)

However, other authors have also classified fistulas in various ways. Categories of fistulas are made according to their etiology (Moir, 1967). The following types are adopted as: obstetric injury, operative injury, ulceration from infection, radiation injury and congenital abnormality. The above types can be referred to as physical determinants due to their direct consequences to the victims. Bello, (2006) indicate the followings as the physical factors which influences the incidence of vesico vaginal fistula: obstructed labor, accidental surgical injury that related to pregnancy and attempts during induced abortion.

According to (Cater et al., 1952) stated that, it is difficult to describe the reported cases of fistula but, the standard method is to identify it during the actual operation and the result.

2.3 Causes of Fistula

Many publications and journals have their different versions on the causes of vesico vaginal fistula. This study will look at the problems related to physical and socio-cultural aspect. The physical causes can be related to the direct cause, while the socio-cultural causes refer to the contributing factor to the problem of vesico vaginal fistula.

2.3.1 Physical causes

In this situation, a young woman is directly exposed to the scourge of vesico vaginal fistula. The main cause of VVF is prolonged and difficult labor which sometimes takes for many days before a woman get medical attention. According to WHO (2006) report, if labor is obstructed, the pressure of the baby's head against the pelvis will reduce the flow of blood to the soft tissues within the bladder, vagina and rectum. This sometimes leaves the pelvic tissues with injury or damage, thus making an abnormal opening or a fistula between the bladder and the urethra.

However, Moir, (1967) stated that, obstetric fistula is caused by pressure necrosis due to a prolong labor. This situation may not be noticed till many days after a woman delivers her child. Other type of fistula occurs due to use of improper obstetric instruments. This can be accidental injury to the bladder during obstetric operation at the hospital.

Most of the VVF cases in the developing countries are caused by obstetric complication due to prolonged and obstructed labor. Usually this can be due to inadequate or absent of obstetric care in some countries. According to WHO (2006) report indicate that, physical causes of VVF can be from the following: Inaccessibility to basic obstetric care and lack of knowledge about facilities for fistula repair.

Majority of the pregnant women in the developing countries lack access to basic obstetric care. Many women based in the rural areas have their child birth at home. Since women in this situation lack access to adequate obstetric care before, during and after delivery, it could also lead to recording of high infant and maternal mortality rates.

UNFPA (2005) reports that, when mothers are at risk of maternal death or illness, their children could also be at risk. Other direct factor that causes the

incidence of VVF is complication of unsafe abortion (Hilton, 2003). Majority of the unsafe abortions are carried out by untrained individuals who seem to be knowledgeable.

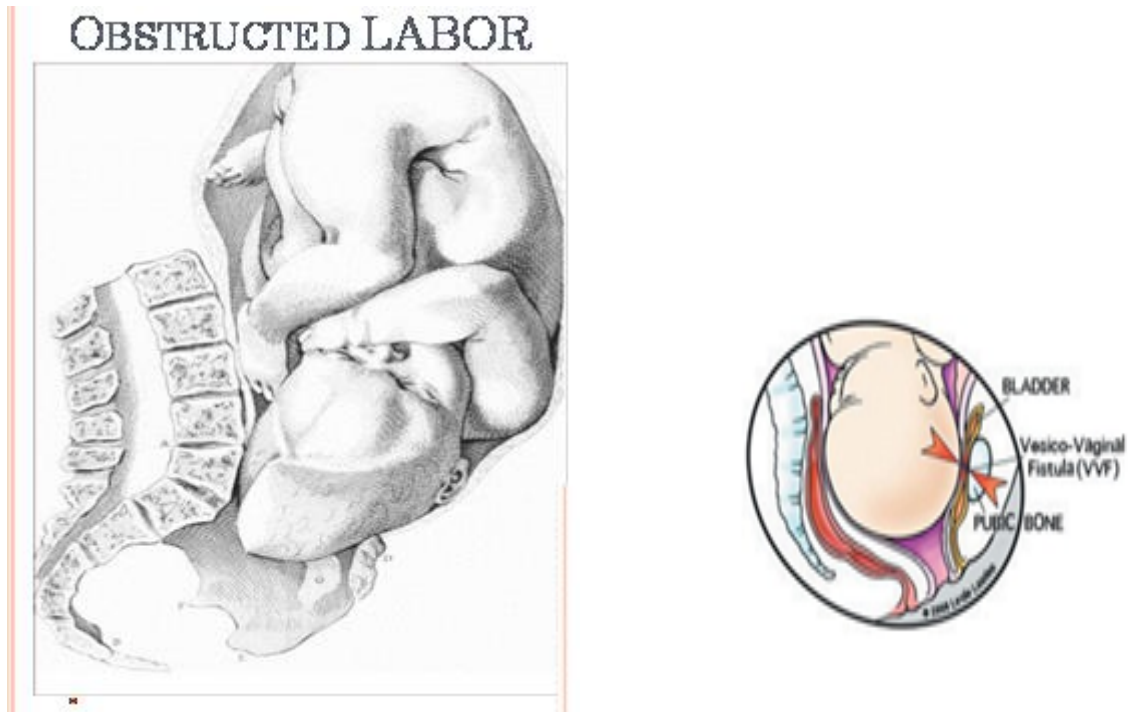


Figure 3 Diagram showing obstructed labor

Source: The Lancet 2006; 368: 1201-1209

2.3.2 Socio-Cultural Causes

The socio-cultural causes in which Nigerian women find themselves into are basically due to their poor maternity situation. Most of these underlying socio-cultural causes in Nigeria are: - Early marriage; harmful traditional birth practices; poverty and illiteracy.

2.3.2.1 Early marriage

Most the northern Nigerian women are given out in marriage at the age of 12-16 years old in which they have a small and narrow pelvis. Introduction to sexual activities due to early marriage can lead to early pregnancy in which the growth of their pelvis is not complete; this can also causes cephalo-pelvic disproportion, a situation where the head or body of the baby is too big to pass through the mother's

pelvic (Ajuwon, 1997). Hence the birth canal is too small for the baby to pass through; it will then result to prolonged and obstructed labor. The injury sustain by the mother will damage her birth canal which can lead to vesico vaginal fistula (Ajuwan, 1997). According to WHO/UNICEF, the recommended age of marriage is 25 to 26 years.

Research from UNICEF publication center on early marriage of 2001 stated that, in some part of West African countries more than 44 percent of young girls between the ages of 20-24 years reported to have been married before their 15 years of age. Another publication by (UNICEF, 2001) also stated the guidelines on changing attitudes of families and societies towards child marriage.

Early marriage is still remains a global health issue especially in developing countries (UNFPA, 2005). It's cultural, social and economic factor that mostly occur due to poverty and gender inequality (UNFPA (2005)

Majority of these girls were either been forced into marriage or were married off at the age where they cannot have a decision to accept it as a normal process (UNICEF, 2001).

In another report from WHO (2006) indicate that; more than 25% of women with fistula from Ethiopia and Nigeria are pregnant before the age of 15years while over 80% of them also become pregnant at 18years of age. Early marriage among northern Nigerian women mostly affects pregnancy and labor complications which likely leads to VVF.

2.3.2.2 Harmful Traditional Practices (Female Genital Mutilation/Gishiri cut)

Among the causes of VVF in Nigeria are traditional birth practices. The common practices are the female genital mutilation or female circumcision. Gishiri cut is a popular traditional birth practice in northern part of Nigeria. A razor blade or knife is being used in incision of part of the vagina, cutting against the pubic bone injuring the bladder and urethra. These cuts are being carried out by traditional healers or traditional birth attendants in order to prevent certain conditions such as prolonged obstructed labor, vulva itching, dysuria, and infertility (Ajuwon, 1997). Other

conditions of prevention are social security for their daughter's future or premarital pregnancy (Moir, 1967).

Female genital mutilation is harmful traditional practice of female circumcision among Eastern part of Nigeria. A razor blade or a knife is used in cutting the clitoris where an herbal substance is used to stop the flow and reduce the pains. This practice is more dangerous to young girl especially when they become pregnant and about to deliver her baby. Female genital mutilation contributes to the problem of VVF in countries being practiced (Nnachi, 2007).

A report by (Tahzib, 1985) stated that, 80% of VVF cases in Nigeria are caused by obstructed labor and one-third of them had undergone harmful traditional birth practices. Female circumcision and insertion of herbal substances into the vagina may lead to the damage of the birth canal which mainly causes prolonged labor and fistula (Moir, 1967).

2.3.2.3 Poverty and illiteracy

Poverty plays a great role in the cause of VVF among women in Nigeria. This has to be connected with illiteracy, nutrition, good living condition, and access to obstetric care. Zacharin, (1988) indicates that, two-third of VVF cases caused by difficult labor is due to contracted pelvis which resulted from poor nutrition and frequent infections. Because of poverty most of the people from the rural areas are facing difficulties in affording good nutrition diets that will help them in having full body growth. Most of the VVF cases have poor nutritional status resulted to abnormal growth of the pelvic bones.

In some part of Nigeria, male children are considering to be highly valued in getting more quantity food than girls. Pregnant women sometimes are denied or prevented in eating high nutritious diet for body development. It is also a taboo to them to eat large quantity of food because of the fair in getting big baby. In some part of Nigeria, due to poverty some parents prefer to give out their female child in marriage rather than sending her to school because of high bride price (Balogun, 1995). Due to poverty and illiteracy, VVF victims find it more difficult in affording to seek for medical services.

Other causes that are caused by diseases (Secondary VVF) are:

- Sexual transmitted disease or history of previous pelvic inflammatory disease (PID).
- Bladder stones or retained foreign bodies within the vagina
- Diabetes
- Anatomic distortion of the pelvic area.

2.4 Signs and symptoms of Vesico Vaginal Fistula

The common symptoms of VVF are chronic continuous incontinence/ leaking of urine from the vagina. Others causes are:

- Irritation and itching of the vulva resulted to recurrent urinary tract infection.
- Painful perineum ulceration and wetness
- Hematuria or non-specific vaginal discharge
- Perinea excoriation and urinary stretch
- Uterine damage, amenorrhea followed by infertility
- Smell of urine due to persistence incontinence (Foul Odor)
- Damage of the perinea nerve causes paralysis or foot drop

(VVF is usually diagnose by a medical doctor)

2.5 Social consequences of VVF

Almost all report from the medical professional indicates the social consequences of women with VVF that bears. These attributed due to lack of support from the families and societies as a whole. Majority of these women faces great challenges in the society because of the odor from the incontinence of urine (Lewis, 2006).

According to WHO (2006) report, women with VVF are facing difficulties to manage the urinary incontinence that causes odor from urine. The report also highlighted that, due to injury to the vaginal wall many complications may arise even after obstetric repair of the VVF. These complications are narrowing of the vagina, secondary amenorrhea and inability to carry the child.

However, (Murphy, 1981; Harrison, 1983) stated that, the most traumatic aspect of VVF resulting to urinary incontinence and loss of child which sometime may lead to marital separation/divorce and also social excommunication.

In another report from WHO (2006), VVF patients are to be sympathized due to the lower social status of women in Nigeria. The most disheartening is that, they are being abandon by their husband and have limited role within the family (WHO, 2006).

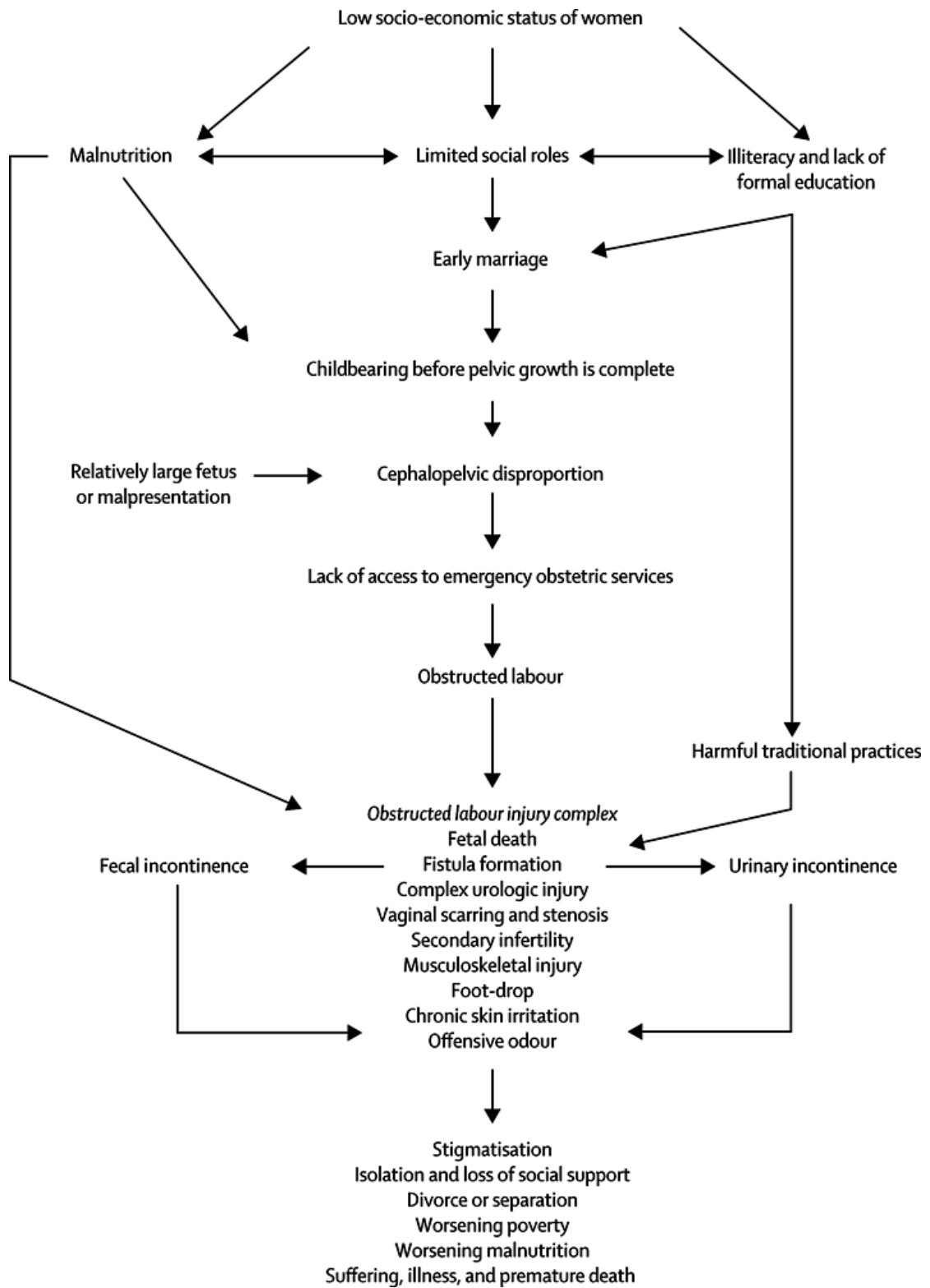


Figure 4 Diagram showing contributing factors towards VVF

2.6 Preventive measures for Vesico Vaginal Fistula

In 2003, UNFPA and other partners had launched the first campaign to end fistula with the aim to reduce the incidence. This include: Intervention to prevent fistula from occurring, treating the affected women and also review the hopes of those women that suffer the condition in order to reduce the stigma associated with it. This will also help them to return to full and productive lives (UNFPA, 2003). Other components could be:

- Direct prevention of fistula can be done during delivery when a skilled provider identify a woman at risk at the early stage and link her for quick intervention.
- Community programs can be used for social education
- Proper nutrition and especially nutritional needs for growing women can be provided.
- Improve antenatal screening procedures and care which include availability of skilled attendance at the time of delivery.
- Promoting basic education to the communities.
- Create public awareness on safe delivery and obstetric complications.

A statement from WHO Maternal Health and Safe Motherhood program indicate that, the endemic VVF area should focus prevention aspect through effective social changes that will improve the status of women.

2.7 Treatment

A woman with fistula faces a lot of challenges which most of the time find it difficult to disclose their situation. The only solution for their survivor is surgery and personal hygiene.

2.8 Global Situation of Vesico-Vaginal Fistula

Vesico Vaginal fistula (VVF) which is also called obstetric fistula is a devastating child birth injury that resulted to an abnormal opening between the urinary bladder and the vagina or between the vagina and the rectum (RVF).This is caused as a result of prolong labor where the child presses against the normal way

thereby developing the hole between the vagina and the urinary bladder (WHO definition).

Globally, 529,000 women were estimated to have died every year due to pregnancy and childbirth related complications. Almost 90 percent of these death are from Africa and Asia. Generally, 5 percent of these deaths are expected to have experience from obstructed labor (UNFPA/Nigeria, 2005).

Metro report in 2006 indicated that, VVF is not a new disease. it has been in existence for decades. He further highlighted that, in the third world countries mostly in the west 90% of VVF cases are caused by bladder trauma during hysterectomy surgery. Nowadays, advanced technologies from developed countries such as Europe and part of North America have eliminated the disease (VVF) in there region (Metro, 2006).

In the same report of metro 2006, he stated that, VVF is an uncomfortable disease the victims should be more serious towards their personal hygiene. Another report from (WHO, 2006) stated that, about 2 million women are living with untreated VVF, while 50,000 to 100,000 new cases are reported every year (WHO, 2006).The increase on figures could be due to stigma that associated with the situation. However, WHO study on global burden of disease stated that, if 2% of the obstructed labor is caused by VVF, then 130,000 women are going to be affected with the condition (WHO, 1998). Another report from Nigeria revealed that, out of 377 cases of VVF 369 cases are caused by childbirth (Lawson, 1989).

2.9 Situation of vesico-vaginal fistula in Nigeria

The millennium Development Goals (MDGs) targeted at reducing the proportion of women dying in childbirth by three quarter by 2015 become unrealistic in Nigeria. The reason behind it is that, the country has made less progress in reducing maternal and mortality than any other sub-Saharan African countries (WHO, UNCEF and UNFPA, 2000). The maternal mortality rate in Nigeria estimated as 545 per 100,000 live births (NDHS, 2008).

The northern part of the country has generally worse indicators with an estimated maternal mortality rate of 1,500/100,000 live birth. The high maternal mortality rate affects the basic health services in the country (NDHS, 2008).

In Nigeria, almost 80% of VVF cases are caused by obstructed labour during delivery, and most of these cases are directly related to early marriage (Ojanuga & Ekwempu, 1999). Many Nigerian women living with vesico vaginal fistula said to be estimated at 2.11 per 1000 birth (Tsui et al, 2007). This is to say that, the estimated rate in Nigeria is 100,000 to 1,000,000 women in Nigeria are suffering from the disease (Wall, 1998). A study by (Kelly and Kwast, 1993) revealed that, prolong labour is among the leading causes of maternal mortality in Nigeria that accounts almost 8% of the global maternal deaths.

In spite of the above situation, studies show that, vesico vaginal fistula is more prevalent in the northern part of Nigeria (Orji et al, 2007). It is also a major public health issue hence, an estimates of 50,000 – 100,000 new cases occur annually in Nigeria (Muleta M, 2006). Many of the VVF victims from the northern part of Nigeria are teenagers this has to be connected to early marriage and pregnancy which has been a contributing factor to development of VVF since the era of Avicenna in 950 AD.

A studies by (Ijaiya et al, 2010) shows that, the most contributing factors of VVF among the northern Nigerian women is early marriage/pregnancy, poverty, Illiteracy, ignorance, restriction of women's movement and nationwide are unskilled birth attendance and late reporting to health facility. The study further indicate that, most of the pregnancy outcome among the VVF victims is still birth with an estimated rate at 87%-91.7% followed by stigmatization, divorce and social separation which are the most common complication (Ijaiya MA et al, 2010).

Ibrahim et al., 2000 reported that most of the VVF cases are caused by obstructed labour 28% are due to delay in seeking care which include non permission from husband/family to seek for emergency obstetric care, lack of accessible transportation (25%) and 7.4% attempted for traditional remedies. Kabir et al., 2000 also stated that, girls or young women are being forced to beg for their livelihood

becomes inevitable and destitution follows. In Nigeria divorce rate was as high as 55% among women with VVF and almost 21.1% of the women were separated (Wall et al., 2004). Majority of these women suffered from psychological depression and societal negative reaction (Kabir et al, 2004).

Report by Kabir et al, 2004) revealed that, the average age group of occurrence of VVF in Nigeria is between 10-18 years. Report on the meeting for VVF prevention and treatment (UNFPA, 2001) stated that, in less developed countries, almost one third of the pregnant women do not visit health facility and 60% of all deliveries take place outside the health facility. The report further indicate that in Nigeria, only 35% of women have been giving birth through trained health personnel, unlike in other developed countries where almost 99% of deliveries were conducted by trained skilled birth attendant.

Majority of Nigerian VVF victims had home deliveries conducted by untrained birth attendant and if when attempted to deliver at health facility it should be late when labour had already been obstructed for a long period of time (Shittu et al., 2009). Most of the contributing factors that hinders for seeking medical care at early stage could be due to socio-cultural factors, lack of knowledge on the warning signs of difficult labour and poverty.

Traditional birth attendants (TBA) are more prominent and affordable to women in the rural communities. In northern Nigeria women's movement is strictly under husband control and financing for their health care is being shouldered by their husband. This can be the most common cause of her delay in seeking medical attention at early stage when obstructed labour occur (Wall et al., 2004).

In 2002, a multi-sectorial committee was setup by the Federal Ministry of Health to find the solution to the problem. At the same time the committee identifies Engender Health along with UNFPA/Nigeria to conduct a nationwide needs assessment in order to develop a framework and action plan for the elimination of fistula in Nigeria..

Education for Nigerian women is below average with 36% of women age 15-49 years with no formal and in the Northwest zone only 9% attain more than

secondary education. Fertility rate varies by region, women in the south west region has 4.5 unlike in the Northwest region has 7.3 (NDHS, 2008). Median age at first marriage is 18.3 for women age 25-49 yrs.

Although Nigeria has been taking measures to address the problems of reproductive health and maternal health but, the implementation of the interventions have not reach optimum coverage to obtain the desired impact (NDHS, 2008).

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

A Cross-sectional descriptive study design was conducted using both quantitative and qualitative method, regarding knowledge and attitude amongst the married women of reproductive age towards Vesico-Vaginal fistula in Birnin Kebbi LGA of Kebbi State, Nigeria.

3.2 Study Area

The report from the National population commission (NPC) (2008) indicate that, Birnin Kebbi LGA a capital city of Kebbi state, is the most highly density populated LGA having the largest number of political wards in the State. As of December, 2012 the LGA has an estimated population of 532,979 and out of the total 117,256 are women of reproductive age (Ministry of Health, Department of PHC, 2012). This study was carried out among the marriage women of reproductive age (15-49) years in Birnin Kebbi Local government area of Kebbi State, Nigeria.



Figure 5 Map of Kebbi State Showing Birnin Kebbi LGA

Source: National population commission, 2008: online;

<http://www.population.gov.ng>

3.3 Study Population

The study population were married women of reproductive age who were between 15-49 years of age.

Inclusion criteria

- Married women of reproductive age whom are between 15-49 years old living in Birnin Kebbi LGA of Kebbi State.
- Married women of reproductive age with VVF and without VVF who has the interest to participate in the study.

Exclusion criteria

- The respondents who are unable to communicate verbally and orally to interview appropriately.
- Women with mental or psychological disorder

3.4 Sample size calculation

The study population are the marriage women of reproductive age (15-49) years old. According to the data from the Department of Public Health (DPH); AS OF December 2012; there were 117,256 women of reproductive age in Birnin Kebbi LGA (MOH, DPH, 2012).

Taro Yamane formula, (1973) was used for calculating the sample size during the study. According to the estimated population in the LGA, this study look at the rate of the responses that is likely to response during the study. Therefore Taro Yamane 1973, determination of sample size table was used to estimate the response rate.

- Based on the estimated total population, 400 respondents was required to use to get the actual estimated variance in population.
- We divide 117,256 by 400 where 0.34 was determining to be used for estimating the variance for calculating the sample size.

$$n = \frac{z^2 p(1-p)}{(e)^2}$$

$$n = \frac{(1.96)^2 \times 0.34 (1-0.34)}{(0.05)^2} = 345$$

Where,

n = sample size required

p = estimated variance in population

e = Marginal error or accepted error

z = Standard value of normal distribution associated with 95% confidence interval of 1.96.

With estimated 10% was added in case of the missing data, 345 responded were required + 10% (34) = 379

Therefore, approximately 380 respondents will participate during the study.

3.5 Sampling Technique

Selection of sample sites

According to the annual statistics from the Department of Public Health 2012, there were 321 settlements in Birnin Kebbi LGA (MOH, DPH). However, based on the records of high incidence of maternal morbidity and mortality rate in the LGA, a pre-selection of 120 settlements was carried out in 15 wards and out of which 2 to 3 settlements/sites were purposively selected in each ward making sure that there is one rural and one urban settlement /site in all there were 30 settlements selected as sample sites for the study.

A systematic random sampling was carried out for data collection. The total population of the selected settlements was divided based on the sample size; respondents were selected according to systematic random sampling method.

3.6 Measuring Tools

A constructed questionnaire (Appendix A) was prepared in English language and translated into Hausa Language. The study will be assessed quantitatively through a household questionnaire. The questionnaire consists of six parts:

Part I: Socio-demographic/Socio-Cultural characteristics

There are 8 questions in this part asking about general information such as age, religion, education, occupation, marital status, age at first marriage and number of living children

Part II: Access and utilization of the health services

There are 11 questions, 3yes/no questions and 9 statement questions in this part. The questions are about access and utilization of health services by the women in the last 12 months.

Part III: Maternal health status of the women

In this part, there are about 19 questions regarding the maternal health status of women. The questions consist of 14 statements and 5yes/no.

Part IV: Knowledge

The focus about knowledge on vesico vaginal fistula among women whom have VVF and those who do not have VVF regarding the risk factors, signs and symptoms and preventive measures towards VVF.

The score was set as 1for correct answer (Yes) and score for incorrect answer and don't know is 0. The total score is 12 which vary from 0-12. The knowledge score for the respondents were ranged into 3 levels as follows (Bloom's cut off point), (Bloom, 1965):

- Low knowledge level 0-6 points (<60%)
- Moderate knowledge level 7-9 points (60-80%)
- High knowledge level 10-12 points (>80%)

Part V: Attitude

The respondent attitude towards vesico vaginal fistula was stated in this part in order to assess their behaviors towards the VVF and the occurrence of VVF.

There are 8 statements which are combined in positive and negative statements. The respondents were asked to rate their level agreement or opinion statement in three- score (Likert's scale), (Likert et al., 1934)

Likert's scale distribution for positive and negative statements score

- Positive statement - 3 for agree, 2 for uncertain and 1 for disagree
- Negative statement - 3 for disagree, 2 for uncertain and 1 for agree

The total score were ranges from 8-24. The respondents' attitudes were categories into 3 levels as follows:

- Negative attitude 8-13 points (<60%)
- Moderate attitude 14-18 points (60-80%)
- Positive attitude 19-24 points (>80%)

Part VI: Preventive measures

This part is about the knowledge on preventive measures towards vesico vaginal fistula. There are 4 questions and all are statement questions.

A qualitative guideline was prepared for the focus group discussion. The discussion facilitate in assessing the knowledge, attitude and understanding in preventive measures towards vesico vaginal fistula among women. The content of the guideline is as follows:

- How can you describe VVF?
- What do you think are the contributing for VVF?
- What are the attitudes of community towards VVF?
- Will you be able to take any preventive measures?
- If no, what are your reasons for not taking any preventive measures?

3.7 Data Collection

This was used through quantitative and qualitative method. Primary data were collected from community based household questionnaire used for the survey while, the qualitative component was collected through focus group discussion.

A total of 10 Female data collectors and 5 women mobilizer were hired for the survey. Two day orientation training was organized and conducted for the data collectors at Gwadangaji State secretariat conference hall. They were given a brief introduction on the concept of vaginal fistula, detailed administering of data including basic IPC skills (Interpersonal communication skills). Practical demonstration on data collection was also carried out using two settlements for the practical. Feedback discussion was made after the practical demonstration in order to discuss on the issues encountered and the way to overcome them during the study. This will boost their interest and participation on the study.

Data collectors were divided into 5 groups, each group is composed of 3 person i.e 1Midwife, 1 female Community Health Extension worker and 1 female community mobilizer. Each group was deployed to work in 2 wards within (2 -3 settlements /ward). Five senior community health workers including the researcher were attached to a group as supervisors.

3.7.1 Method of data collection

Data collection was conducted from 20th February 2013 to 11th March, 2013. The structured questionnaire was used to collect data and these questionnaires were translated into Hausa Language. Quantitative data was also collected by using face to face interview with the subject.

Advocacy was conducted to Birnin kebbi LGA and Ministry for Women Affairs prior to the commencement of data collection. These facilitate for easy access to the community and gaining full co-operation during the survey. Letters to all wards and selected settlements were circulation to the respective ward and village heads. Data collection was done by creating a serial number and settlement including the

household number, but there was no any household number placed. We therefore used the name of the house hold for easy reference.

Questionnaires were administered by simple random sampling method with inclusion criteria as stated. Respondent were informed of research purpose and were asked to for their consent (by signing on the consent form) to participate in the research. All respondent were informed on the research ethics and the information gather from them will also be kept with confidentiality. Due to fact that the researcher and data collectors were from the region and could speak the local language there was no problem encounter in communication with the respondents. The time per one set of questionnaire was 20 minutes for 62 question items. All respondent were interview on the same questions from the same pattern of questionnaire. Completed questionnaires were cross checked by the supervisors at the end of each day for data quality and later sealed and kept for data processing and incomplete or error questionnaire was revisit in the following day.

Recruiting of Participants for the focus group discussion was carried out along with the key influential woman leader who is familiar with the women in the selected settlement based on the following criteria.

- Participants were selected based on their willingness to participate voluntarily, and also has the ability to respectfully share their opinions.
- Each participant selected, consent for her availability to participate was secured from her husband and the community leader two days prior to the discussion.
- For women with VVF, selection was done at the VVF center Birnin Kebbi where some of the affected women from the sample site were admitted along with the Matron in charge of the center.
- Random selection was done to ten women, where 8 participants were selected in each group based on the selection criteria.

Focus group discussion session took place simultaneously for both women with VVF and women without VV participants. The women with VVF discussion typically took place at the VVF center while, women without VVF had their session in the village head premises. All protocols for the discussion were done before the

commencement of the session, and discussion session was conducted in the local language (Hausa).

The main objective of the discussion was to assess their knowledge and attitude towards Vesico vaginal fistula and also to find out their behavior influencing preventive measures related to vesico vaginal fistula. In the focus group discussion amongst women with VVF, the participants were between 25 to 35 years and women without VVF group, were less than 35 years.

The discussion was carried out by two female health workers of the research team, one served as the moderator while the other performed the task if note-taker and observer along with the researcher. A standard guideline was prepared by the researcher. The duration of the discussion was 45 minutes.

3.8 Data Analysis (Statistics)

Result of the Household questionnaire

- Questionnaire was coded and cleaned before entering into the computer
- Data was analyzed using SPSS window software program version 17.0 (licensed for Chulalongkorn University)
- Descriptive statistic was used in analyzing data which describe the frequency, percentage, mean and standard deviation
- Bivariate analysis: - Chi-square and fisher exact test was used in statistical measurement which determine the association among independent and dependent variables.
- The questionnaire in section 1 1-8 of social-demographic/Socio-cultural characteristic are 8 questions

Knowledge questions consist of risk factors, sign and symptoms and preventive measures toward vesico vaginal fistula, this comprises 12 questions in total. The score was 1 for YES (correct answer) 0 for incorrect answer (No, don't know) (Bloom's cut off point). Knowledge score was ranges as high (>80%), moderate (60-80%) and low level (<60%).

Attitude questions were 8 in total and comprises of both Positive and Negative statements. The variables were divided into three categories agree, disagree and uncertain (Likert Scale, 1934). For positive statement, the scoring scale was 3 for agree, 2 for uncertain and 1 for disagree while for negative statement, scoring scale was 3 for disagree, 2 for uncertain and 1 for agree. Mean standard deviation was used for the attitude.

Result for the focus group discussion

In-depth interview was analyzed by content analysis using thematic analysis to discover key ideas pattern and relationships from the interview result.

3.9 Reliability and Validity test

3.9.1 Reliability test

A pre-test was carried out amongst 30 women from Kalgo ward which is 10 Kilometer away from Birnin Kebbi LGA for the reliability of the questionnaire. The area has the same population and characteristics. The Chronbach's Alpha score for the knowledge level was 0.76, and for the attitude level is 0.74.

3.9.2 Validity test

Validity test was done for the questionnaire by 3 experts from Nigeria, the director of Public Health in the Ministry of Health and two gynecologists from the Teaching Hospital. Some changes on the measuring tools were made based on their observations and recommendations.

3.10 Ethical Consideration

The study proposal and questionnaire was reviewed and approved by Kebbi-State Health Research Ethics Review Committee, (KSHREC) from Ministry of Health (MOH).

Informed consent from the respondent was taken after the objectives of the study were clearly understood. It is a voluntary participation and respondents were assured of confidentiality, which they were also told that they can be withdraw from the research at any time without any reason. They were also informed that, data collected will only be used only for academic purposes.

Audio recording during the focus group discussion was only limited to the research team members. While confidentiality of the participants was kept by ensuring that any identifiable personal information will not appear in the report.

3.11 Limitation

The study was conducted in 15 political wards of Birnin Kebbi LGA though this will not represent the whole population of Kebbi State and the country. The prevalence of vesico vaginal fistula recorded was as a result of sensitization meeting held with traditional birth attendants from 30 sampled settlements and clinical diagnostic case of self-report for examination. Though a lot are hidden and will not want to report for examination this resulted not getting the actual prevalence figures.

Also due to the stigmatization of Vesico vaginal fistula some women do not want to participate for the interview because they think we trying to expose them. Focus group discussion conducted, women without fistula indicate that some aspect of preventive measures were taken but the actual practice will not been recorded due to the nature of the study (cross section study).

CHAPTER IV

RESULTS

A total of 380 married women of reproductive age (15-49 year old) voluntarily participated in the study. The study was carried out in 15 political wards of Birnin Kebbi Local Government area of Kebbi State Nigeria namely: Ambursa, Dangaladima, Gawasu, Gulumbe, Gwadangaji, Kardi, Kola/Tarasa, Lagga/Randali, Makera, Marafa, Maurida/Karyo, Nassarawa I, Nassarawa II, Ujariyo and Zauro. The respondents have been selected in proportion to the total population of the respective 15 wards within the randomly selected 30 settlements.

4.1 Socio demographic and socio cultural characteristics

Table 1 shows the frequency distribution of basic demographic information of all the respondents such as age, religion, education, occupation, marital status, age at first marriage and number of parity.

Age:

The range of women was divided into seven categories. Majority of the subjects fall under the age group of 25-29 (23.9%) followed by 20 – 24 (17.9%). Age group 30-34 (14.7%) and 15-19 (14.2%) had almost getting the same percentage of respondents. The lowest age group in the study is 45-49 years which had 4.2%. The mean age was 28.82 and SD was 8.34.

Religion:

The religion system in Kebbi State prevails that, majority of the respondents belong to Islamic group (99.5%) while Christianity counted for (0.5%) respectively.

Education:

Most of the half of the total study respondents (45.8%) has Quranic education, (36.1%) lacks any formal education followed by (10.3%) that had basic Education of primary school. About (6.3%) had secondary education and only (1.6%) had received education till tertiary institution.

Occupation:

Almost three quarter (39.5%) of the respondents were housewives and did not have any work to do within their matrimonial house, followed by (30.9%) are daily employee either in their houses or outside. Only (21.3%) are petty traders, while (5.5%) had animal husbandry/poultry and the rest (2.9%) has little income activities.

Marital Status:

Most of the respondents of the study were married (72.6%) with (16.8%) of them being separated and (9.2%) were divorce. Only (1.3%) of them being widowed.

Age at first marriage and Birth of first child:

The age range of women at their first marriage was found to be 12-24 years Majority of women (63.7%) had their first marriage between the age of 12-15 years and the least was 24 years at (5.5%). The mean and standard deviation was 15.48 and 1.96. Also (56.3%) of women had their first baby between the ages of 14-17 years while only (3.1%) had their first baby between the ages of 22-25. The mean and Standard deviation was 16.53 and 4.54 respectively.

Total number of Pregnancy and Children:

Most of the respondent were found to have between 0-3 children (59.7%) and 36.1% of them had 4-7 children. The percentage of women that had between 8-11 children was 4.2. The total number of pregnancies which includes (live birth, still birth, abortion and dead children), women who had two or three pregnancies found to be the highest with 26.3% and those with four to five were 24.5%. While 21.9% of the women had 0-1 pregnancies and the least women (1.8%) had between 12 to 13 pregnancies.

Table 1 Socio Demographic and Socio-cultural Characteristics

Characteristics	Frequency	Percentage
Observation (n=380)	380	100
Age		
15-19	54	14.2
20-24	68	17.9
25-29	91	23.9

30-34	56	14.7
35-39	59	15.5
40-44	36	9.5
45-49	16	4.2
Mean±SD	28.82±8.34	
Religion		
Islam	378	99.5
Christainity	2	0.5
Educational Status		
Quranic School	174	45.8
Primary School	39	10.3
Secondary School	24	6.3
Tertiary Institution	6	1.6
None	137	36
Occupation		
Housewife	150	39.5
Daily employment	117	30.8
Petty trading	81	21.3
Animal husbandary/Poultry	21	5.5
Others	11	2.9
Marital Status		
Married	276	72.6
Widow	5	1.3
Divorce	35	9.2
Separated	64	16.8

Table 1 (continued) Socio Demographic and Socio-cultural Characteristics

Characteristics	Frequency	Percentage
Age at first Marriage		
12 to 15	242	63.7
16-19	117	30.8
20-24	21	5.5
Mean ± SD	15.48±1.96	

Characteristics	Frequency	Percentage
Age at birth of first child		
14-17	201	56.3
18-21	145	40.6
22-25	11	3.1
Mean ± SD	16.53± 4.54	
Total number of pregnancy		
0-1	83	21.9
2-3	100	26.3
4-5	93	24.5
6-7	57	15
8-9	24	6.3
10-11	16	4.2
12-13	7	1.8
Total number of living children		
0-3	227	59.7
4 to 7	137	36.1
8 to 11	16	4.2

4.2 Utilization of maternal health services

Table 2 describes the utilization of various types of health services by the respondent at their settlement. They were permitted to respond to more than one type of health services they demanded when they had health problems. Most of the respondent prefers to visit Public health facility (77.4%). Women seeking for traditional healers are (13.4%) while (8.7%) are not going anywhere for health services. Only (0.5%) of the respondents visited the private health institution.

Table 2 Utilization of maternal health services by the women

Items	Frequency	Percent
Public Health Facility	288	77.4
Private Health Facility	7	0.5
Traditional healers	51	13.4
Others	32	8.7

Among the respondents that did not seek for health services at the health facility (44%) cited due to financial constraint in Table 3. Most of the women 31.7% not having husband support as their reason followed by (13.4%) who cited due to lack of interest, while (8.5%) of the women could not visit the health facility due to poor road network. The remaining (2.4%) were not able to visit the health facility due to lack of transportation.

Table 3 Reasons for not visiting health facility

Reasons (n=82)	Frequency	Percent
Poor road network	7	8.5
Financial constraint	36	44.0
Lack of transport	2	2.4
No husband support	26	31.7
Others	11	13.4

For the mode of financing health services, majority of the respondent (72.6%) were getting support for health services from their husband while (14.2%) of the women paid for their health services by themselves. Others obtain support by their parent and free government services.

Table 4 Mode of financing health services

Items	Frequency	Percent
Out of pocket	54	14.2
Husband support	276	72.6
Parent support	46	12.1
Free government services	4	1.1
Total	380	100.0

In terms of availability of female health care provider at the health facility, (52.1%) of the respondents stated not having female health worker in the health facility at their settlement in (Table 5). Only (43.4%) indicated having female health worker in the health facility of their settlement while, 4.5% of the respondents would not respond to the question as they are not visiting the health facility.

Table 5 Availability of Female Health Workers at Health Facility

Items	Frequency	Percent
Yes	165	43.4
No	198	52.1
Not responded	17	4.5

Majority of the respondent (66.9%) did not go for ante- natal care when they are pregnant and also post natal care after delivery (76.9%) as shown in Table 6. Those that had more than 4 times ante natal care were 12.3% and the rest had 4 to one time of ante natal visit. However, very few of the respondents had received post natal care after their delivery.

Table 6 Ante natal and Post natal Care visit

Observation (n=366)	Frequency	Percent
Number of Ante natal care visit		
>4 times	45	12.3
4 times	16	4.4
3 times	26	7.1
2 times	21	5.7
Once	13	3.6
None	245	66.9
Number of Post natal care visit		
None	277	76.9
Once	44	12.2
Many times	39	10.8

Table 6 shows the type and mode of delivery practice by the respondent. Their responses refer to the last delivery of the child. Most of the deliveries by the respondent took place at home (77.1%) out of 358 participants who answer the questionnaire (48.6%) were assisted by untrained birth attendants, while (24.6%) delivered their babies with the help of trained birth attendants and (23.2%) were assisted by trained health worker. The rest (3.6%) had delivered alone or assisted by their relatives.

Table 7 Mode of Child birth by Women

Observation (n=358)	Frequency	Percentage
Place of delivery		
Home	276	77.1
Public hospital	70	19.6
Private hospital	9	2.5
Others	3	0.8
Total	358	100
Assistance during child birth		
Trained TBA	88	24.6
Untrained TBA	174	48.6
Trained health worker	83	23.2
Others	13	3.6
Total	358	100

Occurrence vesico vaginal fistula:

Age of onset and Causes of VVF: The age of the onset of fistula during the study recorded was found that (66.7%) of the women were the highest to be affected by fistula followed by (11.1%) who are between the ages of 19-20 years. The least of age group 23-24 (5.5%). The minimum age of women at the time VVF occur was 15 while the maximum was 24.

Table 8 Age of Onset of Fistula

Observation (n=36)	Frequency	Percentage
Age		
15-16	24	66.7
17-18	5	14
19-20	4	11.1
21-22	1	2.7
23-24	2	5.5
Total	36	100

Majority of the affected women (86%) answered that obstructed labour were the cause of their VVF while (14%) of them answered that delays in seeking medical care were the cause.

Table 9 Causes of Vesico vaginal fistula for the women

Observation (n=36)	Frequency	Percentage
Causes		
Prolonged/ Obstructed labour	31	86.0
Delay in seeking medical care	5	14.0
Total	380	100

Table 10 describes the frequency distribution as well as the different symptoms of women suffering with VVF. The result showed all women experience a continuous leaking of urine and foul smelling discharge from vagina. Around 80 percent of women suffering with VVF reported the itching of their vagina.

Table 10 Symptoms of VVF

Symptoms (n=36)	Yes	No
Experience continuous leaking of urine	36 (100.0%)	344 (0.0%)
Foul smelling discharge from vagina	36 100.0%)	344 (0.0%)
Having itching of the vagina	29 (80.6%)	7 (19.4%)

Table 11 shows the average women with VVF have been suffering for. This shows that (61.1%) of the respondents had been suffering from VVF for 5-8 years followed by those that had been living with it for 1-4 years. Women that had been with VVF for more than 13 years were (13.9%). The minimum and maximum years of living with VVF was found to be 1 year and 25 years respectively.

Table 11 Years of Living with VVF

Years(n=36)	Frequency	Percentage
1-4	6	16.7
5-8	22	61.1
9-12	5	13.9

Years(n=36)	Frequency	Percentage
>13	3	8.3
Mean \pm SD	7.36 \pm 4.21	
Minimum	1 Year	
Maximum	25 Years	

Table 12 describes the frequency of (24) VVF cases of self-reported and also diagnose by medical doctor during the study in the sampled areas. In this study diagnose and self –reported are those women that found themselves with the symptoms of VVF and visited the health institution for medical check- up based on hearing other women experiences from the media or family/friends. The remaining 12 of VVF cases that answer no during the study means they did not report or diagnose by Medical doctor at the health institution but still have all the sign and symptoms of VVF. Their reasons for not reported is ignorance and lack of knowledge.

Table 12 VVF Cases diagnose by medical doctor

Diagnose by medical doctor (n=36)	Frequency	Percentage
Yes	24	66.7
No	12	33.3
Total	36	100

4.3 Knowledge about Vesico Vaginal Fistula

Around 37% of the respondents 141 never get any information on preventive measures of VVF (Table 18). Among the respondents who never get any information, most of them (21.6% and 20.3%) got the information from family/friends and radio respectively. Health care center was another source of information, 15.3% of the respondents received this information from there. Small amount of respondents got information from television (5.5%) and pamphlet (0.3%).

Table 13 Source of information regarding knowledge and preventive measures of VVF

Items (n=380)	Frequency	Percent
Health centre	58	15.3
Family or friend	82	21.6

Radio	77	20.3
TV	21	5.5
Pamphlet	1	0.3
Never get any information	141	37.0

Table 14 explain the number and percentage of married women of reproductive age that gives a correct answer from each question regarding knowledge of risk factors, sign and symptoms and preventive measures. Majority of the respondents had the knowledge that staying for long period during labor (77.9%) and delay for seeking medical care (66.3%) cause vesico vaginal fistula. For the knowledge regarding signs and symptoms (72.9%) of the respondents stated that women with VVF experience foul smelling, (63.2%) of women knows that women with VVF experience continuous leaking of urine. For the preventive measures (56.8%) of them thought that VVF can be prevented by avoiding early marriage, while 41.1% and 34.5% of them thought that warly referral to obstetric care and delivery by health worker can reduce the chances of having VVF.

Among all risk factors, delivery by untrained birth attendance, early pregnancy caused delivery complication and delays for referral were less aware.

Table 14 Frequency of respondents that correctly answered to the knowledge questions

Items	Correct answers	
	Number	Percent
Risk factors		
1. Does home delivery by untrained birth attendant cause vesico vaginal fistula?	44	11.6
2. Does early pregnancy cause delivery Complication resulting vesico vaginal fistula?	138	36.3
3. Does staying for long period during labour Cause vesico vaginal fistula?	296	77.9
4. Does delay for seeking medical care cause vesico vaginal fistula?	252	66.3
5. Does lack of transportation or delay for referral causes delivery complications?	102	26.8
Signs and Symptoms		
6. Does woman with vesico vaginal fistula experience continous leaking of urine?	240	63.2

Items	Correct answers	
	Number	Percent
7. Does a woman with vesico vaginal fistula have painful ulceration and wetness from the vagina?	42	11.1
8. Does woman with vesico vaginal fistula experience foul smelling?	277	72.9
9. Does vesico vaginal fistula causes paralysis or foot drop?	36	9.5
Preventive measures		
10. Can vesico vaginal fistula be prevented by avoiding early marriage?	216	56.8
11. Does early referral to obstetric care reduces the cause of vesico vaginal fistula?	156	41.1
12. Can delivery by health worker minimize the chances of having vesico vaginal fistula?	131	34.5

When assessing the knowledge level, majority of the respondents (65.8%) had low knowledge level, 29.5% had moderate knowledge level and only 4.7% of the respondents had high knowledge level.

Table 15 Knowledge Level amongst respondents

Items (=380)	Frequency	Percent
Low Knowledge level (<60%)	250	65.8
Moderate Knowledge level (60-80%)	112	29.5
High Knowledge level (>80%)	18	4.7

4.4 Attitude towards vesico-vaginal fistula

Table 16 describes the percentage of women's attitude towards each question together with the mean and standard deviation. Almost (60%) of the respondents agreed when asked whether VVF is an embarrassing disease (59.7%) and mean score at (2.34), faces many changes of behavior from their husband (46.9%) and mean score was (2.28) and that VVF lowers the quality of life of women (33.9% and mean score (1.93). Most of women answered uncertain for many questions especially VVF women should be invited to community functions, there were 90.0% that feel uncertain follow by be friend with VVF women (75.5%), take the relative who suffer from VVF to the health center (53.7%), VVF is an incurable disease (55.5%) and feel

shy to talk about VVF with husband 941.3%). Interestingly 27.6% of women thought that VVF is an incurable disease.

Table 16 Percentage of women's attitude towards each question

Items	Percentage			Mean (Score)	S.D
	agree	disagree	uncertain		
1. Vesico vaginal fistula is incurable disease	27.6	16.9	55.5	1.72	0.86
2. Vesicio vaginal fistula is an embarrassing disease	59.7	15	25.3	2.34	0.85
3. Do you feel shy to talk about vesico vaginal fistula with your husband or relatives?	21.3	37.4	41.3	1.80	0.76
4. Do you think women with vesico vaginal fistula have faces many changes of behaviour from their husband?	46.9	34.7	18.4	2.28	0.75
5. Will you take your relative to the health centre for treatment if they suffer from VVF	16.6	29.7	53.7	1.63	0.75
6. Should women with vesico vaginal fistula be invited to community function?	1.8	8.2	90	1.12	0.37
7. If there is a woman with VVF, could you like to be friend with the woman?	4.2	20.3	75.5	1.29	0.53
8. Do you think vesico vaginal fistula lowers the quality life of women?	33.9	25	41.1	1.93	0.86

For level of attitude towards vesico vaginal fistula, respondents were asked to give their opinions whether they agreed or disagreed with the questions provided to them regarding to vesico vaginal fistula.

Table 17 present the level of attitude towards vesico vaginal fistula. The score was ranged from 8-24. The mean score recorded at .692 and standard deviation is .545. Majority of the respondents (60.8%) had moderate attitude towards vesico vaginal fistula while (35.0%) had negative attitude, only (4.2%) had positive attitude.

Table 17 Attitude level towards vesico vaginal fistula

Items	Frequency	Percent
Negative Attitude	133	35.0
Moderate Attitude	231	60.0
Positive Attitude	16	4.2
Mean± SD	17.86±3.04	

4.5 Relationship between socio demographic characteristics, utilization of maternal health services, knowledge, attitude and VVF occurrence of the women

Bivariate Analysis

The relationship between socio demographic characteristics, utilization of maternal health services, knowledge and attitude with the occurrence of vesico vaginal fistula was tested using Chi-square test. The level of significant for the relationship was set at p-value=0.05

Table 18 showed the relationship between socio demographic/socio -cultural characteristics which are age, religion, education level, occupation, and marital status, age at first marriage, age at first delivery, number of pregnancy and number of children.

Age:

The respondent's age was range into 7 categories and was compared with the occurrence of vesico vaginal fistula. It was found that there is relationship between the age of marriage women and the occurrence of VVF ($p < 0.001$). Women without

VVF found to be much higher under the age group 27-38 years (43.2% followed by 15-26 years (40.2%) compared with VVF women who were mostly seen to be among the age group of 15-26 years at (77.8%) respectively.

Religion:

The study revealed that, there was no significant difference between the religion (Islam and Christianity) and the occurrence of VVF ($p = 0.646$). All of the VVF respondents were Muslims (Islam). From the proportion of VVF women in the none formal education

Education:

Education was ranged in two groups, formal and none formal education. Study showed the relationship between education and occurrence of VVF ($p < 0.001$). From the proportion of VVF women in the none formal education and formal education group was little difference but in the women without VVF, the proportion of educated people were more than twice when compared with the uneducated people.

Occupation:

Occupation was categorized into 3 groups, Housewife, daily employment and others to facilitate the analysis. Study showed that, there is relationship between the occupation and the occurrence of VVF ($p < 0.001$). Majority of women with VVF were in the others category (informal sector/employment). Out of 41.71% were engaged into daily employment and only 8.3% were in the category of housewife.

Marital status:

Majority of the respondents with VVF were divorced (86.1%) and only (13.9%) were married. The marital status was found to be highly significant with occurrence of VVF ($p < 0.001$).

Table 18 Relationship between socio demographic/socio-cultural characteristics and occurrence of VVF

Variables	With VVF n (%)	Without VVF n (%)	χ^2	<i>p-value</i>
Age (n=380)				
15-26	287(7.8%)	139(40.4%)	18.86	<0.001*
27-38	7(19.4%)	148(43.0%)		
>39	1(2.8%)	57(16.6%)		
Religion				
Islam	36(100%)	342(99.4%)	210	0.646
Christianity	0(.0%)	2(0.6%)		
Educational level				
None Formal Education	19(52.8%)	118(34.3%)	4.825	<0.001*
Formal Education	17(47.2%)	226(65.71%)		
Occupation				
Others	18(50.0%)	95(27.6%)	16.789	<0.001*
Housewife	3(8.3%)	147(42.7%)		
Daily Employment	15(41.7%)	102(29.7%)		
Marital status				
Married	5(13.9%)	271(78.8%)	69.03	<0.001*
Divorce	31(86.1%)	73(21.2%)		

Table 18 (continue) Relationship between socio demographic/socio-cultural characteristics and occurrence of VVF

Variables	With VVF n (%)	Without VVF n (%)	χ^2	<i>P-value</i>
Age at first marriage				
12 - 15	35(97.2%)	207(60.1%)	19.356	<0.001*
16-19	1(2.8%)	116(33.8%)		
20-24	0(0.0%)	21(6.1%)		
Number of pregnancy				
0-4	36 (100.0%)	199(58.0%)	24.537	<0.001*
5 to 9	0 (.0%)	122 (35.4%)		
≥10	0 (.0%)	23 (6.6%)		
Age of first delivery				
14- 17	34 (94.4%)	167 (52.0%)		

Variables	With VVF n (%)	Without VVF n (%)	χ^2	<i>P-value</i>
18-21	2 (5.6%)	143 (44.6%)	23.696	<0.001*
22-25	0 (0.0%)	11 (3.4%)		
Number of Living Children				
0-3	36 (100.0%)	191 (55.5%)	26.804	<0.001*
4 - 7	0 (.0%)	137 (39.8%)		
8 - 11	0 (.0%)	16 (4.7%)		

Age at first marriage:

There is strong relationship between the age at first marriage and the occurrence of vesico vaginal fistula, the result showed that (97.2%) of women with VVF at the time of their first marriage were at the age range between 12-15 years. Only (2.8%) had married at the age of 16-19 years ($p < 0.001$).

Number of pregnancy:

There was significant different between the occurrence of VVF and the number of total pregnancies among the VVF women ($p < 0.001$). All VVF women had 0-4 pregnancies unlike women without VVF; they could have up to more than 10 pregnancies.

Age at first delivery:

There is relationship between the age at first delivery and occurrence of VVF ($p < 0.001$). Majority of women with VVF had first delivery in the age range between 14-17 years (94.4%), only (5.6%) of them had first delivery in the range of 18-21 years. The study also revealed that the age range at first delivery among the respondents were between the age of 14-25 years. About 22 respondents were not delivered.

Number of living children:

There is a relationship between the total number of living children and occurrence of VVF and also found to be significant ($p < 0.001$). All VVF women who had 0-3 children. The study shows that women with VVF were not having more than 0-3 children compared with women without VVF. The percentage of women who had

no VVF having 0-3 children is higher at 55.5% and the rest had between 4-11 children.

Table 19 Relationship between utilization of maternal health services and occurrence of vesico vaginal fistula

Variables	With VVF n (%)	Without VVF n (%)	χ^2	<i>P-value</i>
Place of delivery				
Home	10 (27.8%)	269 (83.6%)	55.128	<0.001*
Health center	26 (72.2%)	53 (16.4%)		
Delivery Practice				
Trained TBA	0 (0.0%)	88 (27.3%)		
Untrained TBA	8 (22.2%)	179 (55.6%)	68.194	<0.001*
Health worker	28 (77.8%)	55 (27.2%)		
Number of Antenatal Visit				
None	36 (100.0%)	209 (73.3%)		
1-3 times	0 (.0%)	26 (9.2%)	12.578	0.002
>4-4 times	0 (.0%)	50 (17.5%)		
Number of Postnatal visit				
None	36 (100.0%)	241 (74.4%)	11.986	<0.001*
Once-Many times	0 (.0%)	83 (25.6%)		

4.6 Relationship between utilization of maternal health services and occurrence of vesico vaginal fistula

Place of delivery:

There is relationship between place of delivery and the occurrence of VVF which also found to be significant ($p < 0.001$) Majority of VVF women (72.2%) had their delivery in the health center, this is mainly due to their delivery complications, unlike women without VVF (83.6%) had delivered their babies at home. Only 27.8% of VVF women delivered at home.

Delivery practice:

The relationship between delivery practice and the occurrence of VVF women was found to be highly significant ($p < 0.001$). Majority of women with VVF (77.8%) had their babies delivered with the help of health worker, this was due to obstetric complication (prolong period during labor). Out of (22.27%) were assisted

by untrained birth attendant, none of the VVF women delivered by trained birth attendant.

Number of Antenatal visit:

There is a relationship between the number of antenatal visit and the occurrence of VVF ($p < 0.002$). All VVF women found not been attending antenatal checkup. However, only (26.7%) of the women without VVF found to have gone for antenatal visit at least 1 or more than 4 times.

Number of Postnatal visit:

The number of postnatal visit was categorized in into two groups, none or once to many times. There is a relationship between the number of postnatal visit and occurrence of VVF ($p < 0.001$). None of women with VVF found to have gone for post natal visit even one time.

4.7 Relationship between knowledge, attitude and the occurrence of VVF

The relationship between the knowledge level and the occurrence of VVF was found to be significant ($p < 0.001$). Thirty –five women with VVF were found to have low knowledge level; only 1 woman had moderate knowledge level. No relationship between attitude levels was not found to be significant with the occurrence of VVF ($p .432$). Only 3 women with VVF were found to have positive attitude level and 210 have moderate attitude level while 121 have low attitude level.

Table 20 Relationship between knowledge, attitude and the occurrence of VVF

Variables	With VVF n(%)	Without VVF n(%)	χ^2	p-value
Knowledge Level				
Low	35(97.2%)	215(62.5%)	17.472	<0.001
Moderate	1(2.8%)	111(32.3%)		
High	0(0.0%)	18 (5.2%)		
Attitude Levels				
Negative	12(33.4%)	121(35.2%)	1.676	.432
Moderate	21(58.8%)	210(61.0%)		
Positive	3(8.3%)	13(3.8%)		

4.8 Focus Group Discussion

The study on knowledge about VVF indicates that, women had moderate knowledge about the risk factors, sign and symptoms but had low knowledge about preventive measures. The main objective of the discussion was to assess their knowledge and attitude towards vesico vaginal fistula and occurrence of vesico vaginal fistula.

FGD discussion revealed that women had moderate knowledge about the risk factors of VVF but they were not been able to make any effort on the preventive measures due to lack of decision making, poverty and gender discrimination was the main underlying factor for women to be able to take any preventive measures.

Women with vesico- vaginal fistula

The discussion was conducted amongst women with VVF who are between 25 to 35 years old because they are the most vulnerable for acquiring the disease.

Vesico Vaginal Fistula

The respondents had little knowledge about VVF. Four of them describe it as a disease caused by spiritual act who enters the woman's body during pregnancy while three of them said it is due to the size of the baby that tears the woman's private part (vagina) during delivery and the last respondent said it is due to circumstance (God making).

Knowledge towards contributing risk factors for VVF

Maternal mortality caused by pregnancy and child birth is the most common factors affecting women leading to the cause of VVF in the state. The major cause of fistula among the respondents is prolonged obstructed labour which is also due to teenage pregnancy as one of the risk for acquiring VVF. This was as a result where the pelvis of young woman is narrow for the passage of the baby through the birth canal because the growth of the pelvis is not completed at the time of her pregnancy.

Malnutrition and infection also affect the development of the pelvis which is common in the state.

Most of the respondents stated that, Staying for a longer period during labour causes VVF, Others said that, Traditional birth attendance administer traditional substances or forcing a woman to push frequently in order to aid the baby coming out easily, these contribute in having tears of the vagina and followed by continuous leaking of urine. Some of the key responses by the participants are stated below

“Delay for husband or his relatives consent in seeking for medical care when delivery complication occurred facilitates in developing the disease” (FGD VVF participant 001).

“I am forced to marry when I am a teen to an old man, i become pregnant immediately, I was in pains for almost 3 days without knowing my situation. My mother in-law abandons me without any assistance until I become restless and weak.

I end up with cesarean section without having alive baby and the worse part of it is incontinence of urine” (FGD VVF participant 005).

“Socio-cultural believes and ignorance makes women to be discriminated” (FGD VVF participant 002).

Generally, the common saying by women in this area is that, “when a woman is pregnant, she has her one leg in heaven and the other in the world”. This was mention by a participant during discussion (FGD VVF participant 001).

Women status

As part of the customary and religion practices in the society, purdah (women seclusion) is being practice among the muslims communities, where women’s movement is strictly in control of her husband. She has to secure permission before going out even if it affect to her own health, they are also being sideline in decision making and in the absent of her husband (father in law) will act on his behalf and if none, then no one can guarantee for that until he is around. Generally, this mainly causes the development of VVF among the participants.

Women were asked if they take part in decision making especially issues that affect them and their children. Most of them stated that, this is the most difficult way especially if an issue involves the whole stakeholders because in their culture a woman has no role to play in terms of decision making. They are much worried when certain issues were raised especially;

“Defined age at first marriage”

“Child spacing or birth control”

“Eating good food at early age and during pregnancy”

“Frequent antenatal care visit”

“Avoiding home delivery”

“Girl child education”

Some of the participants cited that:

“Women are in the control of men, they are being restriction to movement without the consent of her husband” (FGD VVF participant 004).

“Also a women’s paradise is in her husband house” (FGD VVF participants 004).

“Most of the women are ignorant towards their health, they prepare home practice than modern concept” (FGD VVF participant 006).

“Many women lack autonomy to make decision about their own health care” (FGD VVF participant 008).

Most of the women gave their own contribution for giving their reasons for the contributing factors towards the cause of their fistula as lack of knowledge on the warning signs of difficult labour or pregnancy related complications, gender discrimination, poverty, illiteracy are the main cause. Some of the women stated that, women in the rural setting encounter a lot of hardship when it comes to the utilization of maternal health services because they are not involve in decision making even if it involve their own health care.

“Women in the rural areas are not taken to hospital for delivery until there situation become hopeless or about to die” (FGD VVF participant 002)

“If a woman is in hardship during labour normally decision comes from mother in-laws and they always have to decide because of the hospital cost her son will spend” (FGD VVF participant 007).

“Most men don’t know what going through labour is, and things can go wrong at any time” (FGD VVF participant 006).

“None availability of female health worker in our health center makes me not going for ANC check –up and culture and religion did not allow male health worker to oversee a woman especially married woman” (FGD VVF participant 004).

Attitude of community towards VVF women

Due to the low status of women in our societies, women suffering with VVF are facing many challenges by the communities. In the first place this arises from the husband down to the families and the societies these attitudes placed by the society towards the victims shoed no sympathy to them. They are being deprived to so many conditions that will make them part of the society such as sexual intercourse, cooking for the husband and his families, eating together with husband or families, social gathering, friendship, because of the magnitude of the stigma involved in the disease and its consequences victims suffered, they tend to isolate or hidden to a different environment. There is a lot of consequences arises towards the negative reaction of the society. This makes the victims to develop a lots of psychological problems that affect their physical situation. As stated by the participants below:

“This is a disturbing condition that leads to isolate myself in such a way that it causes a lot of social and psychological consequences”

“I so feel so much annoyed and unbelievable with the reaction of my husband and his relatives. Everybody is running away from me, they thought I am useless because I am not sexually active and I don’t have any child” (FGD VVF participant 007).

“My husband sends me a way when he notices me of having continuous leaking of urine and foul smelling, In reaching my parent house because of I don’t have alive parents my family members also rejected me. These situations push me to be on the street begging for my livelihood” (FGD VVF participant 008).

“This is a lesson to me; I will use myself as an example to other teenagers” (FGD VVF participant 002).

“If treated I will never allow this condition to re-occur to me again”(FGD VVF participant 004)

A woman stated that, “majority of women develop VVF through men but, men abandon women when they develop VVF”. Now our husbands are no more, they shy away from us (FGD VVF participant 003).

During discussion, one women stated that, “VVF is a social disaster to the highest level, due to continuous leaking of urine with offensive smell, many people ran away from me it loses all my dignity as a woman and as human being” (FGD VVF participant 005).

All the participants have the same voice, we are now being abandon by our husband, families and the whole society, no child no money to take care for our self- neither nowhere to go even after we are treated because people will not belief we are cured. “The world is different to us” (All FGD VVF participants).

Practice of preventive measures:

Women were asked during discussion if they have been doing something that will prevent them from re-occurring the disease? Most of them have negative response because they don’t have any role in the family. Even if they have the intention to make a move culture does not warrant them to do so.

Majority of women faces a lot of socio-cultural challenges, where a woman has to bear the practice of home delivery assisted by trained or un-trained birth attendance. Because they lack knowledge and education, they didn’t consider antenatal visit, delivery by skilled birth attendance, postnatal care and child spacing are important aspect towards woman’s health.

Women without vesico vaginal fistula:

Focus group discussion was carried out amongst 8 women without vesico vaginal fistula and to who are less than 35 years. The session was for 45 minutes, it was observe that some women in the group are having knowledge in the practice of preventive measures because majority of them leaves in the urban area.

Knowledge towards vesico vaginal fistula:

Most of the women in the group are more aware of the disease because of the information they gain from the media. Their responses are cited below:

“VVF is drilling of urine when a woman did not have proper care during delivery” (FGD without VVF participant 003).

“One woman said is a disease of the poor where they are neglected during delivery” (FGD without VVF participant 001).

“VVF is known to be a disease for young women who mostly have stayed long in labour and most of them delivered their babies at home without any support by the health worker”(FGD without VVF participant 004).

Reasons for developing vesico vaginal fistula:

It was indicated from the study that, most of the women during discussion session stated the reasons for developing VVF in a correct way as mention below:

“Early marriage or pregnancy, prolong period during labour without quick medical attention, or home delivery by untrained birth attendant makes women to developed VVF” (FGD without VVF participant 008).

“My daughter getting to start her menses I don’t wanted to avoid unwanted pregnancy, so is better to engage her to someone else” (FGD without VVF participant 004).

“Financial constrain prevent them for hospital delivery” (FGD without VVF participant 007).

“Majority of our health facilities are running out of female health workers where women will seek for care during pregnancy and delivery” (FGD without VVF participant 005).

Majority of women in the northern part of Nigeria consider that when a girl start menstruation in her father’s house she is likely to have sexual intercourse with someone outside, which will resulted to unwanted pregnancy. Some stated that, boys should eat heavy food than girls because they need more energy than girls. And they also went ahead in saying it is a taboo for a pregnant woman to be eating eggs because of the fair of her child to become a thief when he grows-up. Their key responses are stated below:

“Most of women don’t want to deliver in the hospital because of two reasons, attitude of health workers and exposing herself to someone else (Male health worker)” (FGD without VVF participant 006)

“Traditional birth attendant are always available and cost less, so I don’t have to spend much for delivery in the hospital”(FGD without VVF participant 002).

Attitude of community towards VVF women:

Women suffering from VVF are also suffering from socio-cultural problems. Most of the societal issues that attributed to the development of the VVF are not giving them the required social and emotional support/caring that will clampdown their trauma/injury sustained. When a VVF victim reported her situation to public she might be rejected by the society, ostracized and maltreated as if she will not be cured forever.

During discussion, majority of participants showed their reaction towards VVF women as stated below:

“VVF is an embarrassing disease, though it is sympathetic but it is difficult to associate with them due to foul smelling from the urine” (FGD without VVF participant 001).

“Once a woman is affected with VVF majority of the society denied her including her parents which sometime makes miserable” (FGD without VVF participant 003).

“I think it is an incurable disease and that staying with such people can be contacted on the disease” (FGD without VVF participant 006).

“So much has to be done for these poor young women to secure them from this difficulty of life” (FGD without VVF participant 007).

Preventive measures to towards occurrence of VVF:

Majority of the participants have said that, we have been hearing and seeing from the media on the effect of pregnancy complications to women but because of ignorance we seem to neglect certain issues especially- Antenatal care, delivery practice and postnatal care

“I have a healthy pregnancy, I see no reason for roaming about to the hospital” I have a good Traditional birth attendance who is in practice for many years why should I waste my time to deliver somewhere else” (FGD without VVF participant 002)

Women without fistula indicate their reasons for preventive measures as:

“Girls have to get enough education before marriage” (FGD without VVF participant 008).

“Women empowerment on income generating activities, attending antenatal care and always have hospital delivery” (FGD without VVF participant 004).

The last participant round the topic by saying that:

“Seeking for medical attention whenever there is any signal of complication is the best” (FGD without VVF participant 003).

A lot of women have got the concept of developing VVF but some time they fail to practice the preventive measures until when they found themselves into faulty.

“In some cases VVF has nothing to do with age or early marriage but practicing for the prevention is the solution to occurrence”.

CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

The main purpose of this study was to determine the prevalence of vesico vaginal fistula in the studied sample area; knowledge about vesico vaginal fistula (contributing risk factors, signs and symptoms and preventive measures) and attitude towards vesico vaginal fistula. The study was a cross sectional carried out amongst 380 married women of reproductive age in Birnin Kebbi Local Government of Kebbi State, Nigeria.

The study describes the relationship between socio demographic and socio cultural characteristics, utilization of maternal health services, knowledge, attitude and occurrence of vesico vaginal fistula. The result of the survey will be used to promote the level of awareness regarding the disease to all stakeholders responsible for the empowerment of women and strengthening the reproductive health activities that will improve the women's right.

Socio demographic and Socio-cultural characteristics:

Regarding the age group in this study, majority of the respondents (23.9%) were aged between 25-29 years. The prevalence of age in vesico vaginal fistula in Birnin Kebbi LGA is between 15-26 years (16.8%) which is showed that, it is almost the same as the article (Kabir et al., 2004; Ibrahim et al., 2000) where VVF affect mostly young girls who are under 16 years.

Three quarters (72.6%) of the respondents are married while 27.4% were either divorce or separated where as women with VVF 31 out of 36 respondents in the study were divorce. Education is one of the basic factors as it determines the level of awareness amongst the women. The educational status of the VVF women in the study presented was as low as 52.8% not had any form of education, only 47.2% had formal education. For women without fistula 34.3% of them had no formal education. This was also indicated from the previous studies carried out in the northern part of Nigeria where most of the women with VVF (88.6%) are illiterate (Ijaiya et al., 2010).

A report by (NDHS, 2008) also indicates that, 36% of women of reproductive age 15-49 years in the Northwest of Nigeria had no formal education. Majority of the women (39.5%) are not involve into any form of income generating activities, 30.8% had been involve in daily employment, while 21.3% engage in petty trading. The findings of the study showed that nearly 50% of women with VVF are not engage in any form of income generating activities which was similar with other studies conducted in the region 61% of women are full time housewives only 39% were home-based petty traders (Ibrahim. et al., 2000).

Age and Marriage:

The average age at first marriage in the Kebbi State is 15-18 years (NDHS, 2008). However, the findings of the study shows that, 63.7% of the respondents had their first married at the age of 12-15 years while, 30.8% married between the ages of 16-24 years. The result is similar with other studies carried out by UNFPA/Nigeria (2005) where young girls got marriage at the age of 12-13 years. Another studies also cited that, young girls were given out in marriage before or immediately they see their menstruation (Ijaiya et al., 2010). Also because of poverty some parents prepare to give out their daughters in marriage as early as possible rather than sending them to school as reported by (Ibrahim et al., 2000). Majority of these girls were either been forced into marriage or were married off at the age where they cannot have decision to accept it as a normal process and their physical structure (pelvis is not mature); (UNICEF, 2001). Significantly, the important aspect of this is that girls should be delayed until such girls are mature. Age at marriage no doubt affects pregnancy and labour complications amongst women hence likelihood of having VVF.

Also the percentage of women (56.3%) is those who had their first delivery at the age between 14-17 years while, 40.6% of the respondents had their first babies at 18-21 years. This was also similar with the previous study by (UNFPA, 2005) which stated that most of young girls that married early become pregnant by 13-14 years. Ajuwon, 1997 reported that as a result of this early marriage it also leads to early pregnancy when the growth of the pelvis is not completely developed, this resulted to a condition where the baby's head or body is too big to fit through the mother's pelvis that leads to the development of fistula.

Utilization of maternal health services:

The study revealed that, 77.4% of the women are seeking or going for health service in the public health institutions only 13.4% seek for traditional healers. Mode of payment for health services of the majority women depend by their husband support (72.6%) while 14.2% paid out of their pocket. Majority of the VVF women encounter a lot of problems in terms of financing their health services because they are being deprived by their husband and families. Forty-four percent do not visit the health facility their reasons are due to financial constraint. The findings also showed that, there is a lot of health facilities around the study area but some of them; their services are limited to only minor ailments.

Availability of female health workers

The findings of the current study showed that, 52.1% of the respondents were not having female health worker at their facilities only 43.4% indicate of availability of female health workers. This has been explained in the other studies (Wall et al., 2004; Ibrahim et al., 2000) where they indicated that, there is shortage of female health workers at the rural health facilities (Mal-distribution of staff).

No female health worker is an obstacle in accessing the health facility. Majority of the respondents (99.5%) are predominantly Muslims and more than 50% of the health facilities in the studied area are managed by male health workers. Though the religion did not permit a male to examine a woman, these debar them from attending the right health facility even when they are in critical health challenges especially those that are related to pregnancy complications (Ibrahim et al., 2000).

Place of delivery:

Almost three third of the respondents (77.1%) had their delivery at home without the support of trained health assistance only 19.6% had their babies delivered in the health facility. The findings are close to the studies conducted in northern Nigeria by (Lindros and Lukkainen, 2004) where 69% of women in the rural areas have their deliveries at home by untrained skilled attendance. Another study with a slight lower figures with the current findings carried out by (WHO, 2006) stated that, 65% of Nigerian deliveries take place outside the health facilities.

Delivery practice:

The study presented that 48.6% of the women deliver their babies with the assistant of untrained birth attendant or relatives while 24.6% had their deliveries at the health facility. Most the women in northern Nigerian had home deliveries through untrained birth attendant and if attempted to seek for medical care eventually presented late labour that had already been obstructed as indicated by (Shittu and colleagues, 2009). The unskilled birth attendant or Traditional birth attendants had great recognition and are widely patronized in the rural communities because they are easy to access and cost less than government institutions. A study carried out by (Wall et al., 2004) stated that, in the northern Nigeria women lack of power in decision making and their movement is strictly under the control of their husband and permission has to be obtained before financing for health care or any other spending. This could be the common cause of her delay in seeking for medical attention at early stage especially in cases of obstructed labour. However, in most cases these circumstances increase the risk of maternal deaths/ disability (such as fistula) and still birth.

Antenatal care visit:

The study shows that, 66.9% of women have not made any attempt in visiting antenatal clinic during their pregnancy; only 12.3% had visited more than four times. (NDHS, 2008) found that 55% of the women had not any visit of antenatal care. This could have been due to the shortage of female health workers in the rural health facility and lack of power in decision making. In the focus group discussion, when asked on practice of preventive measures, one of the participants cited that “I am much healthier during my pregnancies so there is no need to go for any check-up”. Her statement could be due to lack of knowledge on the importance of antenatal care. According to WHO, 2006 report, skilled care before and after birth and particularly during labour can make the difference between life and death for women and their babies and help to prevent obstetric fistula. Lack of access to obstetric care by pregnant women in the study area is among the contributing factor to the prevalence of VVF. If they had access to basic antenatal care, difficult and complicated labour

would have been identified at the antenatal clinic immediately before the child delivery period.

Postnatal visit:

The study revealed that 76.9% of the respondents had not visited the health facility after their delivery. This is consistent with the findings of NDHS (2008) indicated that only 17% of women from the northwest zone in Nigeria received postnatal care within 2 days after their deliveries which Kebbi State is within the zone. WHO defined post natal care: as a care given to the mother and baby at the first six weeks after birth which is the most vulnerable time for both mother and the child during the hours and days after birth. Thus lack of care at this time period may result in death or disability as well as missed opportunities to promote healthy behavior, affecting mother and newborn as well.

Overall prevalence of vesico vaginal fistula:

The study found the prevalence of vesico vaginal fistula amongst the total women of 380 is 9.5%. The scope of this study is on knowledge; attitude and preventive measures so could not be comparable to the previous studies conducted on the subject (VVF) since they were clinically based. This is the first time to conduct a community –based study in the state. Fistula care project a USAID project based in Nigeria is now also conducting a community-based study for reporting the minimum estimate of prevalence and incidence of fistula in two LGAs of the state. The result of the study will be available before the end of the year. In 2012, data obtained from the VVF center in the state shows that almost 310 women who self –reported VVF in the center affecting mostly women of 15-50 years of age and nearly 60 women reported for treatment from January to March, 2013. Birnin Kebbi LGA has 30 cases reported to the center last year but this year at the time of the study only 2 cases were so far reported (VVF Kebbi Centre, 2012). These indicate that the prevalence of VVF is still high in the state and a lot are still hidden.

Other studies were carried out in Sokoto state that shares common boundary with Kebbi State, where 241 cases were reported in two years (Wall et al., 2004). Waaldijk, 2004 stated in his report that, 1,716 fresh obstetric fistula cases were

recorded in less than three months duration in Katsina and Kano fistula center that are also part of Northwestern zone (Waaldijk, 2004). Similar study carried out in Nigeria and Asia as well as some part of Europe, globally, the prevalence of vesico vaginal fistula is estimated to be two million women and majority of them are from sub-saharan Africa and South-Asia (Kelly and Kwast, 1993). Another study conducted by Tsui and others (2004) stated that the annual incidence of vesico vaginal fistula in Nigeria is estimated at 2.11 per 1000 births and (Wall, 1998) indicate that almost 100,000-1,000,000 Nigerian women live with obstetric fistula. UNFPA/Engender Health report, (2003) indicate that, Nigeria recorded almost 20,000 new cases of fistula every year and the situation is being more evidence in northern part of the country. A country assessment on obstetric fistula carried out by (Duysburg et al., 2009) findings revealed that, Nigeria counts 40% of the worldwide fistula prevalence.

Years of living with Fistula:

The study shows the average duration for a woman suffering from fistula is 7 years (± 4.21 years). The minimum years were 1 year and the maximum was 25 years. This was indicated during the focus group discussion by one of the participant who cited that she has been with the disease for almost 20 years without knowing where to go for medical attention. Majority of women with fistula do not access to medical care or to any social services this was stated by (Ahmed and Holtz, 2007).

Age of Onset of fistula:

The mean age of onset of fistula in this study is 16 and the minimum age of onset of fistula was found to be 15. Many studies conducted have their different figures. UNFPA, (2005) statistics showed that most of the VVF cases are below 20 years old. Study by Kabir and others (2004) revealed that the youngest age of VVF in his study was 13 years and the average age in his study was 16 years old. Prevalence rate in a study carried out by (Ibrahim et al., 2000) in Sokoto stated that the peak age of occurrence of vesico vaginal fistula in Sokoto was 10-18 (90%) among his respondents. where as in another studies carried out by Waaldijk (2004) who stated that in northern Nigeria, women younger than 16 years accounted for 42.4%. This shows that the prevalent of vesico vaginal fistula amongst the younger women is very high in northern Nigeria. But, in some cases fistula has nothing to do with age or early

marriage. (Kess, 1994) included that, the causes and prevalence of the disease is due to lack of medical facilities and ignorance of women on the need to seek for medical attention.

Knowledge regarding vesico vaginal fistula:

The result of study revealed that there was 65.8% of women have low level of knowledge about vesico vaginal fistula while only 29.5% women have moderate level. The proportion is lower as compared with the result of study conducted in Sokoto State by (Hassan and Ekele, 2009) where the proportion of women with VVF 70% had moderate knowledge and 32% had lower knowledge of causes of their fistula during health talk while on admission, but the researcher's fair is whether their knowledge can be put into practice during subsequent pregnancy. However, another study carried out by (Kazaura et al., 2011), mentioned that 60% of the women identified have the knowledge on the perceived cause of obstetric fistula where they identified prolong labour, delivery by operation through doctor/nurses but eventually they made a mistake in perforating their bladder and also young or old age of expecting mother in having sex early of at late age.

This indicates that women have poor knowledge when it comes to the emergency obstetric care during labour, they also had good knowledge level regarding to the risk factor by staying for long period during labour (77.9%) and delay for seeking medical care (66.6%). The respondents had fair knowledge level regarding to the sign and symptoms of vesico vaginal fistula as most of them had a moderate knowledge level (72.9%) among the women answered questions for the signs and symptoms which they stated that women with VVF experience foul smelling. Among the respondents 63.2% of them mention that women with VVF experience continuous leaking of urine. This shows that they still have fair knowledge on the sign and symptoms because leaking of urine is the first sign for VVF women to notice which is found significant with vesico vaginal fistula (Murphy, 1981; Harrison, 1983). We also have to consider that, due to the fact, the study combine with women with fistula and women without fistula. So it is likely that the negative responses are made by those without fistula.

When compared with the risk factor and sign and symptoms, the knowledge level on preventive measures is very low (56.8%) of women stated that VVF can be prevented by avoiding early marriage. Only 34.5% of women stated that delivery assisted by health worker can minimize the chances of having vesico vaginal fistula while, 41.1% mentioned that VVF can be reduced if there is quick early referral for medical care. The result is also similar with (Hassan MA, 2009) where she doubts whether the women can put the knowledge gained into practice. When we look at previous studies and this study, it shows that majority of the women have low knowledge level considering the fact that many donor agencies and government are doing their best in creating awareness on the prevention of fistula but still there is wide gap in the knowledge level amongst women. When women were asked whether home delivery by untrained birth attendant cause VVF, only 11.6% answered correctly, which means they doesn't consider delivery assisted by untrained birth attendant is part of the contributing factors of fistula among women. Transportation or delay for referral causes delivery complications which are very sensitive and important question but only 26.8% among the women answered correctly. Educational level and economic status of both women and the society also contributes to lack of transportation or delay in referral for emergency care. This study is also similar with the previous study conducted by Ibrahim and others (2000) where he reported that, 28% of the VVF cases caused by obstructed labour are due to delay in seeking permission from husband/ family to seek for emergency obstetric care while 25% are due to lack of transportation and 7.4% attempted for traditional remedies.

Attitude towards vesico vaginal fistula:

The study revealed that 60.8% of women had moderate attitude level towards vesico vaginal fistula. Due to the negative reaction of the societies towards women with VVF which is quite high, (Harrison, 1993) stated that women with VVF are often ostracized by their husband, families and communities. However, the result of this study shows that 46.8% of women face many changes of behaviors from their husband. A study in Africa reported that 28% of women were divorced and only 11% were allowed to stay (Murphy, 1981). Another study by (Ojanuga, 1991) revealed that in Niger republic, 63% of married women with fistula were sent back to their parents'

home where they are deprived not to cook, participate social event and the worst part is they are not allowed to perform religious rituals. The societal reaction towards women with fistula in Nigeria is the same with the previous studies, where 53% of these women found to be rejected (Kabir et al., 2004).

Due to the fact that, vesico vaginal fistula is associated with medical and psychological complications. Harrison, (1993) stated that fistula is consider to be a ‘social calamity’. Also (Robert, 1957) stated that it is one of the most frightful afflictions of human kind due to continuous leaking of urine and offensive smelling. During focus group discussion one of the participants stated her experience in having fistula as “loss of child, incontinent of urine, ashamed of having offensive odor, separation from the husband and families, unemployment, enduring the exist without friends and without hope of her future”. This could be the reasons that majority of the respondents 59.7% thought that VVF is an embarrassing disease, while 33.95 thought that VVF lowers the quality life of women and 27.6% think it is incurable disease.

Focus Group Discussion:

Focus group discussion explains the qualitative results on the maternal health status of women. The discussion revealed that women had knowledge on the risk factors of VVF but could not guarantee in practicing the preventive measures even though they stated the existence of VVF within their communities. The presence of low maternal health status among the women indicate their limited power/decision in seeking health care especially during pregnancy and delivery as stated by Kabir and others (2004).

5.2 Conclusion

Form the findings; it can be summarized by saying that, most of the women have poor access to maternal health. They also have moderate knowledge level regarding the risk factors of vesico vaginal fistula with low knowledge level about the preventive measures and moderate attitude towards it. These indicate that there is poor practice on maternal health issues which will result to increase of prevalence of vesico vaginal fistula.

The result of chi-square shows that there is significant relationship between the age of marriage women and the occurrence of vesico vaginal fistula ($p < 0.001$) and there is also relationship between the three variables and the occurrence of vesico vaginal fistula such as education ($p = 0.025$), occupation ($p < 0.001$) and marital status ($p < 0.001$). There is no significant relationship between religion and occurrence of vesico vaginal fistula ($p = 0.646$).

The relationship between the Knowledge level and occurrence of vesico vaginal fistula was found to be highly significant ($p < 0.001$) compared to knowledge level, attitude level was not found to be significant ($p = 0.432$).

Lastly, we can say that, having a fistula changes a woman's life forever. So there is need for wider research on community-based study in order to determine the actual incidence and prevalence the condition of the community and the need to develop concrete strategies toward prevention and eradication of the disease.

5.3 Recommendations

The result of the study found that there is an indication of prevalence of vesico vaginal fistula and also a gap in the knowledge level. Due to the fact that the maternal health status of the women is poor which is the common factors for the occurrence of vesico vaginal fistula. These indicate that there is inadequate awareness amongst women regarding to maternal health issues.

- The following strategies need to be adopted and implemented in order to prevent the occurrence of vesico vaginal fistula:
- There is need to define the management and delivery structure by the government especially with regard to obstetric fistula intervention.
- To develop a consolidated strategy that will sustain the awareness creation of the community.
- Government and legislators should adopt a policy on mandatory formal education for girls up to high institution.
- More female personnel to be train in order to bring maternal health services closer to the community.

- Special attention should be given to the socio cultural barriers to good reproductive health amongst women by legislating against the practice of early pregnancy and child birth in very young women which is a direct consequence of early marriage.
- There is need to empowered women through income generating activities
- Through the initiative of midwives service scheme (MSS), Government needs to increase and sustain skilled attendance at delivery point.

REFERENCES

- Abu- Zahr, C. Prolonged and obstructed labour. In C. Murray and A. Lopez (ed.), Health dimensions of sex and reproduction: the global burden of sexually transmitted diseases, HIV, maternal conditions, perinatal disorders and congenital anomalies, pp.243-66. Cambridge: Havard University Press, 1998.
- Ahmed, S., and Holtz, S.A. Social and economic consequences of obstetric fistula: life change for ever? International Journal of Gynaecology and Obstetrics 99(November 2007): S10-15.
- Airede, L.R. and Ekele, B.A. Adolescent maternal mortality in Sokoto, Nigeria. Journal of Obstetrics and Gynaecology 23(March 2003): 163-165.
- Ajuwon, A. Vesico vaginal Fistula in Nigeria: Extent of the problem & Strategies for the prevention & Control. In Primary Health Care in Nigeria,pp. 25-31. Ibadan: KA Health, 1997
- Ampofo, K., Otu, T., Uchebo, G. Epidemiology of Vesico Vaginal Fistula in Northern Nigeria. West African Journal of Medecine 9(April-June 1990): 98-102.
- Angioli, R., Gómez-Marín, O., Cantuaria, G., and O'sullivan, M.J. Severe perineal lacerations during vaginal delivery: the University of Miami experience. American journal of obstetrics and gynecology 182(May 2000):1083-1085.
- Arrowsmit, S., Hamlin, E.C., Wall, L.L. Obstetric labour injury complex: Obstetric fistula formation and multifaceted mortality of maternal birth trauma in developing world. Obstetrical and Gynecological Survey 51(September 1996): 568-574.
- Ashford, L. (2002). Hidden suffering: Disabilities from pregnancy and childbirth in less developed countries. Population reference bureau [Online]. 2002. Available from:
<http://www.prb.org/Publications/PolicyBriefs/HiddenSufferingDisabilitiesFromPregnancyandChildbirthinLDCs.aspx>[2012,December]
- Bacon, C., UNFPA, and EngenderHealth. Obstetric Fistula needs assessment reprot: findings from nine African countries. New York: UNFPA: EngenderHealth, 2003.

- Balogun, S.K. The VVF victims. Ibaden: Stirling-Horden Nig. Limited, 1995.
- Bello, K. (2006). A Selection of Essay: Vesico Vaginal Fistula in Nigeria (VVF): Only to a woman Accursed.[Online]. 2006. Available from: <http://www.idr.ca/en/env>[2012, September]
- Bloom, B.S. Taxonomy of Educational Objectives. The Classification of Educational Goals, Handbook 1: Cognitive Domain. New York: (1965). David Mckay Companying.[Online].Available from:
- Browing, A., and Patel, T.L. FIGO initiative for the prevention and treatment of vaginal fistula. International Journal of Gynaecology and Obstetrics 86(August 2004):317-22.
- Cater, B. L. et al. "Vesico vaginal fistula". American Journal of Obstetric and Gynaecology 63(1952):479-496.
- Cook, R.J., Dickens, B.M., and Syed, S. Obstetric fistula: The challenge to human right. International Journal of Gynaecology and Obstetrics 87(October 2004): 72-77.
- Cron, J. Lessons from the developing world: obstructed labor and the vesico-vaginal fistula. Medscape General Medicine 5(August 2003): 24.
- Derry, D.E. Note on five pelves of women of the eleventh dynasty in Egypt. Journal of Obstetrics and Gynaecology of the British Empire 42(1935):490-498.
- Duysburg, E., Reyners, M., Illyasu, Z., Medina, M. Thematic Evaluation of National Programmes and UNFPA experience in the campaign to End Fistula. Nigeria Country Assessment: Belgium: July 2009. [Online]. Available from: <http://www.maternal-health.org/downloads/unfpa-evaluierungsbericht-ureber-die-end-fistula.pdf>. [2012, September].
- Harison, K.A. Obstetric fistula: One social calamity too many. British Journal of Obstetrics and Gynaecology 90(1983): 385-6.
- Hassan, M.A., and Ekele, B.A. Vesicovaginal fistula: do the patients know the cause? Annals of African Medicine 8(April-June 2009): 122-126.
- Hilton, P. Vesico-vaginal fistula in developing countries. International Journal Gynecology and Obstetrics 82 (September 2003): 285-95.
<http://www.oise.utoronto.ca/research/edu/20/moments/1965bloom.html>.

- Ibrahim, T., Sadig, A.U., and Daniel, S.O. Characteristics of VVF patients as seen at the specialist hospital. West African Journal of Medicine 19(January-March 2000):59-63.
- Ijaiya, M.A., and Aboyeji, P.A. Obstetric urogenital fistula: the Ilorin experience, Nigeria. West African Journal of Medicine 23(January-March 2004): 7–9.
- Ijaiya, M.A., Rahman, A.G., Anoyeji, A.P. (2010). Vesico Vaginal Fistula; A review of Nigerian Experience. West African Journal of Medicine 29(September-October 2010):293-298.
- Kabir, M., Iliyasu, Z., Abubakar, I.S., and Umar, U.I. Medico-social problems of patients with vesicovaginal fistula in Murtala Mohammed Specialist Hospital, Kano. Annals of African Medicine 2(2003): 54–57.
- Kazaura, M.R., Kamazima, R.S., and Mangi, E.J. Perceived causes of obstetric fistula from rural southern Tanzania. African Health Sciences 11(September 2011):377-382.
- Kebbi State of Nigeria: Nigeria Information & Guide- Nigeria Galleria. [Online]. Available from:
http://www.nigeriagalleria.com/nigeria/state_Nigeria/Kebbi_State.html.
- Kelly, J., and Kwast, B.E. Epidemiologic study of vesicovaginal fistulas in Ethiopia. International Urogynaecology Journal 4(October 1993): 278–281.
- Lewis, G., and de Bernis, L. Obstetric fistula: Guiding principles for clinical management and programme development. Integrated management of pregnancy and childbirth. Geneva:WHO Press, 2006.
- Likert, R., Roslow, S. and Murphy, G. A Simple and Reliable method of scoring the Thorstone Attitude scales. Journal of Social Psychology 5 (1934):228-238.
- Lindros, A., and Lukkainen, A. Antenatal care and maternal mortality in Nigeria. Public Health Programme-exchange to Nigeria. [Online]. 2004. Available from: <http://www.antenatal-nigeria.com> [2013, January]
- Magashi, A. Female Genital Mutilation and our societies, 2006.
- Metro, M.J. Modification of O'Connor's technique for the treatment of VVF repair describe. [Online]. 2006. Available from: <http://www.medicalnewstoday.com/releases/40490.php> [2012, October]
- Moir, J. C. The vesico vaginal fistula. London: Spinders company, 1967.

- Muleta, M. Obstetric fistula in developing countries: A review article. Journal of Obstetrics and Gynaecology Canada 28(November 2006):962-966.
- Murphy, M.. Social consequences of vesico-vaginal fistula in northern Nigeria. Journal of Biosocial Science 13(April 1981): 139-150.
- Murray, C.,and Lopez, A. A global burden of disease: A comprehensive assessment of morbidity and disability from disease, injuries and risk factors in 1990 and projected to 2020. Cambridge, MA: Harvard University press, 1996
- Nanchi, C.O. Female circumcision in Igboland. Nigerian daily tribune. (17 February 2007): 9.
- Nigeria Demographic and Health Survey (NDHS). National Population Commission.[Online]. 2008. Available from: <http://www.population.gov.ng> [2012,September]
- NPC.National Demographic and Health Survey.[Online]. 2008. Available from: <http://www.population.gov.ng>[2012, October]
- NPHCDA. Department of PHC System Development: Midwives Service Scheme 2009. [Online]. Available from: <http://www.nphcda.org/department-of-phc-system-development>. [2012, November].
- Ojanuga Onolemhemen, D., Ekwempu., C.C. An investigation of sociomedical risk factors associated with vaginal fistula in Northern Nigeria. Women Health 28(1999): 103-116.
- Orji, E.O., Adeloju, O.P., and Orji, V.O. Correlation and impact of obstetric fistula on motherhood. Journal of Chinese Clinical Medicine 2(August 2007): 448-454.
- Ramsey, K., Iliyasu, Z., and Idoko, L. Fistula Fortnight: innovative partnership brings mass treatment and public awareness towards ending obstetric fistula. International journal of gynaecology and obstetrics 99(November 2007): S130-136.
- Riviz, J.H. Genital fistula A continuing tragedy. Journal of Obstetrics and Gynaecological Research 25(1999): 1-7.
- Shittu, O.S., Ojengbede, O.A., and Wara, L.H. A review of postoperative care for obstetric fistulas in Nigeria. International Journal of Gynaecology and Obstetrics 99(November 2007): S79-84.

- Tahzib, F. "Vesico vaginal fistula in Nigerian children". Lancet 2(December 1985): 1291-1293.
- Tahzib, F. Epidemiological determinants of vesicovaginal fistulas. British Journal of Obstetrics and Gynaecology 90(May 1983): 387-391.
- Tsui, A.O., Creanga, A.A., and Ahmed, S. The role of delayed childbearing in the prevention of obstetric fistula. International Journal of Gynaecology and Obstetrics 99(November 2007): S98-107.
- Ujah, A. O., Aisien, O.A., Mutahir, J.T., Vanderjagt, D.J., Glew, R.H., and Uguru, V.E. Factors Contributing to Maternal Mortality in North-Central Nigeria: A seventeen Year Review. African Journal of Reproductive Health 9(December 2005): 27-40.
- Umoyoho, A.J., and Inyang-Etoh, E.C. Community misconception about the aetiopathogenesis and treatment of vesicovaginal fistula in northern Nigeria. International Journal of Medicine and Biomedical Research 1(September-December 2012): 193-198.
- UNFPA and Engender Health. Obstetric Fistula Needs Assessment Report: Finding from Nine African Countries New york; 2003. [Online]. 2003. Available from: <http://www.unfpa.org/fistula/docs/fistula-needs-assessment.pdf>. [2012 September].
- UNFPA. Campaign to End Fistula. 2003 [Online]. Available from: www.endfistula.com.
- UNFPA. Campaign to End Fistula. Frequently Asked Questions. [Online]. 2012. Available from http://www.endfistula.org/q_a.html [2012, October]
- UNFPA. Report on the meeting for the prevention and treatment of obstetric fistula: London: July 2001. [Online]. 2001. Available from: https://www.unfpa.org/upload/lib_pub_file/181_filename_report_july2001.pdf [2012, December]
- UNFPA. State of the world population. [Online]. 2005. Available from: www.unfpa.org/org/sup/2004/english/ [2012, October]
- UNICEF, UNFPA, WHO. Maternal mortality in 2000: Estimates developed by WHO, UNICEF AND UNFPA. Geneva: WHO 2004 [Online] 2004. Available from: http://www.whqliboc.who.int/hq/2000/a8_1531.pdf.

- UNICEF. Child spouses. [Online]. 2001. Available from: www.unicef-irc.org/publications/pdf/digest7e.pdf[2012,November]
- Vangeenderhuysen, C., Prual, A., and Ould el Joud, D. Obstetric fistula: incidence estimates for sub-Saharan Africa. International Journal of Obstetrics and Gynecology 73(April 2001): 65-66.
- Velez, A., Ramsey, K., and Tell, K. The Campaign to End Fistula: What have we learned? A finding of facility and community needs assessments. International Journal of Gynaecology and Obstetrics 99(November 2007): S143-150.
- Waldijk, K. The immediate management of fresh obstetric fistulas. American Journal of Obstetrics and Gynaecology 191(September 2004): 795-799.
- Wall, L.L. Dead mothers and injured wives. The social context of maternal morbidity and mortality among the Hausa of northern Nigeria. *Studies in Family Planning* [Online]. 1998. Available from: <http://www.jstor.org/stable/172248> [2013, January]
- Wall, L.L., Arrowsmith, S.D., Briggs, N.D., and Lassey, A.(2003). Urinary Incontinence in the Developing World: The Obstetric Fistula. [Online]. 2003. Available from: <http://www.fistulafoundation.org/pdf/UIDW.pdf> [2012,December]
- Wall, L.L., Karshima, A.K., Kirschner, C., and Arrowsmith, S.D. The obstetric vesicovaginal fistula: Characteristics of 899 patients from Jos, Nigeria. American Journal of Obstetric and Gynaecology 190(April 2004): 1011-1019.
- WHO. Female Genital Mutilation: An Overview. Geneva: World Health Organization, 1998.
- WHO. Obstetric Fistula: Guiding principle for clinical management and programme development. Geneva: WHP Press, 2006.
- WHO. Reproductive health indicators data base. [Online]. 2006. Available from: <http://www.who.int/reproductiveindicators/countrydata>[2012, October]
- WHO. The World Health Report: Make Every Mother and Child Count. [Online]. 2005. Available from: <http://www.who.int/whr/2005/en/index.html> [2012, October]
- Zacharin, R.F. A history of obstetric vesicovaginal fistula. Australian and New Zealand Journal of Surgery 70(December 2000): 851-854.

APPENDICES

APPENDIX A Community based questionnaire

Serial Number..... Household Number.....

Ward.....

Settlement.....

The questionnaire has 6 sections:

1. Social Demographic /Socio-cultural characteristics.
2. Access and Utilization of Health services
3. Maternal Health status of the women.
4. Knowledge level regarding vesico vaginal fistula amongst women suffering from vesico vaginal fistula and those without vesico vaginal fistula.
5. Attitude towards vesico vaginal fistula amongst women suffering from vesico vaginal fistula.
6. Preventive measures adopted by women with vesico vaginal fistula and those without fistula.

A. Socio demographic /Socio-cultural characteristics

Instruction: - The following questions from 1-8 ask about socio demographic/cultural information. Please tick in the bracket (), and also write in the space provided when necessary.

1. Current Age.....
2. What is your Tribe?
 - () 1. Hausa
 - () 2. Fulani
 - () 3. Dakarkari
 - () 4. Others..... (Specified)
3. Which religion do you belong to?
 - () 1. Islam
 - () 2. Christianity

- () 3. Tradition
- () 4. Others..... (Specified)
4. Current Educational level
- () Quaranic School
- () Primary School
- () Secondary School
- () Tertiary Institution
- () None
5. Current Occupation?
- () 1. House wife
- () 2. Daily employment
- () 3. Petty trading
- () 4. Animal husbandry/poultry
- () 5. Others..... (Specify)
6. Current marital status?
- () 1. Married
- () 2. Widow
- () 3. Divorce
- () 4. Separated
7. Age at first marriage
(.....) years old
8. Number of Living Children
(.....)

B. Access and Utilization of Health services

Instruction: The following questions from 1-11 are about access and utilization of health services.

- Please tick in the bracket (), also write in the space provided when necessary.
9. What type of health facility is available in your village?
- () 1. Public health facility
- () 2. Private health facility

- () 3. Traditional healers
- () 4. Home visit by health worker
- () 5. Others..... (Specify)

10. What is the distance from your house to the nearest health facility?

- () 1. 1 Km
- () 2. 2 Kms
- () 3. 3 Kms
- () 4. >4 Kms

11. Where do you go for health care services?

- () 1. Public health facility
- () 2. Private health facility
- () 3. Traditional healers
- () 4. Others..... (Specify)

If the answer is 3, 4, move to question 4

If the answer is 1, 2, skip to question 5

12. What are the reasons for not going to a health facility

- () 1. Poor road network
- () 2. Financial constraints
- () 3. Lack of transportation
- () 4. No husband support
- () 5. Others (Specify)

13. What is the mode of transportation to reach there?

- () 1. By foot
- () 2. By bicycle
- () 3. By public transport
- () 4. Others..... (Specify)

14. How do you finance for your health care?

- () 1. Out of pocket
- () 2. Husband support
- () 3. Parent support
- () 4. Free government service at the health Centre

- () 5. Other..... (Specify)
15. Is there a female staff to provide services to women?
- () 1. Yes
- () 2. No
16. Is opening hours to that health facility suitable for you?
- () 1. Yes
- () 2. No
17. Did you attend ANC checkup during pregnancy?
- () 1. Yes
- () 2. No
18. Where do you normally prefer to go when you have any health problem?
- () 1. Public health facility
- () 2. Private health facility
- () 3. Traditional healers
- () 4. Others..... (Specify)
19. Where did you get information regarding the various health problems?
- () 1. Radio
- () 2. Posters/Pamphlet
- () 3. T.V
- () 4. Health worker
- () 5. Others (Specify)

C. Maternal Health Status

Instruction: The following questions are about maternal health.

Please tick in the bracket (), also write in the blank space provided when necessary

20. At what age did you have your first delivery?
.....years old.
21. How many pregnancies have you had in total including (still birth/abortion/deaths)?

.....
 22. Do you know or heard about VVF before?

() 1. Yes

() 2. No

23. If yes, where did you heard about it?

() 1. Radio

() 2. Television

() 3. Health worker

() 4. Family members

() 5. Others..... (Specify)

24. Do you experience continuous leaking of urine?

() 1. Yes

() 2. No

If yes, move to question 6

If no, move to question 11

25. How long?

.....days/months/years

26. Do you experience foul smelling?

() 1. Yes

() 2. No

27. Do you have itching of the vulvar?

() 1. Yes

() 2. No

28. Have you been diagnosed by medical doctor/personnel?

() 1. Yes

() 2. No

29. What do you think is the cause of your fistula?

() 1. Prolong/obstructed labor

() 2. Delay in seeking medical care

() 3. Delay in reaching health center

() 4. Delay in medical care

() 5. Female genital mutilation

30. Where did you normally deliver your baby?
- 1. At home
 - 2. Public Hospital
 - 3. Private Hospital
 - 4. Others..... (Specify)
31. Who assisted you during delivery?
- 1. Trained Traditional Birth Attendance
 - 2. Untrained Traditional Birth Attendance
 - 3. Health worker
 - 4. Others..... (Specify)
32. What is the duration of your last labor
- 1. Hours
 - 2. Days.....
33. What is the nature of the delivery?
- 1. Normal (Spontaneous/Manual handling) Tick the appropriate
 - 2, Caesarean (Alive child/dead child) Tick the appropriate
34. How many times have you attend ANC during your last pregnancy?
- 1. > 4 times
 - 2. 4 times
 - 3. 3 times
 - 4. 2 times
 - 5. Once
 - 6. None
35. How many times have you attend PNC after delivery your last child?
- 1. None
 - 2. Once
 - 3. Many times
36. Who normally take decision in seeking health care during your pregnancy & delivery?
- 1. Father/Mother in-law
 - 2. Husband
 - 3. Other relatives

() 4. Yourself

If the answer is 1, 2, 3 skip question 18

If the answer is 4 move to question 19

37. What is your role in decision making in the family?

..... (Specify)

38. After how many days from your delivery you start doing your household work?

..... (Specify)

D. Knowledge about vesico vaginal fistula:

Instruction: The following questions 1-12 are about knowledge on vesico vaginal fistula amongst women whom have vesico vaginal fistula and those who do not have vesico vaginal fistula. Tick in the column for the best answer only.

Yes means they have knowledge. No means they do not have knowledge.

If answer cannot be decided whether yes or no, choose "Don't know"

STATEMENT	YES	NO	DON'T KNOW
39. Does home delivery conducted by untrained birth attendant cause vesico vaginal fistula?			
40. Does early pregnancy cause delivery complication resulting to vesico vaginal fistula?			
41. Does staying for long period during labor cause vesico vaginal fistula?			
42. Does delay for seeking medical care cause vesico vaginal fistula?			
43. Does lack of transportation or delay for referral causes delivery complications			
44. Does woman with vesico vaginal fistula experience continuous leaking of urine?			
45. Does a woman with vesico vaginal			

fistula have painful ulceration and wetness from the vagina?			
46. Does woman with vesico vaginal fistula experience foul smelling?			
47. Does vesico vaginal fistula causes paralysis or foot drop?			
48. Do you think vesico vaginal fistula can be repaired?			
49. Can vesico vaginal fistula be prevented by avoiding early marriage?			
50. Can delivery by health worker minimize the chances of having vesico vaginal fistula?			

E. Attitude towards vesico vaginal fistula:

Instruction: The following questions 1-8 are about attitude vesico vagina fistula amongst women suffering from vesico vaginal fistula and those who do not have vesico vaginal fistula. Please tick in the column for the best answer only.

Agree means the statement is correct.

Disagree means the statement is not correct.

If answers cannot be decided whether agree or disagree, choose “Uncertain”

STATEMENT	AGREE	UNCERTAIN	DISAGREE
51. Vesico vaginal fistula is un-curable disease.			
52. Vesicio vaginal fistula is an embarrassing disease.			
53. Do you feel shy to talk about vesico vaginal fistula with your husband and relatives?			
54. Do you think women with vesico vaginal fistula have faces many changes of behavior from their			

husband?			
55. Will you take your relative to the health center for treatment if they suffer from VVF			
56. Should women with vesico vaginal fistula be invited to community function?			
57.. If there is a woman with VVF, could you like to be friend with the woman?			
58. Do you think vesico vaginal fistula lowers the quality of life of women?			

F. Preventive measures towards vesico vaginal fistula:

Instruction: The following questions are about preventive measures towards vesico vaginal fistula amongst women with and without vesicovaginal fistula.

Please tick in the bracket provided (), also write in the blank space provided where necessary.

59. How did you gain information about the preventive measures of vesico vaginal fistula?

Can answer more than 1 question.

- () 1. Health center
- () 2. Family or friends
- () 3. Radio
- () 4. T.V
- () 5. Pamphlet
- () 6. Never get any information

60. Do you agree for a defined age for marriage?

- () 1. More than 18years

() 2. Less than 18 years

61. What do you think is the most important way in creating awareness among women in preventing VVF?

() 1. School education

() 2. Radio/TV programs

() 3. Awareness campaign

() 4. Health Education

62. What do you think can be done to prevent VVF?

1. By government.....
2. By community.....
3. Any other way.....

Thank you for participation.

APPENDIX B Focus Group Discussion Guideline

The guideline for the FGD is as follows:

How can you describe VVF?

What do you think are the contributing factors for VVF?

What are the attitudes of community towards VVF?

Will you be able to take any preventive measures?

If no, what are your reasons for not taking any preventable measures?

VITAE

Name : Mrs. Saudat Abdullahi Basheer
Date of birth : 9th August, 1964
Place of birth : Birnin Kebbi
Nationality : Nigerian
Education : Registered Nurse, Registered Midwife, Higher Diploma in
Community Health and Post graduate Diploma Public Policy
and Administration.

Academic publication:

Work: State co-coordinator women in health (MOH)
Sokoto State from- 1988-1990
Deputy Director Health, State women commission,
Sokoto State from – 1990-1991
Assistant NPI Manager (MOH), Kebbi State from-1991-2003
State Immunization Officer (MOH), Kebbi State
From-2003-2012
Director Immunization services, State Primary Health Care
Development Agency, Kebbi State.