DECLARATION

I, Nchimunya Nambala, declare that this Dissertation represents my own work and that all the sources I have quoted have been indicated and acknowledged by means of complete reference. I further declare that this Dissertation has not previously been submitted for a Degree, Diploma or other qualifications at this or another University. It has been prepared in accordance with the guidelines for Master of Science in Nursing Dissertations of the University of Zambia.

Signed ---------- Date.----------

(Candidate)

Approved---------- Date----------

(Supervisor)

CERTIFICATE OF APPROVAL

The University of Zambia approves this Dissertation on Women's Intention to Prevent Vesico vagina Fistula Recurrence in partial fulfillment of the requirements for the award of Degree of Master of Science in Nursing.

Examiner's signature…… Date…….

Examiner's signature……Date……...

Examiner's signature…….Date……..

DEDICATION

I dedicate this study to the Nambala family and my two children Benson and Bruno for all the time and love that I denied them while pursuing my Master of Science in Nursing Degree.

To my husband Mr B. Tembo for his undivided love and encouragement to complete this study successfully.

I also dedicate this study to my late father Mr A.M. Nambala who encouraged me to study hard in life.

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LIST OF ABBREVIATIONS

ANC	Antenatal Care
CSO	Central Statistics Office
FCI	Family Care International
FGDs	Focus Group Discussions
FGM	Female Genital Mutilation
IEC	Information, Education and Communication
MOH	Ministry of Health
NGO	Non Governmental Organization
TBA	Traditional birth Attendant
WHO	World Health Organization
UN	United Nations
UNFPA	United Nations Population Fund
UTH	University Teaching Hospital
EmOC	Emergency Obstetric Care
RVF	Recto Vaginal Fistula
VVF	Vesico Vaginal Fistula

ABSTRACT

Vesico vaginal fistula is the commonest urogenital fistula in Zambia**.** According to United Nations Population Fund, annual report (2009), the number of fistula repairs have increased from 133 in 2005 to 252 in 2008 country wide.

The purpose of the study was to determine the association between intention to prevent Vesico vaginal fistula recurrence and knowledge of the risk factors of Vesico vaginal fistula recurrence, attitude towards Vesico vaginal fistula prevention and self esteem among women with Vesico vaginal fistula in two repair centres in Zambia.

A descriptive correlation cross sectional study design was used. Data were collected from a convenient sample of 75 women aged 15-41 years in Katete and Chilonga Mission Hospitals using structured interview schedules. Data were analyzed using descriptive statistical (mean, standard deviation) and inferential statistical (spearman's correlation coefficient, Regression) methods.

Literature review revealed that majority of the respondents were aged 15-19 years, married (75%), had primary education (75%) and developed Vesico vaginal fistula between the ages of 12-25 years (69%). Most of the respondents' primary spoken language was Bemba (67%). All the respondents were Christians. Some of the respondents were self employed (43%). Less than half of the respondents took one hour or less to walk to the health care facility (37%).

Almost half of the respondents (40%) had no children. More than one third of the respondents (39%) attended antenatal clinic for antenatal check up four times in the most recent pregnancy. Majority of the respondents (80%) delivered their last baby at the hospital. Almost two thirds of the respondents (69%) were in labour for more than 24 hours during the pregnancy that resulted in the development of Vesico vaginal Fistula. Almost all the respondents (91%) were diagnosed with Vesico vaginal Fistula for the first time and prolonged obstructed labour was recorded as the cause of Vesico vaginal fistula for majority of the respondents (91%).

Majority of the respondents (97%) had positive intentions to prevent Vesico vaginal fistula recurrence (Mean= 2.58; SD =0.31). More than half of the respondents (55%) knew the risk factors of Vesico vaginal fistula recurrence (M = 0.59; SD = 0.165), 61% had positive attitudes towards Vesico vaginal fistula prevention (Mean = 2.09; SD = 0.289), and 52% had low level of self esteem (Mean = 1.5; SD =0.28).

There was a significant positive relationship between intention to prevent Vesico vaginal fistula recurrence and attitude towards Vesico vaginal fistula prevention (r^2 = 0.26, n=75, p=0.01, 2 tailed); and a significant negative relationship between intention to prevent Vesico-vaginal fistula recurrence and self esteem (r^2= -0.25, n=75, p=0.05, 2 tailed) but there was no significant relationship between intention to prevent Vesico vaginal fistula recurrence and knowledge of the risk factors of Vesico vaginal fistula recurrence.

Using multiple regressions, the model was significant with 2 independent variables explaining 15% of the variance in intention to prevent Vesico vaginal fistula recurrence. The strongest independent variable (as assessed by the standardized regression coefficient, β) was attitude (β=.299) followed by self esteem (β=.270). Knowledge was not significant (β=.062).

The recommendations of the study are that the Ministry of Health should introduce waiting homes in hospitals with emergency obstetric care so that repaired women can wait for delivery in their subsequent pregnancy, strengthen on the already existing policy on management of prolonged obstructed labour so as to enable skilled attendants to adhere to it when managing women with a repaired VVF and formulate Vesico vaginal fistula registers for easy follow up of repaired women.

The major conclusion and implication of the study is that Ministry of Health needs to support community sensitization or public education on attitudes towards Vesico vaginal fistula prevention which will in turn improve intentions to prevent Vesico vaginal fistula recurrence among women.

Keywords: Women's intention; Vesico vaginal fistula; Recurrence; repair centres, Zambia.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Urogenital fistulae can have a daunting impact on multiple spheres of a person's life, disrupting physical status, emotional wellbeing and physical relationships. The term 'fistula' refers to an abnormal duct or opening that occurs as a result of injury, disease or disorder that connects a hollow organ in the body to another (Ijaiya, 2004). Vesico vaginal fistula (VVF), the most common urogenital fistula, is an abnormal opening between a woman's vagina and bladder from which her urine continually leaks through the vagina. It is a very unpleasant experience for the patients, and it is considered as one of the most dehumanizing conditions that afflict women (Wall *et al.,* 2004).

Vesico vaginal fistula is a debilitating complication of obstructed labour in developing countries while 90% of VVF's in developing countries are attributed predominantly to inadvertent bladder injury during pelvic surgery (Spurlock, 2009). If obstructed labour is not treated by Caesarean section, it can result in death of the baby and the mother or fistule for women who survive.

Although it is difficult to determine precise rates, it is estimated that there are at least two million women living with fistule, primarily in sub-Saharan Africa and Asia and some 50,000 to 100,000 women are affected each year (UNFPA, 2003). The prevalence of the total VVF in Zambia in all provinces which were reported in 2003 was 0.46%. This excluded those cases in the villages unreported to the health facilities (Mkumba *et al.,* 2003). In Zambia, this dire picture of VVF occurs against a backlog of 83% of the rural and 56% of the urban population living in poverty (Holme *et al.,* 2006).

Unfortunately, some women get recurrences of VVF, either from poor healing or during subsequent pregnancies (Holme *et al.,* 2006; Gutman, 2007). The chances of success of VVF repair during second or third attempts are very low. In Zambia, Holme *et al.,* (2006) reported that the failure rate of surgery increased three fold if the women had experienced one or more previous attempts. Hence, it is vital that women with VVF have the desire and follow prescribed ways in order to prevent VVF recurrence.

There are several ways that can be used to improve women with VVF's intention to prevent recurrence including; giving them adequate information on risk factors of VVF recurrence, improving their attitude towards prevention and boosting their self esteem so that they actively participate in activities that would reduce chances of VVF recurrence (Hassen & Ekele, 2009).

Women should be given information on risk factors of VVF which include; use of unskilled birth attendants, refusing Caesarean section after repair of VVF, delay in seeking obstetric care and use of toxic vaginal herbs (Hassen & Ekele, 2009; Holme *et al.,* 2006). There are harmful traditional practices that deny women access to care, or impose seclusion for women with VVF. Such practices are demeaning and would lead to women shunning opportunities to get information on prevention of VVF recurrence.

Giving birth at home with the assistance of an elderly woman or traditional birth attendant is considered the preferred and respected way to give birth in developing countries (WHO, 2005). Women do not consider their local hospitals and clinics to be places where they could ever seek such care and, therefore, do not go when there is an obstetrical emergency. Also many women with VVF live in very rural areas and, therefore, access to emergency services often requires some form of travel and mostly they cannot afford transportation costs (WHO, 2005). Women with fistule often travel long distances to reach repair services and many live with the condition for numerous years. Early intervention normally prevents fistule (Donnay & Weil, 2004) but women often suffer for days (Muleta, 2004) without emergency obstetric care (EmOC), as many come from rural areas with poor access to health care. It is estimated that 80% of women with fistule never seek treatment, yet when repaired by an expert, success rate are reported as high as 87-93% (Gessessew & Mesfin, 2003).

Sometimes women requiring Caesarean sections may not give consent for the procedure to be carried out before complications such as VVF occur. This is because some women will wait for their husbands to give consent; other women are scared of anaesthesia, while others feel caesarean section is for lazy women (WHO, 2005). Therefore, such women would try to deliver vaginally unless a complication occurs. Seeking out the option of surgery versus a vaginal birth, in certain places, is also thought to be less womanly and unnatural. This negative perception of surgery can greatly influence a woman's decision to not seek out emergency obstetrical treatment (WHO, 2005).

In many instances, receiving treatment from a male physician is not pursued or considered a real option due to the religious or cultural violations connected with a male treating a woman who is not his wife or intimate partner. This is an opinion held by both men and women in various parts of the world (WHO, 2005; UNFPA, 2004).

Roush (2009) states that all studies agree that VVF has negative social implications for women in Africa causing moderate to severe disruptions in family and community relationships, ability to work, and religious observance practices. Women with obstetric fistule mention offensive odour as a source of shame, stigma and isolation (Roush, 2009). Shame and stigma cause disruption in practices of religious observation, isolating women at their places of worship or preventing them from practising their faith at all. The majority of women who sustain an obstetric fistula are abandoned by their husbands and many are also shunned by their families. All these could lead to low self esteem which impacts on receptiveness to preventive measures.

In 2003, United Nations Population Fund (UNFPA) and its partners launched the first-ever global Campaign to end fistula by preventing fistula from occurring or reoccurring, treating women with VVF, renewing the hopes and dreams to affected women and helping women who have undergone treatment return to full and productive lives. The Campaign brought fistula to the attention of a wide audience, including the general public, policy-makers, health officials and women with fistula. This campaign has, hence, allowed countries to identify existing capacities and expertise and to design national programs that build on this existing strength.

UNFPA conducted a needs assessment in 2003 to gain a clear picture of obstetric fistula in Zambia. The analysis revealed that hospitals without anaesthetic machines were not able to perform Caesarean section and suturing of third degree tear. Despite, having hospitals that offered repairs, many patients were not able to travel because of lack of finances.

In Zambia, UNFPA embarked on periodic outreach fistula repair for 10 days per camp. The first fistula repair camp was held in 2008 and the second in 2009. In Mansa, 45 patients went for repair in 2008 and 78 in 2009. Of the 45 patients, only 33 were repaired in 2008 and of the 78 in 2009, only 37 were repaired. Similarly in Chipata, 45 patients went for repair in 2009 and only 42 were repaired. This is due to lack of experts to conduct all the repairs. These figures confirm the seriousness of the fistula problem in Zambia and suggest the importance of educating women with VVF on the risk factors of VVF recurrence and prevention of fistula. If nothing is done to educate

women with VVF about the risk factors of VVF recurrence and encourage them to seek preventive measures, VVF will continue consuming enormous health care resources with regards fistula repairs. This study therefore aims to determine intention to prevent VVF recurrence among Zambian Women with VVF.

1.2 STATEMENT OF THE PROBLEM

Despite measures put in place by government, non-governmental organizations and United Nations Agencies, VVF still remains the commonest urogenital fistula in Zambia. From January 2006 to June 2009, out of the 417 patients who underwent surgery for repair of urogenital fistula, 95% had VVF, 3% Recto Vaginal Fistula (RVF) and 2% had both VVF and RVF (Monze Mission Hospital Theatre Records, 2009).

According to UNFPA annual report (2009), the number of fistula repairs have increased from 133 in 2005, 162 in 2006, 147 in 2007 and 252 in 2008 country wide. However, there is under reporting of fistula cases with statistical variations appearing in Ministry of Health (MOH) and Hospital report (Mkumba, *et al.,* 2003; Holme *et al.,* 2006). Further, there are inadequate health care professionals and facilities for fistula repair. Several women with VVF do not undergo fistula repair due to shortage of professional staff. Hence, since the fistula camps started in 2008, only 112 patients have been repaired in Zambia (UNFPA, 2009) due to shortage of professional staff and 140 were turned away. Cost for this VVF repair, which includes the actual surgery, post-operative care and rehabilitation support, is estimated to be US$300 - $450 per patient.

VVF can have devastating consequences for women in the developing world, showing a divorce rate of 36% to 67%, stillborn rate of 55.6% to 85%, childlessness 83.3%, and frequent maternal loss of self-esteem, depression and suicidal thoughts (Wall, 2004; Jaffie, 2008; Holme *et al.,* 2006). This scenario may contribute to low self-esteem among women as culturally childless women are looked down upon in society.

The MOH Health institutions attempt to carry out repairs of the VVF as a solution. However, the outcome of VVF repair is not always successful. Table 1 shows the outcome of surgery for first and subsequent attempts. Unsuccessful repair underscores the need for women to have positive attitude and intention to prevent VVF recurrence.

TABLE 1: OUTCOME OF SURGERY BY REPAIR ATTEMPT AT MONZE MISSION HOSPITAL (N = 252 OPERATIONS)

	Outcome of surgery by repair attempt					
	Cured		Not Cured		Stress incontinence	
First overall repair	139	75.5%	12	6.5%	33	17.9%
One or more previous repair	44	64.7%	13	19.1%	11	16.2%
Total	183	72.6%	25	9.9%	44	17.5%

Holme, 2006

VVF recurrence also predisposes to decreasing success rate of fistula repair (Cron, 2003; Hilton, 2003). Table 2 shows that VVF repair success rate decreases as number of attempts increase. It is imperative that women with VVF should be aware of ways to prevent recurrence of VVF so that they do not suffer consequences of unsuccessful repair and in order to increase the success rate of VVF repair (Gutman, 2007).

TABLE 2: DECREASING SUCCESS RATES OF FISTULA CLOSURE WITH MULTIPLE ATTEMPTS

Successful repair	Number of patients
First attempt	70/82 (85%)
Second attempt	6/12 (50%)
Third attempt	2/6 (33%)

Elkins, 1994

This study which has not previously been done before in Zambia will bring about greater understanding of women with VVF's intention to prevent recurrence of VVF.

1.3 **THEORETICAL FRAMEWORK**

Health Related Hardiness Model has been used to guide this study. Pollock (1984) developed the concept of Health related hardiness model while studying adaptation response of individuals to chronic illness such as diabetes mellitus, hypertension and rheumatoid arthritis. The health-related hardiness model reflects the extent to which individuals are committed to health related activities, perceive health as controllable and approach potential health stressors as an opportunity for personal growth (Pollock, 1986). Hardiness is defined as a personality characteristic that enables individuals to remain healthy (Kobasa, 1979) and adapt to illness (Pollock, 1986).

Health related hardiness is a personality resource comprising of (a) the commitment dimension which represents the appraisal and coping strategies on individuals used in adaptation to chronic illness or an ability to feel deeply involved in or committed to the activities in their lives.(b) the

control dimension, which represents the use of ego resources necessary to appraise, interpret, and respond to health stressors or the belief that individuals can control or influence occurrence of disease in their lives and (c) challenge domain, which represents the reappraisal of the health stressors as potentially beneficial or rewarding rather than threatening or harmful or the anticipation of change as an exciting opportunity for further development (Kobasa, 1979). Most investigators have hypothesized that persons who experience high degrees of stress without succumbing to an illness are harder than persons who become ill. Pollock (1989) suggested that the hardy individuals engage in health promotion activities that promote physiological and psychological adaptation.

The hardy attitudes have emerged as the 3Cs of commitment, control and challenge (Maddi, 2002; Maddi & Kobasa, 1984). If one is strong in commitment, she/he would want to stay involved with the people and events in the world, even when the going gets rough, because that seems to them the way to maintain and find meaning in their lives. Pulling back into isolation and alienation seems like a mistake. If one is strong in control, she/he want to keep trying to influence the outcomes going on around them, even if that is difficult, because that keeps them involved in their lives. Sinking into powerlessness and passivity is not an answer. If one is strong in challenge, she/he think of stress and change as inevitable, and an opportunity to grow by finding new avenues of meaning, and learning more about experiences and life.

It is the interactive combination of commitment, control and challenge that defines hardiness as the existential courage to face stressful circumstances openly and directly, and the motivation to do the hard work of dealing with them constructively (Maddi & Khoshaba, 2001; Maddi, 2002). The buffering effect of hardy attitude is shown in decreasing mental and physical illness symptoms and lead to the maintenance and enhancement of performance under stress.

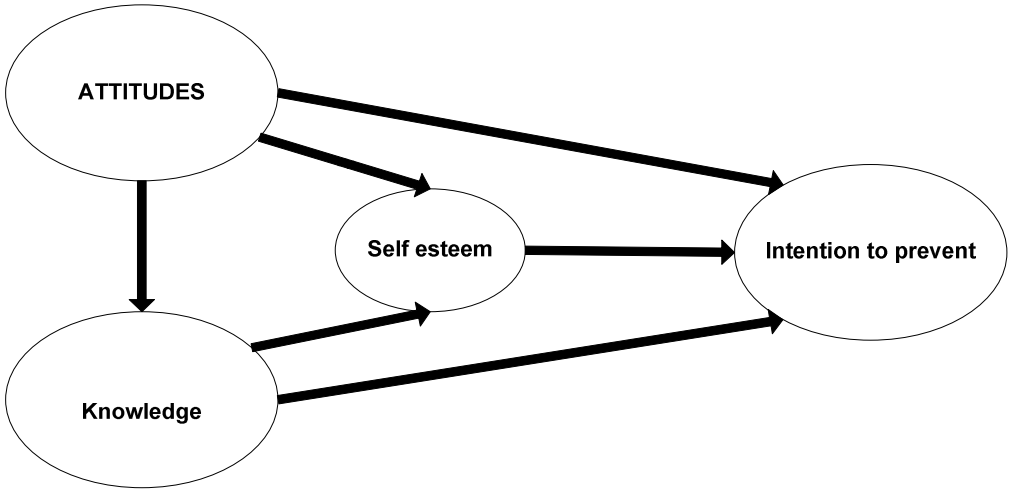
The hardy coping is in contrast to addressing the stresses by the regressive coping approach (Maddi & Kobasa, 1984) of denying and avoiding, or the destructive copping approach (Maddi, 2002) of catastrophizing and striking out. Whatever short term relief these regressive or destructive approaches may bring, they are much less effective in the long run than is hardy coping (Khoshaba & Maddi, 2001).

The third set of hardy skills (Maddi & Kobasa, 1984; Maddi & Khoshaba, 2001) involves self care aimed at maintaining a level of organismic arousal that is optimal for the hardy coping and social interaction efforts. This pattern of self care includes hardy use of relaxation techniques, and

nutrition and exercise patterns. The overall aim is not to moderate weight as much as to ensure an optimal level of energy- not too high or too low whereby the hard work of hardy coping and social interaction will be facilitated.

The researcher looked at women with VVF as people undergoing stress. VVF repair may be successful or unsuccessful and the prolonged period of having a fistula causes both the physical and psychological strain on the women. Some women with VVF cope well and do not suffer from mental dysfunction while others fail to do so. The question is why do we have this variation? The knowledge that women with VVF have on risk factors of recurrence and the hardy attitudes seem to have an impact on the level of intention to prevent VVF recurrence. Knowledge of the risk factors of VVF recurrence influences attitudes towards VVF prevention and the strength of the two enhances intention to prevent VVF recurrence. Both knowledge of the risk factors of VVF recurrence and attitudes towards VVF prevention influence self esteem which consequently affects intention to prevent VVF recurrence. The Pollock Health Related Hardiness Model shows this relationship between hardy attitudes, hardy coping, hardy social support and hardy health practices. In this study, Hardy attitudes, hardy social support, particularly knowledge and hardy practices (prevention) will be measured on women with VVF.

FIGURE 1 THEORETICAL MODEL



Adopted and adapted from Pollock, 1986.

1.4 JUSTIFICATION OF THE STUDY

Although there has been a great achievement in the treatment of VVF, literature review revealed that women's intention to prevent VVF recurrence have received little attention to date in Zambia. Many of the studies done in many countries related to reproductive health issues have focused more on maternal mortality, eclampsia, postpartum hemorrhage and anemia, with less attention given to VVF (WHO, 2005). An intensive literature search isolated only few VVF studies in Zambia. One situational analysis report on obstetric fistula was conducted in 2003 (Mkumba *et al*., 2003), and a retrospective study to describe and compare the demographic characteristics of women with obstetric fistula conducted from August 2003 to December 2005 at the Monze Mission Hospital (Holme *et al*., 2006).

There is increased repair failure rate with repeated attempts and consequences of VVF are multiple with both physical and psychological problems. Therefore, it is imperative to find ways of reducing the rate of VVF recurrence. The study findings revealed the women's intention gaps in prevention of VVF recurrence. The findings will be used to develop educational strategies to improve knowledge of the risk factors of VVF recurrence and behavioural strategies to improve attitudes towards VVF prevention which will consequently promote intention to prevent recurrences. Further, the findings could be used by Ministry of Health, health workers and non-governmental organization involved to formulate policies and effective strategies to enhance the quality of life of women with VVF. The results from the current study have provided baseline by filling this knowledge gap.

1.5 OBJECTIVES OF THE STUDY

1.5.1 GENERAL OBJECTIVE

To determine predictors of/ and intention to prevent VVF recurrence among women with VVF in two repair centres in Zambia.

1.5.2 SPECIFIC OBJECTIVES

1.5.2.1 To assess intention to prevent VVF recurrence among women with VVF.

1.5.2.2 To assess knowledge of the risk factors of VVF recurrence among women with VVF.

1.5.2.3 To determine the attitudes of women with VVF towards VVF prevention.

1.5.2.4 To determine the levels of self esteem of women with VVF.

1.5.2.5 To examine the relationships between intention to prevent VVF recurrence and knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self-esteem.

1.6 RESEARCH QUESTION

1.6.1 Is there relationships between intention to prevent VVF recurrence, knowledge of the risk factors, attitudes towards VVF prevention and self-esteem among women with VVF?

1.7 HYPOTHESIS

1.7.1. NULL HYPOTHESIS

There is no association between intention to prevent VVF recurrence and the following:

- Knowledge of the risk factors of VVF recurrence
- Attitudes towards VVF prevention.
- Self esteem

1.8 CONCEPTUAL DEFINITIONS OF TERMS

Conceptual definition presents the abstract or theoretical meaning of the concept being studied (Polit & Beck, 2008). The conceptual definitions for this study are as follows:

1.8.1 FISTULA

Refers to an abnormal duct or opening that occurs as a result of injury, disease or a disorder that connects a hollow organ in the body to another organ (Jaffie, 2004).

1.8.2 UROGENITAL FISTULA

A fistulous opening into the urogenital tract (Weller, 2005).

1.8.3 VESICO VAGINAL FISTULA

This is the presence of an unnatural opening between the bladder or the urethra and the vagina (Sellers, 2008).

1.8.4 RECTO VAGINAL FISTULA

This is the presence of an unnatural opening between the rectum and the vagina (Sellers, 2008).

1.8.5 INTENTION

Intention is what someone plans to do (Oxford Advanced Learners ` Dictionary, 2006)

1.8.6 KNOWLEDGE

Knowledge is an understanding of information about a subject which has been obtained by experience of study and which is either in a person's mind or possessed by people generally (Gillard, 2003)

1.8.7 ATTITUDE

Attitude is the way that one thinks and feels about something or the way one behaves towards somebody (Basavanthappa, 2007)

1.8.8 **SELF ESTEEM**

It is someone's set thought and feelings about her own worth and importance that is a global positive or negative attitude towards oneself (Rosenberg, 1965).

1.9 STUDY VARIABLES

Variables are qualities, properties, or characteristics of persons, things, or situations that change or vary and manipulated or measured in research (Burns & Grove, 2009). In this study, there are three independent variables and one dependent variable.

1.9.1 INDEPENDANT VARIABLE

Independent variable is the presumed cause (Polit & Beck, 2008). The independent variables for this study are knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self esteem.

1.9.2 DEPENDANT VARIABLE

This is the presumed effect of the presumed cause (Polit & Beck, 2008). The dependent variable for this study is intention to prevent VVF recurrence.

TABLE 3: VARIABLES CUT OFF POINTS AND INDICATORS

VARIABLES	INDICATORS	CUT OFF POINTS
Dependent variable Intention to prevent VVF recurrence	Positive intention	Scoring 17-32 on questions on intention to prevent VVF recurrence.
	Negative intention	Scoring 0-16 on questions on intention to prevent VVF recurrence.
Independent variable Knowledge of the risk factors of VVF recurrence	High knowledge	Scoring 7-12 on knowledge of the risk factors of VVF recurrence questions.
	Low knowledge	Scoring 0-6 on knowledge of the risk factors of VVF recurrence questions.
Attitudes toward VVF prevention	Positive attitude	Scoring 68-136 on attitude towards VVF prevention questions.
	Negative attitude	Scoring 0-67 on attitude towards VVF prevention questions.
Self esteem	High self esteem	Scoring 15-30 on the self esteem questions.
	Low self esteem	Scoring 0-14 on the self esteem questions.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

Literature review is an organised written presentation published about the topic by other scholars and includes a presentation of research conducted in the selected field of study (Burn and Grove, 2009). The general purpose of a literature review is to convey to the reader what is currently known regarding the topic of interest (Burn and Grove, 2009). The study aim was to determine the intention to prevent VVF recurrence among women with VVF with focus on knowledge of the risk factors of VVF recurrence, attitude towards VVF prevention and self esteem. Sources of reviewed literature include books, articles, policy papers, professional journals and dissertations both published and unpublished. There are no publications on the topic globally. However, several authors have written on many aspects of VVF regionally. Studies that have been done focused on describing the demographic characteristics of obstetric fistula patients in countries such as Ethiopia (Kelly, 1995; Kelly & Kwast, 1993; Muleta, 1997; Gessessew & Mesfin, 2003), Nigeria (Ghatak, 1992; Hilton & Ward, 1998; Ghororo & Abedi, 1999; Ibrahim *et al.,* 2000; Wall *et al.,* 2004; Ijaiya & Aboyeya, 2004) Ghana (Danso *et al.,* 1977) Niger (Meyer *et al.,* 2007) Zambia (Holme *et al.,* 2006) Kenya, Tanzania and Uganda (Raassen *et al.,* 2008). Other studies include situational analysis of obstetric fistula in 29 countries in Africa inclusive of Zambia as well as studies to understand the many dimensions of fistula and its related social vulnerability through the experiences and views of girls and women living with fistula, their families, communities and the health workers who cared for them.

2.2 INTENTION TO PREVENT VVF RECURRENCE

Intention is what someone plans to do (Oxford Advanced Learner's Dictionary). However, studies that were done on supervised deliveries by skilled attendants, caesarean section for subsequent deliveries and seeking obstetric services were assessed.

In Nigeria, Hassen and Ekele (2009) conducted a study to determine the knowledge that women with VVF had on the causes of the fistula and their attitudes towards measures that would prevent future recurrence. When asked where they would like to deliver from if they become pregnant after a successful fistula repair, out of 110 women with VVF who had prolonged obstructed labour as the cause 75(68%) stated that they would have hospital delivery, 11(10%) would have unsupervised delivery, while 24(22%) women with VVF stated that they did not know because the

decision was not theirs to make, it had to be agreed with their husbands and other family members. To the question" will you agree to a Caesarean section as the mode of subsequent delivery to prevent fistula, 61 (55.5%) women with VVF stated that they would consent to caesarean section, 15 (13.6%) would not accept it, while 34 (30.9%) could not make any personal commitment. From this study, it shows that majority of women with VVF would deliver at the hospital and consent to Caesarean section birth. A few women with VVF however stated that the decision was not only theirs and did not want to answer whether they would accept a Caesarean section birth when the condition is so devastating that preventing it would serve many women at risk of VVF recurrence.

Tanko (2006) conducted a study in Nigeria to provide more information on the incidence of VVF, their accessibility to health services, the community reaction to the victims as well as their general attitudes and knowledge of VVF. The study revealed that women with VVF have had multiple marriages, signifying that repair is often accompanied by remarriage involving a different spouse and hence did not make delivery decisions easy. The study showed that women with VVF still desired a high family size (they still expected to have repairs and children). Also among those that had enjoyed repairs, the tendency to marry and deliver through the same means such as, at home, as well as rejection of Caesarean section birth was common. The study results show that fistula patients desire to have more children and tend to deliver through the same means at home once they get pregnant hence the importance of emphasizing the preventive measures of VVF recurrence. Rejection of Caesarean section birth was common although it is clear that Caesarean section birth would prevent VVF recurrence.

In Zambia, Mkumba *et al.,* (2003) revealed that lack of access to the health care facility, antenatal care, traditional beliefs and practices, early marriages, lack of skilled attendants during delivery and parental influence to have their daughters deliver at home as a sign of strength for the woman were cited as reasons for complications associated with home delivery. When asked what should be done to prevent difficult childbirths that commonly result in urine incontinence, participants unanimously stated that attending maternity clinics regularly and sensitization through neighborhood/village health committees to raise awareness on the importance of antenatal care. They also identified the need to deliver in hospital and noted that women with high-risk pregnancy and living in villages far away from hospital should live in the waiting homes when the pregnancy approaches term to avoid delivering at home. From this study, we can conclude that participants are willing to prevent VVF. Measures should be put in place so that women can deliver at the

health care facility. However, the challenge women with VVF faced was lack of empowerment to make preventive decisions easy.

2.3 KNOWLEDGE OF THE RISK FACTORS OF VVF RECURRENCE

Knowledge is an understanding of or information about a subject which has been obtained by experience or study, and which is either in a person's mind or possessed by people generally (Gillard, 2003). This section looks at studies that examined women with VVF's knowledge of the risk factors of VVF recurrence. Studies have shown that knowledge influences intention to prevent VVF recurrence.

Muleta and others (2008) conducted a study on health and social problems encountered by treated and untreated obstetric fistula patients in Ethiopia. Qualitative in -depth interviews were conducted with 27 of the untreated women and seven of the treated women. Twenty-four women attributed their development of a fistula to evil spirits, to a curse, or to sin. In another study done by Nathan *et al.,* (2008) in Benin where the objective of the study was to gain insight into the nature of obstetric fistulae in Africa, 37 patients underwent structured interviews on fistula cause, obstacles to medical care, prevention and reintegration. Forty-three percent of the participants thought their fistulae were a result of trauma from the operative delivery. These two studies reveal that women with VVF may not know the actual risk factors of obstetric fistula. If VVF recurrence is to be prevented, women with VVF need to have a good understanding of the risk factors so that they are able to adequately prevent them.

Two qualitative research assessments were conducted in three regions in Burkina Faso in 2004 by Ministry of Health and UNFPA to determine what obstetric fistula patients knew about their condition. Results showed that the respondents who linked fistula with pregnancy often mentioned cultural factors, female genital mutilation/ cutting, and traditional birth attendant's practices as the cause of fistula. Intergenerational differences in knowledge regarding causes of prolonged labour and risks of fistula were evident. Young women with VVF had greater awareness of fistula than older women did. Younger women with VVF made a link between childbirth and the onset of the fistula. Some stated that fistula was due to a tear during childbirth, the duration of labour, and the size of the baby. Older women with VVF interviewed stated that a woman with fistula provoked her situation (Ministry of Health and UNFPA, 2006). From this study, it can be concluded that younger women with VVF make a better link between childbirth and onset of the fistula. It is

important to raise awareness among all women with VVF on the risk factors of VVF recurrence so that they are able to prevent VVF recurrence. VVF can occur even among women with high parity (WHO, 2005). Some women develop a VVF on their second or more pregnancies while the remaining women develop VVF on their first pregnancy (WHO, 2005).

The situational analysis report on obstetric fistula was conducted in Zambia by (Mkumba *et al.,* 2003). The report was aimed at documenting for the first time as far as possible what the prevalence of VVF is and to provide sufficient information to guide government in improving prevention and treatment of the problem. A minimum of two focus groups with 4-10 participants or more for some hospitals and discussions were held with women with VVF in gynaecological wards, in maternal and child health clinics and relatives found in the waiting rooms. When participants were asked what contribute to formation of VVF, they stated traditional beliefs and practices. An example given was where a primi –gravida is reassured that she would not have any problem during labour if traditional herbs were administered to relax the pelvic muscle and increase the outlet. A traditional herb similar to oxytocin was also cited as a common practice amongst most tribes in Zambia. Traditional beliefs such as 'Incila' were cited as a contributing factor to VVF hence participants stated that certain traditional practices were to be done to resolve this problem, thereby causing serious and life threatening delays to referring the mother for professional help. From this study, it is evident that participants knew about some of the risk factors of VVF recurrence. There is need to educate them on these factors so that they can prevent VVF recurrence.

2.4 ATTITUDES TOWARDS VESICOVAGINAL FISTULA PREVENTION

Basavanthappa (2007) defines attitude as the way that one thinks and feels about something or the way one behaves towards somebody. This section looks at the way women think and feel about prevention of VVF recurrence. Studies that have looked at attitudes of women with VVF towards hospital delivery, antenatal care, delay in seeking care, refusing caesarean section and use of unskilled workers for delivery were revealed.

Ghororo and Agholor (2009) in Benin conducted a study to evaluate psychosocial problems among women presenting with VVF, their spouses and close attendant relatives. A total of 20 women with VVF and 10 attendant relatives were interviewed. Some 56.6% respondent felt that hospital delivery is a VVF recurrence preventive measure while 33.3% felt avoidance of premarital sex and early marriage would prevent VVF. From this study, it is clear that majority of the respondents

understand the place of difficult childbirth in VVF formation therefore the need to empower women with VVF to timely access emergency obstetric care.

A study done by Mohamed *et al.,* (2008) to determine contributing factors to VVF recurrence among 52 Sudanese women with VVF showed that 90.4% of the women with VVF had fistula because of labour related causes and only 9.6 % because of surgery. The study showed that more than half of the cases (55.3%) waited for more than 24 hours in labour (Obstructed labour) which reflects the relationship between obstructed labour and fistula formation. It is not clear, however, why these women did not seek skilled care early. It is important to determine their attitude towards seeking skilled health care in order to determine if attitude informs their intention to seek skilled care early and hence prevent recurrence of VVF.

Holme *et al.,* (2006) carried out a retrospective cross sectional study location to describe and compare the characteristics of women with obstetric fistula from August 2003 to December 2005. Delays in receiving emergency obstetric care were experienced at home (67.5%) and at clinics (49.4%), usually due to transport difficulties. About 89% delivered in a health facility, 50% of the deliveries were by caesarean section. From this study, it can be concluded that women delay in receiving emergency obstetric care, which makes them at risk of developing obstetric fistula.

A study was conducted by collaborative efforts of a number of institutions, including the Women's Dignity project and Engender Health, together with partners in Tanzania: Bugando Medical Centre; Health Action Promotion Association (HAPA); Kivulini Women's Rights Organisation & Peramiho Mission Hospital in Tanzania in three districts in 2006. The aim of the study was to understand the many dimensions of obstetric fistula and its related social vulnerability through the experiences and views of girls and women living with fistula as well as their families and communities and the health workers who cared for them. The study participants included 61 girls and women living with Obstetric fistula, family members, community members and health care providers. The study showed that nearly all the women had visited the antenatal clinic at least twice though some women did not receive antenatal care (ANC) due to the fact that distance to services was too large and that most women did not have the decision-making power to seek health care. The study also revealed that the majority of the women had taken traditional medicine (African syntocinon) at some point during pregnancy and only a minority had taken it during labour as a way to stimulate labour. However, a few women said that they took traditional medicine during labour to stop labour pains.

The Tanzanian study also revealed that, of the women planning to deliver at a facility, the majority started at a lower-level health care facility with a traditional birth attendant (TBA) or went to the hospital too late after trying to deliver at home. About half of the women planning to deliver at the facility had set aside some funds for the cost related to labour, delivery, post delivery and /or transport but still did not go immediately to the hospital when labour started. Reasons why some women did not go to the hospital were not having enough money, lacking access to transportation, or having insufficient knowledge and information about labour. Those who had already had successful deliveries and stayed far away from the health care facility preferred delivering at home. Nearly all of the women who began their labour at home had to make a move only after seeing that there was a problem that needed appropriate attention and because the TBA realised she could not help. The majority of women were helped by others to make a decision to move to another place for labour or delivery. However, the majority did so in conjunction with their husbands or their family.

A study was conducted by Nisar, Yousfani and Muntaz in 2005 in Pakistan on the profile of women who experienced VVF due to obstetric trauma. The objective of the study was to assess the demographic, sociocultural and environmental factors responsible for the causation of Vesico vaginal fistula due to obstetric injury. This was a descriptive survey carried out among women with VVF, recruited from free fistula repair camps arranged at the interior of Singh province, Pakistan from 1st to 18 th January 2005. Twenty seven patients were interviewed. Nineteen (70.4%) patients had availability of transport 24 hours a day. Twenty-four (88.9%) patients traveled for 1-5 hours to reach health facility. Eighteen (66.7%) patients had vaginal delivery at home while 9 (33.3%) were delivered by Cesarean section at hospital after having obstructed labour that was initiate at home. Labour was attended by TBA at home in almost all patients. The study shows that despite availability of transport throughout the communities, women could not access emergency obstetric care and intended to be delivered by unskilled personnel. The study also shows that despite having availability of transport women's attitude towards health care facility deliveries is poor.

According to Wall *et al.,* (2004) retrospective study to describe the characteristic of women with obstetric VVF at Evangel hospital in Jos, plateau state in Nigeria showed that out of 899 cases, 647 of these women (72%) did not have antenatal care, 688 patients (76.5%) were delivered at some type of health facility. Deliveries were attended by attendants with some level of formal health care training in 239 cases (26.6%) and by doctors (with highly variable levels of obstetric

experience) in 449 cases (49.7%), 363 women (40.3%) had caesarean delivery. Delay in seeking care once labour had become obstructed was very common. Only 190 patients who had an obstetric fistula (21.1%) sought help when they had been in labour for 1 day. Most women with a fistula laboured much longer; 272 women (30.2%) had been in labour for 2 days ; 244 women(27.1%) had been in labour for 3 days, and 193 women (21.4%) reported being in labour for 4 days at the time of delivery. The study shows that women with VVF labour much longer which reflects that they have poor attitudes towards prevention of VVF recurrence.

In 2004, in Cameroon, a descriptive exploratory survey was conducted by the Ministry of Health and UNFPA on obstetric fistula in 50 health facilities in two provinces of northern Cameroon. Women living with obstetric fistula (63) and TBAs (101) were interviewed, and focus groups (22) were conducted with men and women of reproductive age. Among women who were living with or had fistula, use of antenatal care was limited. Women relied on TBA during delivery and sought out professional maternity care only for complications. In another study conducted in Eritrea with Stanford University, new (11) and returning (15) obstetric fistula patients and their family members were interviewed at Massawa Hospital during a surgical mission in late 2004. The study shows that health facilities are perceived as unlucky and filled with evil. As a result most women labour at home with the assistance from older female relatives, neighbours, and in some cases Traditional Birth Attendants (TBAs). It is evident that women with VVF have negative attitudes towards professional care hence are at greater risk of developing obstetric fistula.

A 2003 study supported by the Eritrean Ministry of Health and UNFPA documented the state of fistula in six regions. Eighty women were recruited through the radio and interviewed. Seven focus groups were conducted with 78 TBAs, community leaders, religious leaders, and health workers. The results revealed that many women interviewed blamed the traditional birth attendants for delaying their referral and /or forcing the delivery at home. It is clear that some Eritrean women with fistula had positive attitudes towards VVF prevention as they would have wanted TBAs to avoid delaying their referral.

In Zambia, Mkumba *et al.,* (2003) also revealed that when participants were asked what prevents some women in communities/village from seeking attention at the health facility; participants stated that some women are lazy. However, others stated that there is a lot of work to do at home as women have to ensure that there is clean water and food in the home before they can think of walking long distances to the clinic or hospital for antenatal care. Participants also stated that some

women felt and thought that since their mothers and grandmothers have always delivered in the homes, they could also do the same. Some participants cited delivery fees as well as transport cost as a deterrent to hospital deliveries. One woman stated 'people prefer to deliver at home and pay a token of appreciation to a relative or traditional assistant (Nachimbusa) at their own time than hospital where they have to pay the fees before discharge'. Another participant stated 'some families do not have enough food in their homes to enable the pregnant women go and stay at the waiting home near the hospital to await delivery'. This study confirms that participants need information on preventive measures for VVF recurrence so as to improve their attitudes towards VVF prevention.

2.5 SELF ESTEEM

Self esteem is an individual's set of thoughts and feelings about his or her own worth and importance, that is a global positive or negative attitude towards oneself (Rosenberg, 1965). The studies reviewed assessed shame, isolation, stigma, divorce, stillborn babies and offensive odour as causing low self esteem.

Roush (2009) did a study to determine the current state of the science on the social implications of obstetric fistula in sub–Saharan Africa. She reported that participants repeatedly mentioned that the offensive odor that accompanies the incontinence related to obstetric fistula was a source of shame, stigma, and isolation. One woman described the dilemma as 'you have to walk 6 hours to get one bucket of water and you have to decide how you are going to use water- for washing, drinking, bathing and cooking, or for yourself'. Also both women with obstetric fistula and their family members interviewed in the women's dignity Project and Engender Health study reported being unable to attend church or mosque due to offensive vaginal discharge.

Holme *et al.,* (2006) study revealed that 49.0% were primigravidas, 27.6% were parity four+ and 78.1% of the babies from women with VVF were stillborn. Further 15.1% of women with VVF were divorced. All these effects predispose to poor self esteem.

The study also revealed that approximately 72.9% of the VVF repairs were successful, 17.3% resulted in residual stress incontinence, and 9.8% failed. The study shows that not all repairs are successful and this would lead to low self esteem especially to those with unsuccessful VVF repairs hence the need to prevent VVF recurrence as the success rate diminishes with more attempts at repair.

Several studies (Bangser, 2006; Kelly, 1995; Muleta & Williams, 1999; Women's Dignity Project & Engender Health, 2006) state that the unique psychosocial impact, discussed in various literatures, of women with fistula is stigma. Results of these studies showed that girls and women with fistula most of the time remain in their homes alone, stop making social visits and no longer attend public events such as funerals, celebrations and meetings. Over three quarters of fistula patients interviewed were ashamed of themselves and that their lives were seriously impaired by the stigmatization associated with their vaginal leaking and that some fell into deeper physical and emotional decline. These effects affected the women's desire to seek for help and are more likely to hinder intentions to prevent VVF.

A study done by Kabir *et al.,* (2003) on medical and social problems of 120 women with VVF in Murtala Mohammed Specialist Hospital in Nigeria revealed that more than half of the patients (53%) suffered from societal negative reactions. These women could not work because they were shunned by society and this resulted in poor economic status. Traditionally, the women with VVF were considered to have brought shame and dishonour to themselves and their families. Socially, the women with VVF either did not manage to avoid being divorced by their husbands or they lost any form of support from the husbands. All these contribute to low self-esteem among women with VVF.

2.6 **CONCLUSION**

From the reviewed literature, globally, there are no studies done on intention to prevent VVF recurrence, knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self-esteem due to non-significant figures of VVF. Regionally, a lot of studies have been done on women with VVF. Nationally, majority of people know how to prevent VVF recurrence but, among other things, women lack empowerment to make preventive decisions. The risk factors of VVF recurrence are not well known both regionally and nationally. Majority of women with obstetric fistula have negative attitudes towards VVF prevention. Self-esteem is low among women with VVF. It is hoped that the findings of this study would lead to development of strategies to improve prevention of VVF recurrence.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research methodology refers to the manner of collecting research data (Burn & Grove, 2005). The current study was to determine the intention to prevent VVF recurrence among women with VVF admitted to Katete and Chilonga Mission Hospitals. This chapter describes the study design, study setting, study population, sample selection, sample size, data collection tool, validity, reliability, data collection technique, pilot study and ethical consideration. Data for the pilot study was collected in the month of August from the Monze Mission Hospital while research data for the main study was collected from September to November from two other fistula repair centre (Katete and Chilonga Mission Hospitals).

3.2 RESEARCH DESIGN

A research design is the overall plan for obtaining answers to the questions being studied and handling some of the difficulties encountered during the research process (Polit & Beck, 2008). A descriptive correlational cross-sectional study was used. 'The purpose of a descriptive correlational design is to examine the relationships that exist in a situation. Using this design facilitate the identification of many relationships in a situation in a short period of time' (Burns and Grove, 2009). According to Polit and Hungler (2006), the aim of this method is to describe relationships among variables rather than to infer cause and effect relationships.

A cross-sectional study examines groups of subjects in various stages of developmental trends, patterns and changes simultaneously with the intent to describe changes in the phenomena across stages (Burns & Grove, 2009). It focuses at comparing and describing what is happening. It was a cross sectional study because it aimed at quantifying the distribution of intention to prevent VVF recurrence, knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self esteem at one point in time without manipulating them.

The study was descriptive because study observed and described the intention to prevent VVF recurrence, knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self esteem as they occurred among women with VVF.

3.3 RESEARCH SETTING

Research setting is a place where research is undertaken or the specific places where information is gathered (Polit & Beck, 2008). The study was done in two fistula repair centres namely; Katete Mission Hospital in the Eastern province and Chilonga Mission Hospital in the Northern province. The study sites were chosen because they are fistula repair centres in Zambia with highest number of women with VVF. Katete Mission repairs 50- 60 cases a year with a success rate reported to be 60-70% while Chilonga Mission Hospital repairs 16 cases each year.

3.4 STUDY POPULATION

A study population refers to the aggregate of cases that conform to the designated criteria (Burn & Grove, 2005). The study population were women with VVF who met the inclusion criteria. A target population is the entire set of individuals or elements who meet the sampling criteria (Burn & Grove, 2005). The target population in this study were all women diagnosed with VVF admitted to Katete and Chilonga Mission Hospitals. An accessible population is a portion of the target population, might be elements within a state, city, hospital or nursing units (Burn & Grove, 2005). The accessible population were those available in the two repair centres during the time of study.

3.5 SAMPLE SELECTION

Sample selection involves choosing a group of people, events, behaviours or other elements with which to conduct a study (Burns & Grove, 2009).

3.5.1 HOSPITALS

The Hospitals were purposefully sampled. Purposive sampling is a type of non probability sampling in which subjects are selected because they are identified as knowledgeable regarding the subject under study (Basavanthappa, 2007). The researcher decided to purposely select the hospitals because they are fistula repair centres.

Respondents from the two study sites were selected using convenient sampling due to the low numbers of women with VVF. Convenient sampling which is a non-probability sampling method is a sampling method that include subjects in the study because they happen to be in the right place at the right time; entering available subjects into the study until the desired sample size is reached (Burn & Grove, 2005). The total number of fistula repairs from the two centres is about 66 to 76 cases per year.

3.5.2 INCLUSION CRITERIA

Inclusion criterion is defined as the criterion that specifies the characteristics of the population (Basavanthappa, 2007).

Women in the child bearing age with VVF were eligible for the study if they had a;

- Confirmed VVF diagnosis by a gynecologist,
- Repaired RVF but leaking urine,
- VVF due to non-obstetric causes,
- Receiving health care at one of research sites at the time of study.

3.5.3 EXCLUSION CRITERIA

Exclusion criteria are exceptions to the inclusion sampling criteria (Burns & Grove, 2009).

Women with VVF were not eligible for the study if they;

- Had a combination of VVF and another fistula such as Recto vaginal fistula (RVF),
- were mentally ill, critically ill and/or unconscious,
- Had bilateral tubal ligation, were beyond the child bearing age (had reached menopause), and/or had hysterectomy because they would not have been able to give reliable responses to the questions on intention to prevent VVF recurrence.

3.6 SAMPLE SIZE

Sample size is a small part of the population selected in such a way that the individuals in the sample represent as near as possible the characteristics of the population (Polit & Hungler, 2007).

The sample size consisted of all women with VVF that were admitted to the named hospitals during the time of the study. The sample size for this study was calculated based on obstetric fistula rate for Zambia. Mkumba *et al.,* (2003) estimated a fistula rate of 0.46 per 1000 women. Since there was no other study reported in Zambia showing the proportion of obstetric fistula, the 0.46% reported in Mkumba's study was taken as estimates for Zambia. The following formula was used to determine the sample size possible in 3 months of data collection.

Calculation of sample size

n= the desired sample size

Z= the standard normal deviation (in this study it is 1.96 that corresponds to 95% CI)

P= the proportion in the target population with certain characteristics (in this study is 4.6)

Q= 4.6- P

D= degree of accuracy desired (in this study is 0.05)

N= 1.96x 2 x 0.46 (4.6-0.46)/0.05x 2

n= 75

This formula was not adjusted to allow for non-response rate because the researcher interviewed these women with VVF until she reached the total sample size of 75 respondents. 24 participants were recruited from Katete Mission Hospital while 51 were recruited from Chilonga Mission Hospital during the three (3) months of data collection.

3.7 OPERATIONAL DEFINITION OF THE STUDY VARIABLES

Operational definition is a concept specifying the operations that researchers must perform to collect and measure the required information (Polit & Beck, 2008). The operational definitions for the study variables are as follows:

3.7.1 INTENTION TO PREVENT VVF RECURRENCE

It is the women with VVF's desire and plan to ensure that they prevent or avoid recurrence of VVF by having supervised deliveries by skilled attendants, staying close to the hospital from 36 weeks of gestation, going to the hospital as soon as possible when labour begins, delivering at the hospital, not having vaginal delivery, not using traditional medicine to speed up labour, accepting caesarean section for subsequent deliveries and attending antenatal clinic for antenatal check up as would be stipulated throughout pregnancy .

3.7.2 KNOWLEDGE

Knowledge in this study was related to that which women with VVF know about the risk factors of VVF recurrence. The risk factors for VVF recurrence are delivering by non-skilled birth attendants, prolonged obstructed labour, home delivery, not seeking emergency obstetric care, vaginal delivery, using vaginal constrictors, taking traditional medicine to speed up labour and refusing Caesarean section.

3.7.3 ATTITUDES

It is the women with VVF's views and opinions towards VVF prevention. It involves how a VVF patient looks at herself, her world, and the way these two interact.

3.7.4 COMMITMENT

Commitment is a belief that a VVF patient and her world are important and worthwhile to engage fully in health promotion activities. A VVF patient believes that involving herself in health promotion activities is the way to find what is meaningful to herself.

3.7.5 CONTROL

Control is a belief that if a VVF patient tries, she can positively influence much of what happens in her life. Through this influence on outcomes, she sees herself as capable of solving stressful changes and conflicts.

3.7.6 CHALLENGE

Challenge is a belief that mostly everything that happens to a VVF patient, whether positive or negative, can be viewed as an opportunity for a new learning and personal growth.

3.7.7 SELF ESTEEM

Self-esteem is how women with VVF look at their self image in terms of accepting self, feel stigmatized, ashamed of themselves, isolated, being divorced and inability to have children.

3.7.8 MULTIPLE REPAIRS

Women with VVF having undergone two or more repairs since development of the condition.

3.8 DATA COLLECTION TOOLS

Data collection tool is an instrument that is used to measure variables and gather information. It is the formal written document used to collect and record information, such as a questionnaire (Polit & Hungler, 2007). In this study an interview schedule was used to collect data. A structured interview schedule is a questionnaire that is read to the respondent (Burns & Groove, 2005).

An interview schedule was used to collect data (see appendix IV). The interview schedule was divided into five sections: section A: Socio-demographic data, section B: intention to prevent VVF recurrence, section C: knowledge of the risk factors of VVF recurrence, section D: attitude towards VVF prevention and section E: self esteem. Pollock's, (1986) Health Related Hardiness Scale (HRHS.SS) was used to assess attitudes towards VVF prevention. This is a self-reporting questionnaire containing five-point likert-type scale. It has a total of 34 questions: strongly agree-4, Agree-3, Uncertain -2, Disagree-1 and strongly disagree -0. For self esteem, Rosenberg self esteem scale was used to assess respondents self esteem. The Rosenberg self-esteem scale (RSE, Rosenberg, 1965) items represent a continuum of self –worth statement ranging from statement that are endorsed even by individuals with low self esteem to statement that are endorsed only by persons with high self esteem. Rosenberg (1965) has a 10 question scale that is presented with four response choice: strongly agree, agree, disagree and strongly disagree. Some items receive a positive score while others receive a negative score.

3.8.1 VALIDITY

To ensure the quality of data collection instrument, it is important to establish its validity and reliability. Validity refers to the degree to which the instrument will measure what it is supposed to measure (Polit & Beck, 2008).

Validity was upheld with the tool used which reflected the factors under study. Validity of the instruments was measured by justifying each question in relation to the objectives of the study. When the study was conducted, there was uniformity and conformity in the way the questions were asked. The questions were written in simple and clear language.

3.8.2 RELIABILITY

Reliability is the degree of consistency or dependability with which an instrument measures an attribute (Polit & Beck, 2008).

The interview schedule was prepared in such a way that it had sections with different questions measuring the same characteristics. Reliability of the instrument was measured by conducting a pilot study. The results from the pilot study were used as baseline data to test reliability. Amendments to the instrument were made and helped in eliminating biases and minimized errors during data collection.

3. 9 DATA COLLECTION TECHNIQUE

Data collection technique refers to a method used to systematically gather information relevant to the research purpose, or the specific objectives, questions or hypotheses of the study (Burns & Grove, 2009).

In this study, the respondents were interviewed in their respective hospitals using a structured interview schedule (see appendix IV). The interviews were conducted face-to-face. The researcher introduced herself to the respondents and explained the purpose of the study and thereafter requested them to participate in the interview. Each respondent was interviewed in a private room in the hospital for 20 to 30 minutes. The researcher also told the respondents that the information collected would be kept locked in a confidential place and would not be exposed for other people to access. The respondents were informed that participation was voluntary and they were to withdraw from the study if they so wished and this would not have affected their obtaining treatment in any way. After all the explanation, the researcher got written consents signed by each respondent. Once the consent was obtained, the researcher then proceeded to ask the respondents questions using the structured interview schedule. At the end of the interview, the researcher thanked the respondents.

3.10 PILOT STUDY

A pilot study is a smaller version of a proposed study conducted to develop or refine the methodology, such as the treatment, instrument, or data collection process (Burn & Groove, 2009).

Pilot study was done at the Monze Mission Hospital using women with VVF who were admitted to the hospital at the time of the pilot. Convenient sampling was used to select the respondents and were interviewed using the structured interview schedule. The hospital was selected because it is a VVF repair centre. Seven (7) women with VVF were selected for the pilot, which is 10% of the sample population.

On the whole, the respondents understood the questions. On the Socio-demographic data, one question was rephrased and three questions were added. The rephrased question was 'post fistula marital status' to: 'were you divorced when you started leaking urine'? Added questions were; how many times have you had VVF, before the current repair, how many attempts of VVF repairs you have ever had and how far is your home from the health care facility. Some open ended questions were closed for example question 9, 10, 14 and 15. On intention to prevent VVF recurrence, two questions on this section were removed, and the sequences of the questions were readjusted. The two questions that were removed were; I will have a home delivery and I will not be assisted by a non-skilled attendant as these were a reverse of some questions on intention to prevent VVF recurrence. The last question on suggestions was also rephrased from 'do you have any suggestions on how women's intention to prevent VVF recurrence can be improved in the community?' to 'do you have any suggestions on what should be done to prevent VVF recurrence among women with successful VVF repair'?

3.11 ETHICAL CONSIDERATION

Ethical consideration involves an understanding of the ethical codes and guidelines for protecting the rights of the research subjects (Dempsey & Dempsey, 2000). Ethical clearance was obtained from the University of Zambia Research Ethics Committee. Written permission to conduct the pilot study and main study was obtained from all study sites: the Monze Mission, Katete Mission Hospital and Chilonga Mission Hospital.

The purpose and nature of the study was explained to the respondents. Those that declined to participate were reassured that no priviledges would be taken away from them. Those who agreed to take part in the study were requested to sign a consent form. Those who participated in the study were not remunerated in anyway. The respondents were not exposed to any physical and emotional danger or harm as the research did not involve any invasive procedures.

Respondents were assured of anonymity and confidentiality during the interview as they were interviewed in privacy. Respondent's names were not written on the interview schedules and no other person apart from the researcher was allowed to access the research data. The respondents were protected from psychological harm by letting them answer the questions in a private room at their own time and those that were not willing to participant were not forced. Data was collected by the researcher and any respondent who suffered psychological distress were offered counseling session(s) as required.

CHAPTER FOUR

4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 INTRODUCTION

The aim of the study was to determine women's intention to prevent Vesico Vaginal fistula recurrence in two repair centres in Zambia. Data were collected using interview schedules on 75 respondents and there was a 100% response rate. The results will be presented under the following headings; Socio-demographic characteristics, intention to prevent VVF recurrence, knowledge of the risk factors of VVF recurrence, attitude towards VVF prevention, self esteem of women with VVF, relationship between intention to prevent VVF recurrence and knowledge, attitude and self esteem and multiple regression model.

4.2 DATA ANALYSIS

Data analysis is the process of categorizing, scrutinizing and cross checking the research data (Basavanthapa, 2007). Data were collected using a structured interview schedule. After data collection, interview schedules were sorted and edited for internal consistence, legibility and accuracy.

4.2.1 QUANTITATIVE DATA

Quantitative data is defined by Polit & Beck (2008) as information collected in the course of a study that is quantified or put in numeric form. The quantitative data in this study included the socio demographic variables as well as the closed ended questions on intention to prevent VVF recurrence, knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self esteem.

Quantitative data were checked for completeness, coded and entered on a data spread sheet created on SPSS version 16.0 for analysis. The analyses of data from quantitative research involve descriptive procedures to describe study variables, the sample and statistical techniques to test proposed relationships. Spearman's correlation coefficient was used to determine the relationship between variables. Regression analysis was used to determine if knowledge, attitudes and self esteem are predictive of intention to prevent VVF recurrence. Multiple regression analysis was used to study association

between the dependent variable (intention to prevent VVF recurrence) and the independent variables (knowledge of the risk factors of VVF recurrence, attitude towards VVF prevention and self esteem). The cut off point for statistical significance was set at 5%, only p values less or equal to 0.05 were considered statistical significant thereby rejecting the null hypothesis.

4.2.2 QUALITATIVE DATA

Qualitative data is the information collected in the course of a study that is narrative or non numeric form such as the transcript of an unstructured interview (Polit & Beck, 2008). This study yielded qualitative data from one open ended question on suggestions on how VVF recurrence can be prevented among women who have had a repair requesting respondents to give suggestions on how VVF recurrence can be improved. A response from the open ended question was analysed using content analysis. Content analysis is the process of organizing and integrating narrative, qualitative information according to emerging themes and concepts (Polit & Beck, 2008). The responses were written down and read as they were expressed by the respondents in order to derive meaning from the data. Similar opinions were grouped to lessen the number of opinions obtained from the respondents and were coded for easy analysis. Qualitative data were then categorised and quantified. The responses were then entered on the spread sheet and analysed using the statistical package for Social Sciences Version 16.0. Finally qualitative data were presented in frequency tables.

4.3 PRESENTATION OF FINDINGS

Presentation of findings involves display of the results of the data collected (Polit & Beck, 2008). Findings of this study are presented in five sections according to the sequence of questions and categories in the interview schedule. Section A: Socio demographic data, Section B: Intention to prevent VVF recurrence, Section C: Knowledge of the risk factors of VVF recurrence, Section D: Attitudes towards VVF prevention and Section E: Self esteem. Thirteen (13) frequency tables, one (1) Correlation table, seven (7) graphs and five (5) pie charts were used to present data.

4.3.1 SECTION A: SOCIO- DEMOGRAPHIC DATA

This section consists of three tables. It covers the demographic characteristics, history of VVF data and obstetric characteristics.

TABLE 4.1(a): DEMOGRAPHIC DATA (n= 75)

Variable	Frequency	Percentage
Age of respondent at last birthday		
15-19 years	30	40
20-24 years	22	29
25-29 years	12	16
30-34 years	5	7
35-39 years	4	5
40 and above	2	3
Total	**75**	**100**
Tribe		
Tonga	1	1
Lozi	1	1
Ngoni	21	28
Bemba	50	67
Kaonde	2	3
Total	**75**	**100**
Religion		
Christianity	75	100
Non Christians	0	0
Total	**75**	**100**
Denominations		
SDA	3	4
Catholic	15	20
Protestants	50	67
Jehovah Witness	7	9
Total	**75**	**100**
Education		
None	15	20
Primary	56	75
Secondary	4	5
Total	**75**	**100**
Occupation		
House wife	19	25
Student	1	1
Self employed	32	43
Unemployed	23	31
Total	**75**	**100**

TABLE 4.1: Continues on next page

TABLE 4.1(b): DEMOGRAPHIC DATA (n= 75)

Variable	Frequency	Percentage
Marital Status		
Single	4	5
Married	56	75
Divorced	11	15
Windowed	4	5
Total	**75**	**100**
Province of origin		
Southern	2	3
Eastern	18	24
Western	2	3
North- Western	4	5
Northern	49	65
Total	**75**	**100**
Distance to health facility		
Less than or equal to 1 hour walk	28	37
Less than or equal to 2 hours walk	15	20
Less than or equal to 3 hours walk	8	11
Less than or equal to 4 hours walk	5	7
Less than or equal to 5 hours walk	3	4
More than 5 hours walk	16	21
Total	**75**	**100**

Table 4.1 shows that the respondents age ranged from 15-41 years (Mean = 25 years, SD = 8.00) and majority of the respondents (30, 40%) were aged between 15 and 19 years. Majority of the respondents were Bemba speaking (50, 67%). All the respondents were Christians. However, majority of the respondents (50, 67%) were Protestants while (15, 20%) were catholic. The highest level of education for majority of the respondents (56, 75%) was Primary education, while only (4, 5%) had secondary education. Most of the respondents (32, 43 %) were self employed. Majority of the respondents were married (56, 75%). Majority of the respondents (49, 65%) were from Northern Province. Some of the respondents (28, 37%) reported that it took them one hour or less to walk to the health care facility while (16, 21%) walked for more than 5 hours.

TABLE 4.2: HISTORY OF VVF DATA (n= 75)

Variable	Frequency	Percentage
Age VVF developed (years)		
12-25	52	69
26- 39	21	28
40 and above	2	3
Total	**75**	**100**
Divorced when VVF developed		
Yes	11	15
No	64	85
Total	**75**	**100**
Cause of VVF from respondents		
Prolonged Obstructed labour	33	44
Operation	16	21
Witchcraft	2	3
Instrumental delivery (Episiotomy and Forceps)	2	3
Vaginal tears	1	1
Urinary catheter	1	1
Pushing early	2	3
Don't Know	18	24
Total	**75**	**100**
No of times had VVF		
One	68	91
Two	6	8
Three	1	1
Total	**75**	**100**
Number of fistula repair attempts		
One	12	16
Two	2	3
Three	2	3
Four	1	1
Never	58	77
Total	**75**	**100**
Reasons for multiple repairs (N = 5)		
Urine incontinence	3	60
Recurrence following pregnancy	2	40
Total	**5**	**100**

Table 4.2 shows that majority of the respondents (52, 69%) developed VVF between the ages of 12-25 years and (11, 15%) were divorced when they sustained VVF. Majority of the respondents (33, 44%) stated that their VVF was caused by prolonged obstructed labour. Almost all of the respondents (68, 91%) were diagnosed with VVF for the first time. Of

those women who had VVF repair attempt (5, 100), the reason for multiple repairs in majority of respondents (3, 60%) was urine incontinence.

TABLE 4.3 (a): OBSTETRIC CHARACTERISTICS (n=75)

Variable	Frequency	Percentage
Parity		
None	30	40
One-three	33	44
Four-Six	8	11
Seven- nine	3	4
More than nine	1	1
Total	**75**	**100**
Number of antenatal visits during previous pregnancy		
One	6	8
Two	6	8
Three	14	19
Four	29	39
More than four	15	20
None	4	5
Not sure	1	1
Total	**75**	**100**
Delivery place		
Hospital	60	80
Clinic	5	7
Home	9	12
Not applicable	1	1
Total	**75**	**100**
Delivery attendant		
Skilled Birth Attendant	65	87
Trained Traditional Birth Attendant	2	3
Relative	4	5
Friend	4	5
Total	**75**	**100**

TABLE 4.3: Continues on next page

TABLE 4.3 (b): OBSTETRIC CHARACTERISTICS (n=75)

Variable	Frequency	Percentage
Labour duration		
Less than 24 hours	21	28
More than 24 hours	52	69
1 week	2	3
Total	**75**	**100**
Cause of VVF (hospital records)		
Ruptured Uterus	3	4
Prolonged Obstructed Labour	68	91
Caesarean section	3	4
3 rd degree tear	1	1
Total	**75**	**100**

Table 4.3 shows that majority of the respondents (33, 44%) had one to three children while (30, 41%) had no living children. More than one third of the respondents (29, 39%) attended antenatal clinic four times in the most recent pregnancy that resulted in the development of VVF. Majority of the respondents (60, 80%) delivered at the hospital while (65, 87%) were attended to by skilled birth attendants during delivery. More than two thirds of the respondents (52, 69%) were in labour for more than 24 hours. The cause of VVF according to hospital records for majority of the respondents (68, 91%) was due to prolonged obstructed labour.

4.3.2 SECTION B: INTENTION TO PREVENT VVF RECURRENCE.

This section consists of findings on intention to prevent VVF recurrence questions. The intention to prevent VVF questions covered eight (8) questions on a likert scale: strongly agree, agree, uncertain, disagree and strongly disagree. There is one table in this section displaying responses to questions on intention to prevent VVF recurrence. The total score was 32 marks. Intention scale was created and is presented in a graph. Further, the scores on intention to prevent VVF recurrences were divided into two categories; Negative intention ranged from 0-16 scores and positive intention ranged from 17- 32 scores. A pie chart was used to present the level of intention to prevent VVF recurrence.

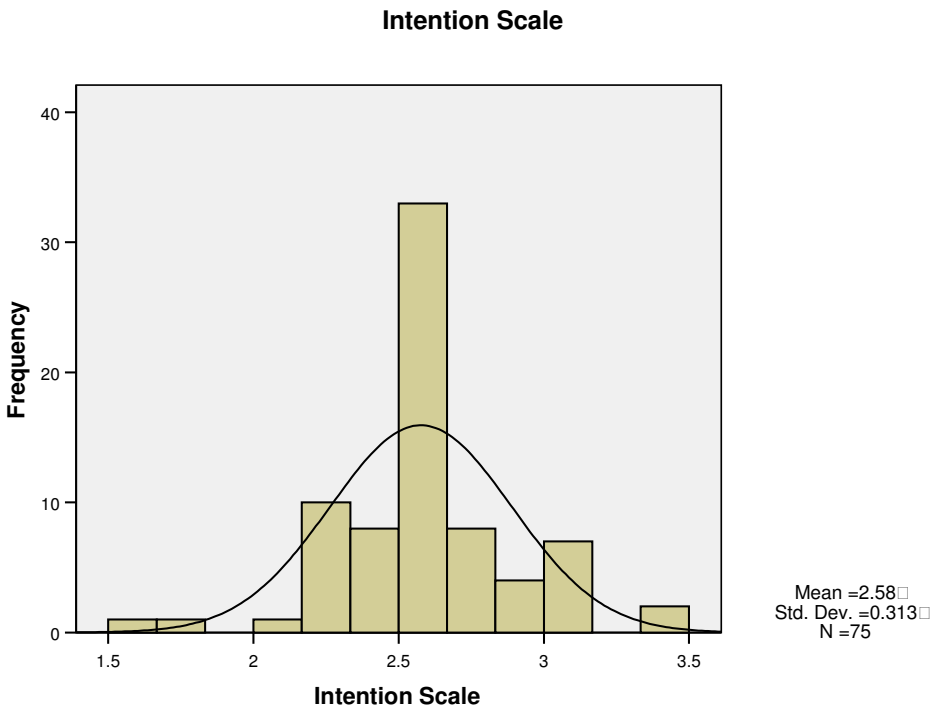
TABLE 4.4 INTENTION TO PREVENT VVF RECURRENCE VARIABLE (n=75)

Variable	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Total
I will be delivered by a skilled attendant	31 (42%)	42 (56%)	0 (0%)	1 (1%)	1 (1%)	**75 (100)**
I will stay close to the hospital after 36 weeks of gestation	15 (20%)	53 (71%)	6 (8%)	1 (1%)	0 (0%)	**75 (100)**
I will go to the hospital immediately labour begins	11 (15%)	52 (69%)	2 (3%)	6 (8%)	4(5%)	**75 (100)**
I will deliver at the hospital	19 (25%)	53 (71%)	3 (4%)	0 (0%)	0 (0%)	**75 (100)**
I will have a vaginal delivery	7 (9%)	40 (53%)	17 (23%)	3 (4%)	8 (11%)	**75 (100)**
I will have a caesarean section	4 (5%)	20 (27%)	20 (27%)	22 (29%)	9 (12%)	**75 (100)**
I will use traditional medicine to speed up labour	2 (3%)	1 (1%)	1 (1%)	40 (53%)	31 (42%)	**75 (100)**
I will attend antenatal care as stipulated throughout pregnancy	16 (21%)	55 (74%)	3 (4%)	1 (1%)	0 (0%)	**75 (100)**

Table 4.4 shows that almost all the respondents (73, 97%) of which strongly agreed (31, 42%) and agreed (42, 56%) that they would be delivered by a skilled birth attendant in their subsequent pregnancies. Majority of the respondents (68, 91%) of which strongly agreed (15, 20%) and agreed (53, 71%) that they would stay close to the hospital after 36 weeks of gestation to wait for delivery. More than two thirds of the respondents (63, 84%) of which strongly agreed (11, 15%) and agreed (52, 69%) that they would go to the hospital immediately labour begins in their subsequent pregnancies. Almost all the respondents (72, 96%) of which strongly agreed (19, 25%) and agreed (53, 71%) that they would deliver at the hospital during their subsequent pregnancy. More than half of the respondents (47, 63%) of which strongly agreed (7, 9%) and agreed (40, 53%) that they would have a vaginal delivery during their subsequent pregnancies. More than one third of the respondents (31, 42%) of which strongly disagreed (9, 12%) and disagreed (22, 29%) that they would have a caesarean section during their subsequent pregnancies while (20, 27%) were uncertain. Almost all the respondents (71, 95%) of which strongly disagreed (31, 42%) and disagreed (40, 53%) that they would use traditional medicine to speed up labour during their subsequent pregnancies. Almost all the respondents (71, 95%) of which

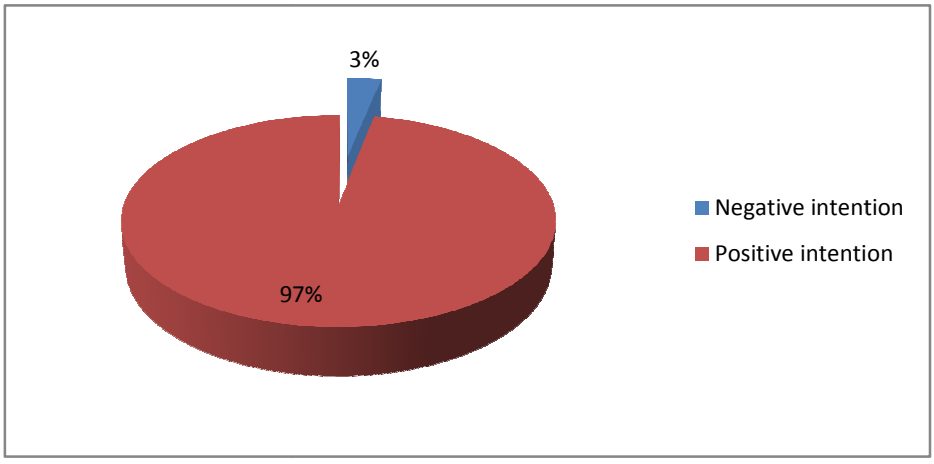
strongly agreed (16, 21%) and agreed (55, 74%) that they would attend antenatal care as would be stipulated throughout pregnancy during their subsequent pregnancies.

FIGURE 2: INTENTION SCALE



Intention to prevent VVF recurrence ranged from 2 to 4 (Mean = 2.58; SD = 0.31), skewness=.263, kurtosis=1.992, not normally distributed.

FIGURE 3: LEVEL OF INTENTION TO PREVENT VVF RECURRENCE



Most of the respondents (73, 97%) had positive intentions to prevent VVF recurrence while only (2, 3%) had negative intentions.

4.3.3 SECTION C: KNOWLEDGE OF THE RISK FACTORS OF VVF RECURRENCE.

This section consists of findings on respondents' knowledge of the risk factors of VVF recurrence questions. Knowledge of the risk factors of VVF recurrence questions covered twelve (12) questions which were either wrong or correct. The total score was 12 marks. There is one table in this section displaying responses to questions on knowledge of the risk factors of VVF recurrence. Knowledge scale was created and is presented in a graph. Further, the scores of knowledge were divided into two categories; Low level of knowledge ranged from 0-6 scores and high level of knowledge ranged from 7-12 scores. A pie chart was used to present the level of knowledge.

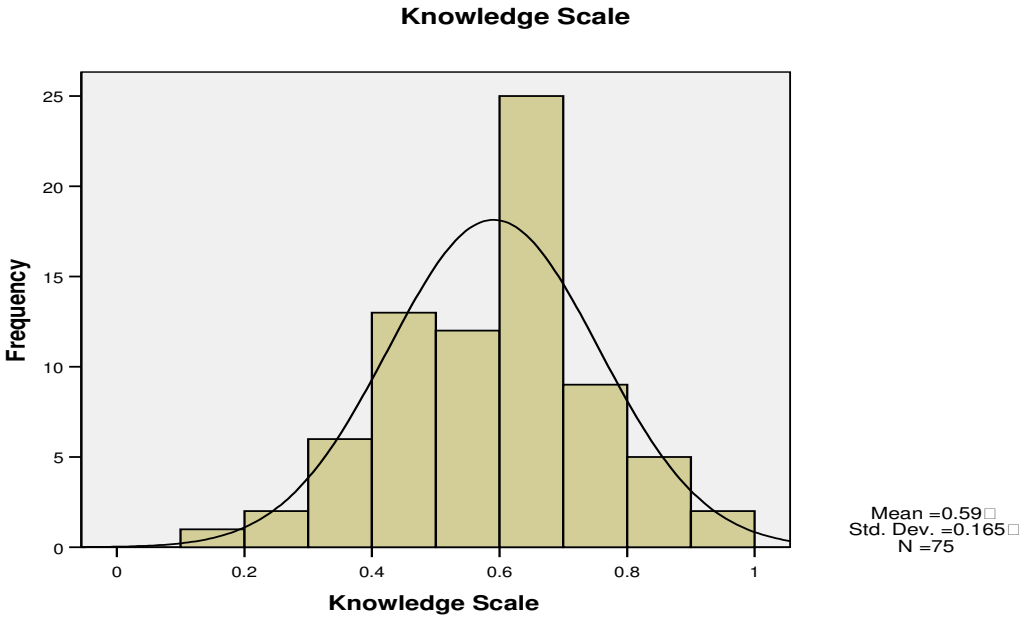
TABLE 4.5: RESPONSES TO QUESTIONS ON KNOWLEDGE OF THE RISK FACTORS OF VVF RECURRENCE (n=75)

Variable	Wrong	Correct
VVF Definition	22(29%)	53 (71%)
Is delivery by non skilled attendant a VVF recurrence risk factor	23(31%)	52(69%)
Is prolonged obstructed labour a VVF recurrence risk factor	14(19%)	61 (81%)
Is home delivery a VVF recurrence risk factor	26(35%)	49(65%)
Is seeking emergency obstetric care a VVF recurrence risk factor	34(45%)	41(55%)
Is vaginal delivery a VVF recurrence risk factor	47(63%)	28(37%)
Is using vaginal constrictors a VVF recurrence risk factor	42 (56%)	33(44%)
Is using traditional medicine to speed up labour a VVF recurrence risk factor	43(57%)	32(43%)
Is witchcraft a VVF recurrence risk factor	42 (56%)	33(44%)
Is caesarean section a VVF recurrence risk factor	40 (53%)	35 (47%)
Is family planning a VVF recurrence risk factor	8 (11%)	67 (89%)
Is Gods Will a VVF recurrence risk factor	17(23%)	58(77%)
Is Women Afraid of pushing a VVF recurrence risk factor	41 (55%)	34 (45%)

Table 4.5 shows that majority of the respondents (53, 71%) were able to define VVF while (22, 29%) could not. Majority of the respondents (52, 69%) correctly stated that delivery by non-skilled attendants was a risk factor of VVF recurrence. Majority of the respondents (61, 81%) correctly indicated that prolonged obstructed labour was a risk factor of VVF recurrence. Almost two thirds of the respondents (49, 65%) correctly stated that home delivery was a risk factor of VVF recurrence. More than half of the respondents (41, 55%) correctly indicated that not seeking emergency obstetric care was a risk factor of VVF

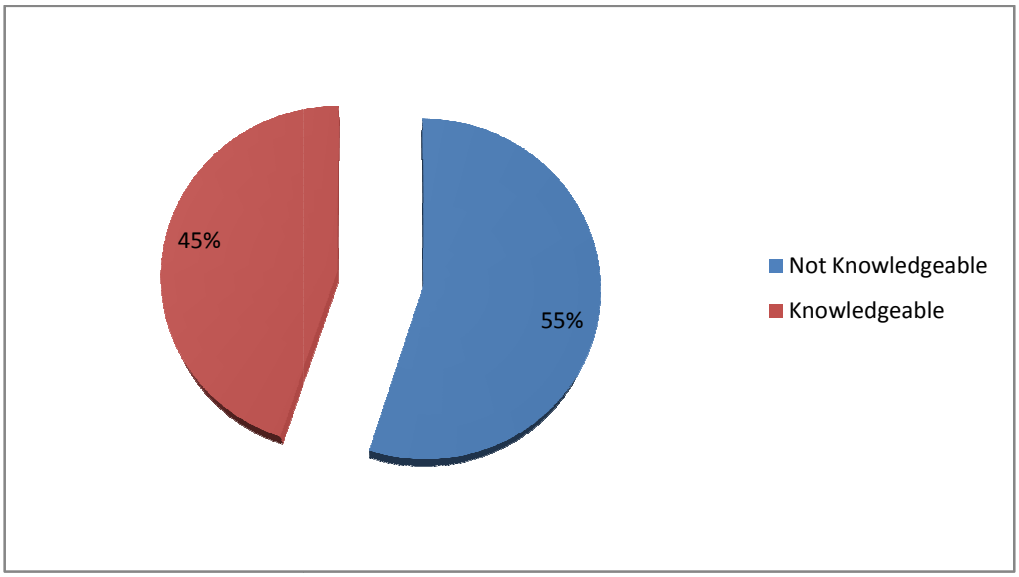
recurrence. Almost two-thirds of the respondents (47, 63%) did not know that vaginal delivery was a risk factor of VVF recurrence. More than half of the respondents (42, 56%) wrongly stated that using vaginal constrictors was not a risk factor of VVF recurrence. More than half of the respondents (43, 57%) did not know that using traditional medicine to speed up labour was a risk factor of VVF recurrence. More than half of the respondents (42, 56%) wrongly mentioned that witchcraft was a risk factor of VVF recurrence. Majority of the respondents (40, 53%) wrongly indicated that caesarean section was a risk factor of VVF recurrence. Majority of the respondents (67, 89%) correctly stated that non use of family planning methods was a risk factor of VVF recurrence. More than two-thirds of the respondents (58, 77%) knew that God's will was not a risk factor of VVF recurrence. More than half of the respondents (41, 55%) wrongly stated that being afraid of pushing during delivery was a risk factor of VVF recurrence.

FIGURE 4 KNOWLEDGE SCALE



Knowledge of the risk factors of VVF recurrence ranged from 0.1 to 1 (Mean =0.59; SD=0.165). Skewness=-.255, kurtosis=-.072, not normally distributed.

FIGURE 5 LEVEL OF KNOWLEDGE OF THE RISK FACTORS OF VVF RECURRENCE (n=75)



Majority of the respondents (41, 55%) were knowledgeable about the risk factors of VVF recurrence while only (34, 45%) were not knowledgeable.

4.3.4 **ATTITUDE**

This section consists of findings on respondents' attitude towards VVF prevention questions. The attitude questions covered 34 questions on a likert scale: strongly agree, agree, uncertain, disagree and strongly disagree. The total score was 136 marks. The total score was obtained from the measurements of the three beliefs/variable that makes up attitude: commitment, control and challenge. These were analyzed individually. The individual questions and scores for the three subscales of attitude were; commitment 7 questions and i.e. 28 scores; control 14 questions and 56 scores; and challenge 13 questions and 52 scores. The attitude subscales were presented in table form.

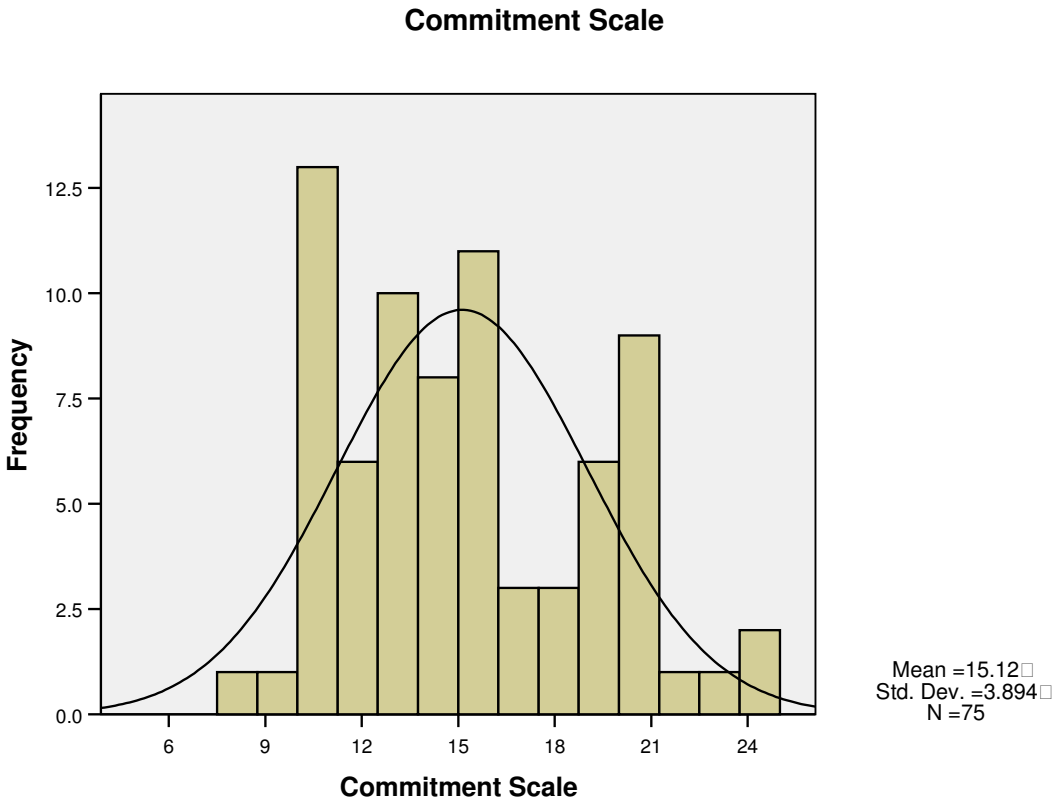
Attitude scale was created and is presented in a graph. Further, the scores of attitudes were divided into two categories; Negative attitude ranged from 0-67 scores and positive attitudes ranged from 68-136 scores. A pie chart was used to present the level of attitude.

TABLE 4.6 RESPONSES TO QUESTIONS ON ATTITUDES TOWARDS VVF PREVENTION COMMITMENT QUESTIONS (n=75)

Variable	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Total
Involvement in health promotion activities is stimulating	10 (13%)	38 (51%)	12 (16%)	13 (17%)	2 (3%)	**75 (100)**
I find people who are involved in health promotion interesting	9 (12%)	42 (56%)	6 (8%)	18 (24)	0 (0%)	**75 (100)**
The current focus on health promotion is a fad that will probably disappear	0 (0%)	11 (15%)	43 (57%)	20 (27%)	1 (1%)	**75 (100)**
I get excited about the possibility of improving my health	12 (16%)	27 (36%)	8 (11)	28 (37%)	0 (0%)	**75 (100)**
I am determined to be health as I can be	13 (17%)	44 (59%)	1 (1%)	17 (23%)	0 (0%)	**75 (100)**
I read everything I can about health	0 (0%)	12(16%)	0 (0%)	35 (47%)	28 (37%)	**75 (100)**
When something goes wrong with my health, I do everything I can to get to the root of the problem.	10 (13%)	18 (24%)	3 (4%)	44 (59%)	0 (0%)	**75 (100)**

Table 4.6 shows that slightly more than half of the respondents (38, 51%) agreed to the statement which say involvement in health promotion activities is stimulating while only (2, 3%) strongly disagreed. Majority of the respondents (42, 56%) agreed that they found people who were involved in health promotion interesting. More than half of the respondents (43, 57%) were uncertain to the statement which says the current focus on health promotion was a fad that would probably disappear. More than one third of the respondents (27, 36 %) agreed that they got excited about the possibility of improving their health. Majority of the respondents (44, 59%) acknowledged that they were determined to be as health as they could be. Almost half of the respondents (35, 47%) disagreed that they read everything they could about health. Majority of the respondents (44, 59%) disagreed that when something went wrong with their health, they would do everything they could to get to the root of the problem.

FIGURE 6: COMMITMENT SCALE



Commitment scale ranged from 10 to 25 (Mean=15.12; SD=3.894). Skewness=3.089, kurtosis=-4.810, not normally distributed.

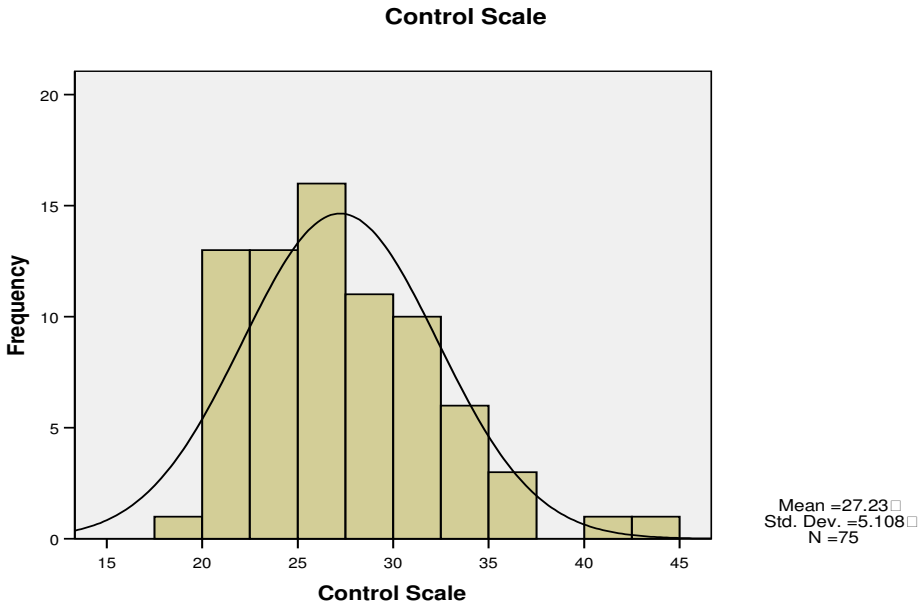
TABLE 4.7 RESPONSES TO QUESTIONS ON ATTITUDES TOWARDS VVF PREVENTION CONTROL QUESTIONS (n=75)

Variable	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Total
I can avoid illness if I take care of myself	12 (16%)	50 (67%)	3 (4%)	10 (13%)	0 (0%)	**75 (100)**
Luck plays a big part in determining how soon I will recover from an illness	11(15%)	50 (67%)	6 (8%)	7 (9%)	1(1%)	**75 (100)**
I am in control of my health	8 (11%)	19 (25%)	8 (11%)	39 (52%)	1 (1%)	**75 (100)**
My good health is largely a matter of good fortune	10 (13%)	49 (65%)	5 (7%)	11 (15%)	0 (0%)	**75 (100)**
No matter what I do, I`m likely to get sick**.**	5 (7%)	45 (60%)	5 (7%)	16 (21%)	4 (5%)	**75 (100)**
The main thing which affects my body is what I myself do.	3 (4%)	20 (27%)	9 (12%)	42 (56%)	1 (1%)	**75 (100)**
Setting goals for health is unrealistic	5 (7%)	43(57%)	13 (17%)	11 (15%)	3 (4%)	**75 (100)**
Most things that affect my health happen to me by accident.	2 (3%)	12 (16%)	9 (12%)	46 (61%)	6 (8%)	**75 (100)**
If I get sick, it is my own behaviour which determines how soon I will get well again.	7 (9%)	15 (20%)	9 (12%)	35 (47%)	9 (12%)	**75 (100)**
I will stay health if it is meant to be	5 (7%)	35 (47%)	10 (13%)	24 (32%)	1 (1%)	**75 (100)**
No matter what I do, if I am going to get sick, I will get sick	3 (4%)	43 (57%)	7 (9%)	17 (23%)	5(7%)	**75 (100)**
If I take the right action, I can stay healthy.	12 (16%)	57(76%)	3(4%)	3 (4%)	0 (0%)	**75 (100)**
I can be health as I want to be.	10 (13%)	21 (28%)	8 (11%)	36 (48%)	0 (0%)	**75 (100)**
I have little influence over my health.	6 (8%)	51 (68%)	3 (4%)	9 (12%)	6(8%)	**75 (100)**

Table 4.7 shows that majority of the respondents (50, 67%) agreed to the statement which say they can avoid illness if they take care of themselves. More than two thirds of the respondents (50, 67%) agreed that luck played a big part in determining how soon they would recover from an illness. Slightly more than half of the respondents (39, 52%) disagreed that they were in control of their health, while (8, 11%) were uncertain and strongly agreed respectively. Majority of the respondents (49, 65 %) agreed that good health was largely a matter of good fortune. More than half of the respondents (45, 60%) agreed to the statement which says no matter what I do, I'm likely to get sick. More than half of the respondents (42, 56%) disagreed that the main thing which affected their body was what they did themselves. Majority of the respondents (43, 57%) agreed that setting

goals for health was unrealistic. Majority of the respondents (46, 61 %) disagreed that most things that affected their health happened to them by accident. Almost half of the respondents (35, 47%) disagreed that if they got sick, it was their own behaviour which determined how soon they would get well again. Almost half of the respondents (35, 47%) agreed that they would stay health if it were meant to be. Majority of the respondents (43, 57%) agreed that no matter what they did, if they were going to get sick, they would get sick. More than two thirds of the respondents (57, 76%) agreed that if they took the right action, they could stay healthy while (3, 4%) were uncertain and disagreed respectively. Almost half of the respondents (36, 48%) refused that they could be as health as they wanted to be. Majority of the respondents (51, 68%) agreed that they had little influence over their health while only (6, 8%) strongly agreed and disagreed respectively.

FIGURE 7: CONTROL SCALE



Control scale ranged from 20 to 42.5 (Mean=27.23; SD=5.108). Skewness=5.563, kurtosis=-8.664, not normally distributed.

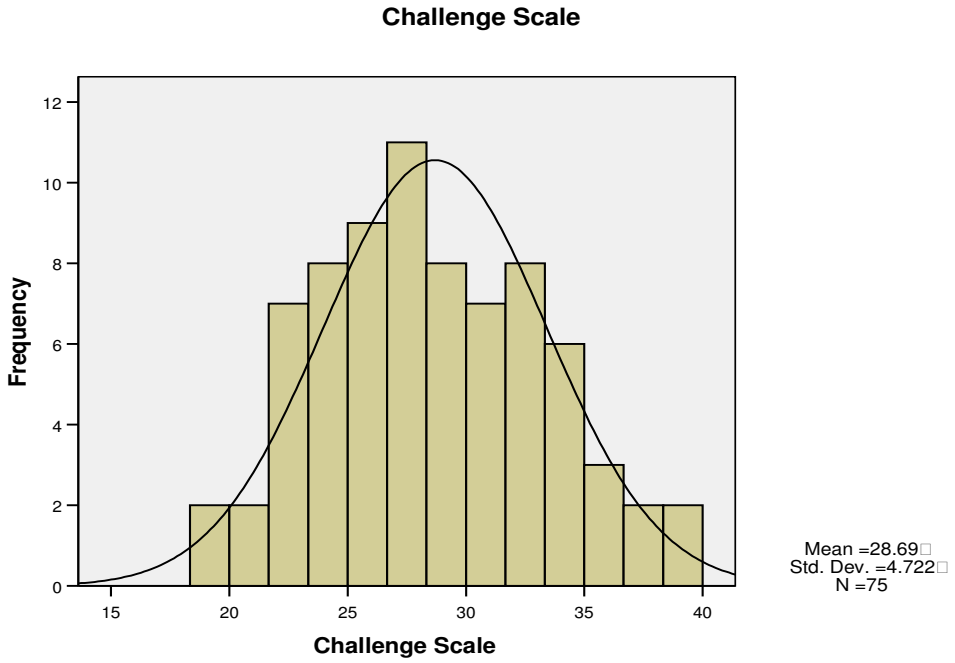
TABLE 4.8: RESPONSES TO QUESTIONS ON ATTITUDES TOWARDS VVF PREVENTION CHALLENGE QUESTIONS (n=75)

Variable	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Total
I find it difficult to be enthusiastic about good health	3(4%)	26(35%)	16 (21%)	27 (36%)	3 (4%)	**75 (100)**
No matter how hard I try to maintain my health, my efforts will accomplish very little**.**	4 (5%)	37 (49%)	6 (8%)	26 (35%)	2(3%)	**75 (100)**
I admire people who work hard to improve their health	17 (23%)	49 (65%)	1(1%)	8 (11%)	0 (0%)	**75 (100)**
Good health is more important to me than financial security	15 (20%)	28 (37%)	3 (4%)	26 (35%)	3 (4%)	**75 (100)**
I find it boring to eat and exercise properly to maintain my health.	4 (5%)	30 (40%)	7 (9%)	29 (39%)	5 (7%)	**75 (100)**
Changes taking place in health care are not exciting to me	6 (8%)	15 (20%)	17 (23%)	34 (45%)	3(4%)	**75 (100)**
Changes taking place in health care will have no effect on me.	4 (5%)	18 (24%)	21 (28%)	27 (36%)	5(7%)	**75 (100)**
I do not find it interesting to learn about health	5 (7%)	19 (25%)	1 (1%)	47 (63%)	3 (4%)	**75 (100)**
I am not interested in exploring new health care regimens or programs to my health.	2 (3%)	21 (28%)	5 (7%)	39 (53%)	7 (9%)	**75 (100)**
I feel no need to try to maintain my health because it makes no difference anyway	1 (1%)	32 (43%)	8 (11%)	28 (37%)	6(8%)	**75 (100)**
No matter how hard I work to promote health for society, it never seems to improve.	2 (3%)	18(24%)	20 (27%)	35 (47%)	0 (0%)	**75 (100)**
Our society holds no worthwhile goals or values about health	2 (3%)	15 (20%)	19 (25%)	37 (49%)	2 (3%)	**75 (100)**
When my health is threatened, I view it as a challenge	4 (5%)	23 (31%)	16 (21%)	30 (40%)	2 (3%)	**75 (100)**

Table 4.8 shows that more than one third of the respondents (27, 36%) disagreed that they found it difficult to be enthusiastic about good health. Almost half of the respondents (37, 49%) agreed that no matter how hard they would try to maintain their health, their efforts would accomplish very little. Almost two thirds of the respondents (49, 65%) agreed that they admired people who worked hard to improve their health. More than one third of the respondents (28, 37%) agreed that good health was more important to them than financial

security while 3 (4%) were uncertain and strongly disagreed respectively. Less than half of the respondents (30, 40%) agreed that they found it boring to eat and exercise properly to maintain their health. More than one third of the respondents (34, 45%) disagreed that changes that took place in health care were not exciting to them. More than one third of the respondents (27, 36%) disagreed that changes that took place in health care would have no effect on them. Majority of the respondents (47, 63%) disagreed that they did not find it interesting to learn about health. More than half of the respondents (39, 53%) disagreed that they were not interested in exploring new health care regimens or programs to their health. Less than half of the respondents (28, 37%) disagreed that they felt no need to try to maintain their health because it made no difference anyway. Almost half of the respondents (35, 47%) disagreed that no matter how hard they worked to promote health for society, it never seemed to improve. Almost half of the respondents (37, 49%) disagreed to the statement which says our society holds no worthwhile goals or values about health. Less than half of the respondents (30, 40%) disagreed that when their health was threatened, they viewed it as a challenge.

FIGURE 8: CHALLENGE SCALE

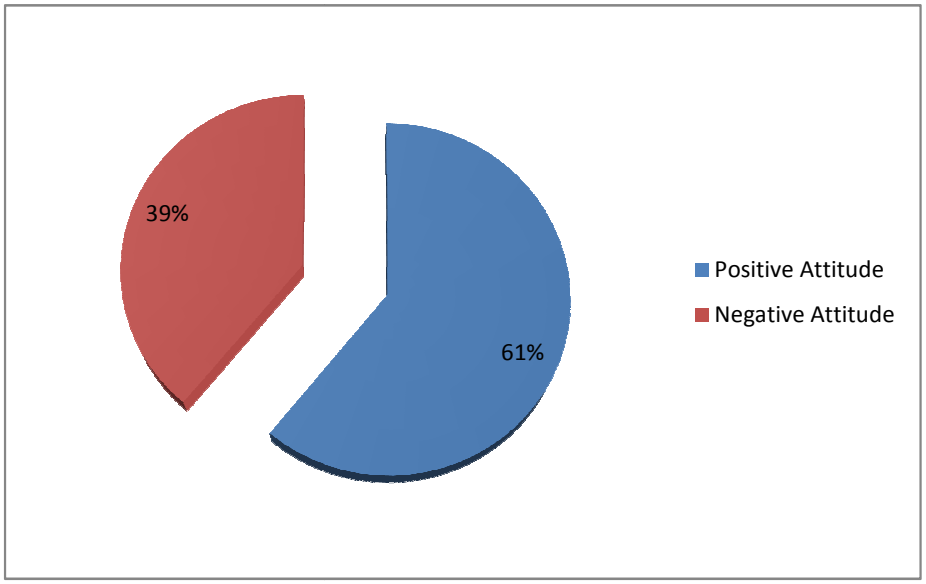


Challenge scale ranged from 18 to 40 (Mean=28.69; SD=4.722). Skewness=5.861, Kurtosis=-9.128, not normally distributed.

FIGURE 9: ATTITUDE SCALE

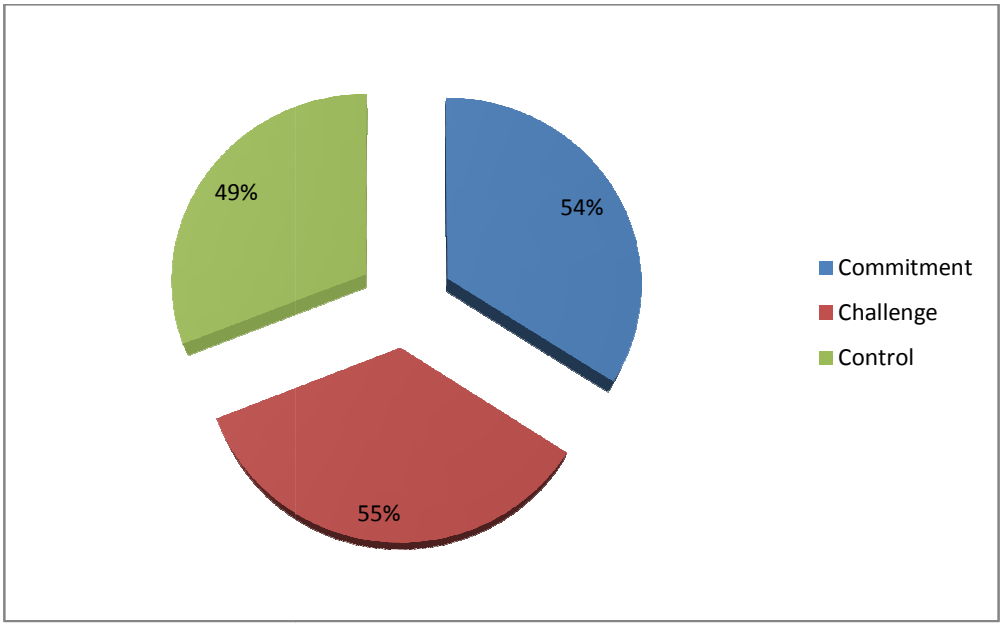
Attitude ranged from 1.60 to 2.80 (Mean =2.09; SD= 0.289). Skewness=.462, Kurtosis=-.665, not normally distributed.

FIGURE10: LEVEL OF ATTITUDES TOWARDS VVF PREVENTION



Majority of the respondents (46, 61%) had positive attitudes towards VVF prevention while only (29, 39%) had negative attitudes towards VVF prevention.

FIGURE 11: PIE CHART ON THREE ATTRIBUTES OF ATTITUDE



Most of the respondents reported positive attitudes towards VVF prevention, Commitment (54%), Control (49%) and Challenge (55%). Majority of the respondents had low level of commitment (40, 54%) and low level of control (51, 68%) while majority of the respondents had high challenge (47, 63%).

4.3.5 **SELF ESTEEM**

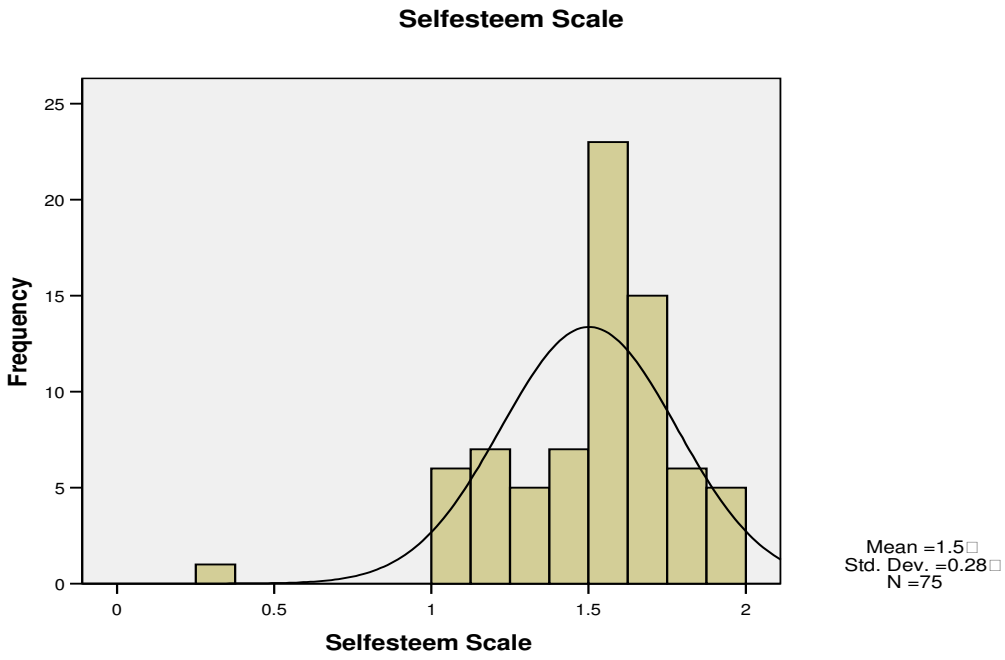
This section consists of findings on respondents' self esteem questions. The self esteem questions covered ten (10) questions on a likert scale: strongly agree, agree, disagree and strongly disagree. The total score was 30 marks. There is one table in this section displaying responses to questions on self esteem. Self esteem scale was created and is presented in a graph. Further, the scores of self esteem were divided into categories; low self esteem ranged from 0-15 scores and high self esteem ranged from 16-30. A pie chart was used to present the level of self esteem.

TABLE 4.9: SELF ESTEEM VARIABLE (n=75)

Variable	Strongly Agree	Agree	Disagree	Strongly Disagree	Total
I feel that I am a person of worth, at least on an equal plane with others.	7 (9%)	51 (68%)	12 (16%)	5 (7%)	**75 (100)**
I feel that I have a number of good questions	12 (16%)	17 (23%)	43 (57%)	3 (4%)	**75 (100)**
All in all, am inclined to feel that I am a failure	10 (13%)	28 (37%)	35 (47%)	2 (3%)	**75 (100)**
I am able to do things as well as most other people	1 (1%)	34 (45%)	35 (47%)	5 (7%)	**75 (100)**
I feel I do not have much to be proud of	1 (1%)	27 (36%)	44 (59%)	3 (4%)	**75 (100)**
I take a positive attitude towards myself	9 (12%)	42 (56%)	22 (29%)	2 (3%)	**75 (100)**
On the whole, I am satisfied with myself	8 (11%)	43 (57%)	24 (32%)	0 (0%)	**75 (100)**
I wish I could have more respect for myself	12 (16%)	32 (43%)	27 (36%)	4 (5%)	**75 (100)**
I certainly feel useless at times	10 (13%)	35 (47%)	30(40%)	0 (0%)	**75 (100)**
At times I think I am no good at all.	7 (9%)	40 (53%)	25 (34%)	3 (4%)	**75 (100)**

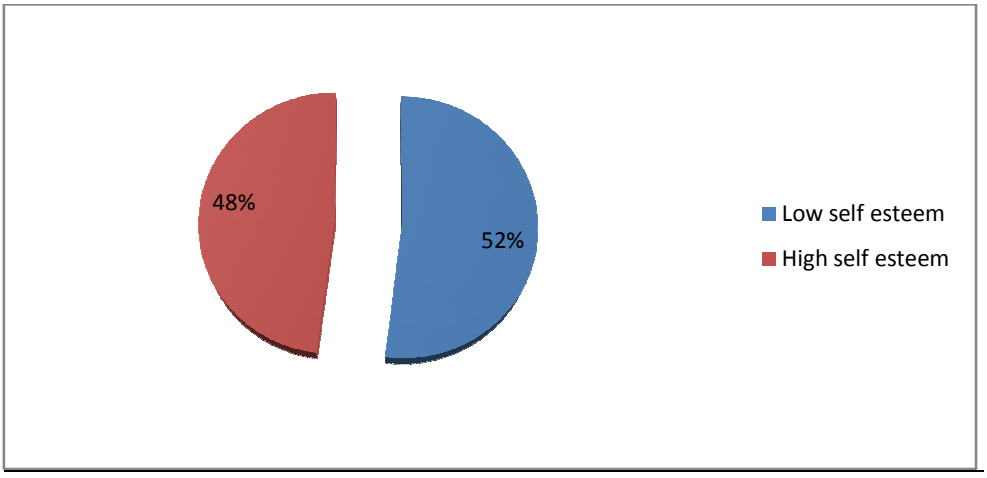
Table 4.9 shows that majority of the respondents (51, 68%) agreed that they felt they were persons of worth, at least, on an equal plane with others. More than half of the respondents (43, 57%) disagreed that they had a number of good questions to ask. Almost half of the respondents (35, 47%) disagreed that they were inclined to feel that they were failures. Almost half of the respondents (35, 47%) disagreed that they were able to do things as well as most other people. Majority of the respondents (44, 59%) disagreed that they felt they did not have much to be proud of. More than half of the respondents (42, 56%) agreed that they took a positive attitude towards themselves. Majority of the respondents (43, 57%) agreed that on the whole, they were satisfied with themselves. Less than half of the respondents (32, 43%) agreed that they wished they could have more respect for themselves. Almost half of the respondents (35, 47%) agreed that they certainly felt useless at times. More than half of the respondents (40, 53%) agreed that at times they thought they were no good at all.

FIGURE 12: SELF ESTEEM SCALE



Self esteem ranged from 1 to 2 (Mean=1.5; SD= 0.28). Skewness=-1.232., kurtosis=3.312, not normally distributed.

FIGURE 13: LEVEL OF SELF ESTEEM



Slightly more than half of the respondents 39 (52%) had low level of self esteem while 36 (48%) had high level of self esteem.

4.3.6 RELATIONSHIPS BETWEEN INTENTION TO PREVENT VVF RECURRENCE AND KNOWLEDGE, ATTITUDE AND SELF ESTEEM.

This section presents results of the relationship between intention to prevent VVF recurrence and knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self esteem. A spearman correlation co-efficient was used to establish relationships between variables. There are two tables in this section. The first table shows the distribution of variables as continuous variables. The second table is the correlations among study variables.

TABLE 4.10 DISTRIBUTION OF VARIABLES

Variable	No.	Range	Minimum	Maximum	Mean	Std. Deviation
Intention	75	2	2	4	2.58	.313
Knowledge	75	1	0	1	.59	.165
Attitude	75	1	2	3	2.09	.289
Self esteem	75	2	0	2	1.50	.280

Intention to prevent VVF recurrence level ranged from 2-4 (Mean =2.58;
SD =0.313).

Knowledge of the risk factors of VVF recurrence level ranged from 0-1 (Mean = .59; SD= 0.165).

Attitudes towards VVF prevention level ranged from 2-3 (Mean= 2.09; SD= 0.289).

Self esteem level ranged from 0-2 (Mean= 1.50; SD= 0.280).

TABLE 4.11 RELATIONSHIPS BETWEEN INTENTION TO PREVENT VVF RECURRENCE AND THE FOLLOWING: KNOWLEDGE, ATTITUDE AND SELF ESTEEM

VARIABLE	1	P VALUE
1.Intention	1	
2. Knowledge	.04	0.05
3.Attitude	.27*	0.05
4. Self esteem	-.25*	0.05

*** Correlation is significant at the 0.05 level (2-tailed).**

Table 4.11 shows that there was a positive statistical significance relationship between intention to prevent VVF recurrence and attitudes towards VVF prevention (r^2= 0.27, n=75, p=0.05, 2-tailed). There was a negative statistical significance correlation between intention to prevent VVF recurrence and self esteem (r^2= -0.25, n=75, p=0.05, 2-tailed). However, there was no relationship between intention to prevent VVF recurrence and knowledge of the risk factors of VVF recurrence (r^2=

0.04, n=75, p=0.05, 2-tailed.

4.3.7 **MULTIPLE REGRESSIONS**

Multiple regressions were done to determine the influence/effect of knowledge, attitude and self esteem on intention to prevent VVF recurrence. Using the enter method, the model was significant. Adjusted R square =.151: F= 5.384, p=<.005. The results are presented in a table below.

TABLE 4.12 MULPTIPLE REGRESSION

	Predictor Variable	**B**	**P value**	
	Knowledge	.062	.>005	
	Attitude	.299	.<005	
	Self-esteem	.270	.<005	

Knowledge was not a significant predictor in this model. Predictor contributed 15% to the model. Assumptions of linearity, normally distributed errors, and uncorrelated errors were checked and met. This resulted in a model with 2 significant independent variable explaining 15% of the variance in intention to prevent VVF recurrence. The strongest independent variable (as assessed by the standardized regression coefficient, β) was attitude (β=.299) followed by self esteem (β=.270). Knowledge was not significant (β=.062).

4.3.7 SUGGESTIONS

This section looked at the qualitative data that was collected from the open ended question on the respondent's suggestion on how VVF recurrence can be prevented among repaired women.

TABLE: 4.13 SUGGESTIONS ON WHAT SHOULD BE DONE TO PREVENT VVF RECURRENCE AMONG REPAIRED WOMEN

Variable	Frequency	Percentage
No suggestion	7	10
Health related	67	89
Spiritual related	1	1
Total	**75**	**100**

Table 4.13 shows that (7, 10%) of the respondents had no suggestions on how to prevent future VVF recurrence while majority of the respondents (67, 89%) mentioned health related suggestions that would prevent VVF recurrence among repaired women. The health related suggestions mentioned included; having repairs, seeking emergency obstetric care, not having sexual intercourse for 3 months to I year after repair, not getting pregnant within 1 year after repair, staying near the hospital prior to labour, not taking African syntocinon in subsequent pregnancies to speed up labour, attending antenatal care in subsequent pregnancy as advised by the medical personnel, early antenatal booking in subsequent pregnancy, delivering at the hospital during subsequent pregnancies, delivering by caesarean section in subsequent pregnancy, health personnel to teach repaired women on how to prevent recurrence, no more getting pregnant after VVF repair, not doing strenuous activities after repair, avoid sexual violence, seeking medical attention promptly whenever sick, eating a balanced diet, delivering with skilled attendants and more clinics to be built for easy access. Only (1, 1%) respondent suggested spiritual related factors that would be enhanced through being prayed for by the Priest, pastors, bishops, reverends and fathers.

CHAPTER FIVE

5.0 DISCUSSION OF FINDINGS AND IMPLICATIONS FOR THE HEALTH CARE SYSTEM

5.1 INTRODUCTION

The general objective of the study was to determine intention to prevent VVF recurrence among women with VVF in two repair centers in Zambia. The study sample comprised women with VVF who were receiving care at the two repair centres in Zambia (Katete and Chilonga Mission Hospitals). The study was prompted by the fact that VVF is commonly known as a preventable tragedy hence knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self esteem among women with VVF are the key in the prevention of VVF recurrence. This chapter presents a discussion of data obtained from respondents through face to face interviews conducted at Katete and Chilonga Mission Hospitals from September to November, 2011.

5.2 SAMPLE CHARACTERISTICS

Section A of the questionnaire (Appendix IV) obtained the demographic data (Table 4.1), history of VVF data (Table 4.2) and obstetric data (Table 4.3) from the 75 respondents which yielded a response rate of 100%.

5.2.1 DEMOGRAPHIC DATA

The majority of the respondents (30, 40%) were aged between 15 and 19years (Mean 25.33, Median 23.00, SD 8.00). This could be due to the fact that cephalopelvic disproportion often complicates deliveries in young, primiparous women of low gynaecological age (WHO, 2005). This finding is in contrast with CSO, 2007 which states that 22% of women are aged between 15-19 years. Majority of the women who participated in the study were Bemba speaking people (50, 67%). This may be due to the fact that majority of women with VVF are of the Bemba tribe. This is in agreement with Holme *et al.,* (2006)'s study conducted at the Monze Mission Hospital which revealed that 52.3% of the women were of the Bemba tribe. The tribal affiliation differs significantly from national proportion ($p < 0.001$), where only 36% of women are Bemba speaking people (CSO, 2003). All the respondents were Christians (Table 4.1). This could be attributed to the fact that Zambia is a Christian nation. It could also be due to the fact that over 90% of the

populations worldwide are Christians. The respondents also belonged to various religious denominations with 75% of Protestants and 15% of Catholics. This is supported by CSO (2007) which states that 78% of women are Protestants.

Majority of the respondents (56, 75%) had attained Primary education, while only (4, 5%) had secondary education (Table 4.1). The low levels of education among the respondents may be attributed to the fact that all the respondents were female. Education for females is still not considered necessary because society recognize the kitchen as the place for women. As a result most women were encouraged to get married rather than pursue their education. However, CSO (2007) indicates that most of the Zambian women have some formal education and 54.4% of women attend primary education. Most of the respondents (32, 43 %) were self employed, while (19, 25%) were housewives and 1 (1%) was a student. This could be attributed to the women's low levels of education as the majority had only attained primary education and could not be in formal employment. According to CSO (2007) women are self employed and many are subsistence farmers.

Majority of the respondents were married (56, 75%). This finding is in agreement with the CSO (2007) which revealed that 62% of women were married and living together with their spouses. The study has revealed that less than one quarter of the respondents (11, 15%) were divorced when they started leaking urine. However, Holme *et al.,* (2006)'s study revealed that 15.1% of women with fistula are divorced. These findings are different from the results of several studies conducted in many African countries among women with VVF where divorce rates were high among women with VVF. Therefore, it is difficult to explain why the large proportions of women in this study were still married. However, this may be due to differences in the case or acceptability of divorce in Zambia, compared with other countries. Furthermore, women may have been too ashamed to say they were divorced. One other possibility is that in communities that practice polygamy, the husband may take another wife without having to divorce the existing wife.

Majority of the respondents (49, 65%) were from Northern Province (Table 4.1). This finding is in agreement with Holme *et al.,* (2006)'s study which revealed that 56.5% of women who came for fistula repair in Monze were from the Northern

Province. The respondents were a representative from Northern, Southern, Western, Northwestern and Eastern provinces. The high number of respondents from Northern Province could be attributed to the fact that majority of the respondents were Bemba. This may also be because the Northern Province is a large, sparsely populated rural area, with few hospitals, limited transportation, difficult communication and thus poorer access to health care than other regions (Le-Bacq & Rietsema, 1997).

Majority of the respondents (59, 79%) walked less than or equal to 5 hours to the health care facility. This could be an indication that there are many health centers built within 12kms catchment area. It could also be that since majority of women were illiterate, they did not know how long it took them to reach the health care facility. The findings also show that some respondents (16, 21%) walked for more than five hours to reach a health facility. This finding is however similar with the study conducted by Nisar *et al.,* 2005 in Nigeria that revealed that 88.9% of the women with VVF travelled for 1-5 hours to reach the health facility.

5.2.2 HISTORY OF VVF DATA

The age at fistula occurrence was highest between the age of 12 and 20 years (Table 4.2) (Mean 22.7, median 20.0, SD 7.09). This is due to the fact that the pelvis has not yet been well developed hence making the woman more likely to develop obstructed labour. Besides this the young woman is herself physically immature with very delicate tissues in the birth canal (WHO, 2005). Similarly, a study conducted by Stanford University in Eritea found that majority of the respondents were 20 years old or younger when the fistula occurred (UNFPA, 2004).

Majority of the respondents (33, 44%) stated that their VVF were caused by prolonged obstructed labour (Table 4.2). These results are in contrast with Hassen & Ekele study (2009) which was conducted in Nigeria to determine the knowledge that women who developed VVF had on the causes of VVF and their attitudes towards measures that would prevent future occurrence. The study revealed that prolonged labour was the cause of VVF in (110, 85%) women and (77, 70%) of the women correctly attributed their problem to prolonged labour. The 37 women with VVF who could not identify prolonged obstructed labour as the cause of VVF, they

either attributed their condition to the operation that was done to relief the obstruction, witchcraft, episiotomy, forceps delivery, vaginal tears, urinary catheter and early pushing while others did not know the cause.

Majority of the respondents (68, 91%) were diagnosed with VVF for the first time (Table 4.2). This may be due to the fact that there are more women developing VVF in the country. It could also be that women do not receive repair services in good time. The other reason may be due to the fact that women with VVF do not know that repair services exist. This is in agreement with a study done in Burkina Faso which revealed that women with obstetric fistula received traditional medicine in vain for many years. The study further reports that after these unsuccessful attempts, some sought modern treatment. Majority of the respondents (58, 77%) had never had fistula repair attempt before and this was their first attempt (4.2). This is in agreement with Holme *et al.,* (2006) who revealed that 72.6% of VVF operations were done for the first time. Among those who have had a multiple VVF repairs, 3(60%) attributed the fistula to urine incontinence. This may be an indication that more than half of the repaired women in Zambia do not get healed after first repair attempt. This is however in contrast with findings by Holme *et al.,* (2006)'s study which showed that 17.3% of the repairs resulted in residual stress incontinence in Zambia.

5.2.3 **OBSTETRIC DATA**

Some of the respondents (33, 44%) had one to three children. Thirty women (40%) had no living children (Table 4.3). This could be attributed to the fact that most pregnancies resulted in stillbirth. Holme *et al.,* (2006)'s study revealed that 55.6% of women were childless who had suffered at least one stillbirth and who had at least one dead child. About a third of the respondents (29, 39%) had attended the antenatal clinic for antenatal care four times during the pregnancy that resulted into VVF. This may mean that the health care providers could not identify women at risk of obstructed labour. Antenatal care attendance during the most recent pregnancy was significantly associated with the women's level of education.

Majority of the respondents (60, 80%) delivered at the hospital, while only (9, 12%) had home deliveries. This could be due to the fact that women went to the health

facility after discovering that they could not deliver at home. This is in contrast with national data which suggest that 48 % of women in Zambia had their most recent delivery at a health facility and 52% at home. Majority of the respondents (65, 87%) were attended to by skilled birth attendant during their last delivery. This may be due to the fact that majority of women with VVF are transferred to the hospital because of obstructed labour. According to CSO (2007) less than half (47 percent) of women were assisted by a trained health professional at their last birth. The proportion of women attended to by a doctor during delivery was high compared with 3.2% nationally. More than two thirds of the respondents (52, 69%) were in labour for more than 24 hours (Table 4.3). This could be attributed to the fact that women were not given health education during pregnancy on obstructed labour and hence could not identify it in good time. It could also be due to the fact that women had to walk for many hours to reach the health care facilities. These results are similar with Holme *et al.,* (2006) who revealed that 52.6% of women with VVF spent 2 days or more in labour. This finding is also similar to the descriptive exploratory survey done in 2004 in Cameroon by Ministry of Health and UNFPA on obstetric fistula in 50 health facilities in two provinces which revealed that most women who developed VVF had been in labour, at home for more than 24 hours with only a traditional birth attendant.

The cause of VVF from hospital records for majority of the respondents (68, 91%) was due to prolonged obstructed labour. This could be due to the fact that the major cause of VVF is prolonged obstructed labour. This is in agreement with a study done by Nisar *et al.,* (2009) in Nigeria on the management of VVF in women which revealed that prolonged obstructed labour contributed to (78%), caesarean hysterectomy (7.6%), caesarean section (7.30%) and other obstetrical traumatic procedures to 12.28%. Similarly, Hassen & Ekele study (2009) revealed that prolonged obstructed labour was the cause of VVF in (110, 85%) of women.

5.3 **INTENTION TO PREVENT VVF RECURRENCE**

Intention to prevent VVF recurrence looked at the desire and plan women with VVF had in order to prevent recurrence of VVF after fistula repair and in subsequent pregnancies.

Almost all the respondents (73, 97%) of which strongly agreed (31, 42%) and agreed (42, 56%) that they would be delivered by a skilled birth attendant in their subsequent pregnancies while 1 (1 %) strongly disagreed and disagreed respectively (Table 4.4). This could mean that women with VVF are willing to seek skilled care in subsequent pregnancies. The findings are similar with Hassen & Ekele study conducted in Nigeria in 2009 which revealed that 68% of the women with VVF reported that they would have skilled attendant at delivery in subsequent pregnancy. This is supported by the WHO (2005) report which states that skilled care before and after birth and particularly during labour can make a difference between life and death for women and their babies and can help to prevent obstetric fistula. Yet only half of the women in developing countries receive assistance from a skilled attendant during delivery. It is a fact that the major cause of VVF is prolonged obstructed labour and skilled attendant at birth and swift surgical intervention if obstructed labour occurs can prevent fistula.

Majority of the respondents (68, 91%) of which strongly agreed (15, 20%) and agreed (53, 71%) that they would stay close to the hospital after 36 weeks of gestation to wait for delivery (Table 4.4). This is consistent with a study done by Norman *et al.,* (2008) in Nigeria whose objective was to follow up the quality of life outcomes in two (2) women who underwent fistula repair. He reported that approximately after two years of repair, the woman conceived. She stayed with her friends at Jos fistula hospital intermittently in early pregnancy and from the seventh gestation month until delivery. She had a healthy baby that was delivered by elective caesarean section. This is supported by a WHO report of 2001, on maternity waiting homes which states that maternity waiting homes play an integral role in the reduction of maternal mortality and identified women's risk based on both physiologic factors as well as by distance from emergency obstetric care. Anyone who lived more than 4 hours from the emergency obstetric care facility was entitled to stay at a maternity waiting home.

More than two thirds of the respondents (63, 84%) of which strongly agreed (11, 15%) and agreed (52, 69%) that they would go to the hospital immediately labour begins in their subsequent pregnancies (Table 4.4). A study conducted by Mselle *et al.,* 2011 in Tanzania revealed that almost all the women out of the sixteen women with VVF explained that they had planned to give birth in the health facility, however, the decisions concerning where to go seemed to be taken by others for example 7% of cases by women, 60% mostly husbands

and mothers in law. Informants explained that their husbands and mothers in law were inclined to prefer home delivery for a number of reasons including convenience, custom and cost. Therefore, women with a fistula should get to the hospital that has trained personnel while still in labour as fistula can be prevented in women with prolonged labour by continuous cauterization and administration of antibiotics postpartum or by caesarean section birth (Miller *et al.,* 2005; WHO, 2005).

Almost all the respondents (72, 96%) of which strongly agreed (19, 25%) and agreed (53, 71%) that they would deliver at the hospital during their subsequent pregnancy (Table 4.4). This could be due to the fact that majority of the respondents knew that delivery by non-skilled attendant was a risk factor of VVF recurrence. It could also be that majority of the respondents delivered at the hospital during the pregnancy that led to VVF. This is in agreement with Ghororo and Agholor (2009) study done in Benin where some 56.6% respondent said that hospital delivery is a VVF preventive measure. This also is consistent with a study done by Hassen & Ekele (2009) which reports that 68 % of the respondents said they would have hospital delivery in their subsequent pregnancy. Similarly, a study done by the collaborative efforts of the number of institutions in Tanzania among women with obstetric fistula reported women and girls having recommended delivering at the hospital as this prevent problems since a woman will be assisted to deliver. The findings are also supported by the WHO (2005) report that states when a delivery is conducted in the hospital, a difficult labour that may become obstructed can be identified by the use of a partogram, and a caesarean section can be performed.

More than half of the respondents (47, 63%) of which strongly agreed (7, 9%) and agreed (40, 53%) that they would have a vaginal delivery during their subsequent pregnancies (Table 4.4). This could be attributed to the fact that majority of the respondents did not know that vaginal delivery was a risky factor of VVF recurrence. This is consistent with Tanko (2006) in Nigeria whose study revealed that women with repaired VVF were often accompanied by remarriage involving a different spouse and hence did not make delivery decisions easy. In the same study, women with VVF still desired a large family size (they still expected to have repairs and children). Also among those that enjoyed repairs, the tendency to marry and deliver through the same means at home and rejection of Caesarean birth was common. This may suggest that education may have an influence on the mode of delivery in subsequent pregnancy because most of the respondents in this study went up to

primary education and could not make a link between VVF formation and vaginal delivery. However, the study findings did not show any association between education and mode of delivery. This could be attributed to the fact that women feel they should deliver vaginally unless a complication occurs.

Less than one third of the respondents (24, 32%) of which strongly agreed (4, 5%) and agreed (20, 27%) that they would have a Caesarean section during their subsequent pregnancies (Table 4.4). This is in agreement with Hassen & Ekele study (2009) which revealed that, to the question "will you agree to a Caesarean section as the mode of subsequent delivery to prevent the VVF? " 61 (55.5%) patients will consent to Caesarean section, 15 (13.6 %) will not accept it, while 34 (30.9 %) could not make any personal commitment. WHO (2005) and UNFPA (2006) supports Caesarean birth in subsequent pregnancies and reports that Caesarean section is the only mode of subsequent deliveries to women with a repaired successful VVF. It is therefore, important to educate women with a repaired VVF on Caesarean section birth in subsequent pregnancy to make sure they have adequate information and make informed choices in subsequent pregnancies.

Almost all the respondents (71, 95%) of which strongly disagreed (31, 42%) and disagreed (40, 53%) that they would use traditional medicine to speed up labour during their subsequent pregnancies while 1 (1%) was uncertain and agreed respectively (Table 4.4). This could be attributed to the fact that women knew the dangers of using traditional herbs. It could also be that they used traditional medicine to speed up labour during the pregnancies that lead to the development of VVF. The findings of the current study are supported by the WHO (2005) report which states that the use of herbal mixture and magic is common during delivery throughout Africa. The chemical compounds of some of these mixtures are beneficial, but others are quite lethal especially when taken in large quantities. The report further states that in cases of obstructed labour, the abdomen is at times massaged or pressed to force the baby out and can also cause uterine rupture and obstetric fistula.

Almost all the respondents (71, 95%) of which strongly agreed (16, 21%) and agreed (55, 74%) that they would attend antenatal care as would be stipulated throughout pregnancy during their subsequent pregnancies (Table 4.4). Norman *et al.,* (2008)'s study at Jos hospital revealed a repaired VVF girl who conceived and during pregnancy, she

intermittently attended antenatal clinic and noted that soiling worsened during pregnancy. The findings of this current study are supported by the WHO (2005) report which states that problems with labour may be anticipated during antenatal care. The report further states that it is at antenatal care that health care providers can check important health indicators and look for any possible complications and / or risk factors in pregnant women.

On the overall, majority of the respondents (73, 97%) had positive intentions to prevent VVF recurrence (Figure 3). This could be due to the fact that these women with VVF were experiencing the disease and had no option but to intend to prevent future recurrence. This also shows that women with repaired VVF are willing to prevent VVF recurrence. This is the positive step in the prevention of VVF recurrence. Hence interventions given in this study should be instituted.

5.4 **KNOWLEDGE OF THE RISK FACTORS OF VVF RECURRENCE**

Knowledge of the risk factors of VVF recurrence looked at the understanding of or information about a subject which has been obtained by experience or study, and which is either in a person's mind or possessed by people generally.

Majority of the respondents (53, 71%) knew the definition of Vesico-vaginal fistula while the rest either gave the wrong definition of VVF or did not know (22, 29%) (Table 4.5). This is consistent with a study done by Kazaura *et al.,* (2010) in Tanzania which revealed that 60% of the interviewees reported to be aware of VVF with a connotation of urine in the names. However, Engender Health and UNFPA, (2006) in Bangladesh reported that women with VVF felt embarrassed to discuss VVF and hence lacked knowledge.

Majority of the respondents (52, 69%) reported that delivery by non-skilled attendants was a risk factor of VVF recurrence (Table 4.5). This is in agreement with Hassen & Ekele's study conducted in Nigeria in 2009 which revealed that 68% of the respondents would seek skilled care in subsequent pregnancy. Skilled birth attendant monitor labour through the use of partograph. This decision making tool is the key to prevention and treatment of prolonged labour and its complications. The results of the study done in Bangladesh also revealed that most women who developed VVF had suffered prolonged labour in the hands of local untrained delivery assistants (Watz, 2003).

Prolonged obstructed labour was reported by majority of respondents (61, 81%) as a risk factor of VVF recurrence (Table 4.5). This is supported partially by the study done by Kazaura *et al.,* (2010) where only 9 (3%) of women associated obstetric fistula with prolonged labour. In the same study, reasons given were that women of very young or advanced age who experienced prolonged labour were reported to be at risk of fistula. In the same study (11.5%) thought the baby was too big causing a ruptured uterus. Miller *et al.,* (2005)'s study conducted in Nigeria says that direct and indirect factors predisposing to prolonged and obstructed labour include malpresentation and cephalopelvic disproportion. He further says malpresentation can occur in any woman, but it is more frequent in grand multiparas with lax muscles.

Majority of the respondents stated that home delivery (49, 65%) was a risk factor of VVF recurrence (Table 4.5). Similarly, a 2003 study supported by the Eritrean Ministry of Health and UNFPA conducted in Eretria revealed that many women interviewed blamed the traditional birth attendants for delaying their referral and /or forcing the delivery at home as this resulted in them developing VVF in the pregnancy that lead them to acquire a VVF.

More than half of the respondents (41, 55%) stated that delay in seeking emergency obstetric care was a risk factor of VVF recurrence (Table 4.5). A study done by Women's dignity and Engender Health in 2007 in Tanzania also revealed that less than half of the respondents attributed their fistula to delivery delay including not assessing services quickly enough or not getting prompt care at the health care facility. Info (2006) reports that improving access to obstetric care is the most important step that can be taken to prevent fistula, in particular by avoiding the three delays which include delay in deciding to seek care, delay in reaching a health care facility, and delay in receiving sufficient care at the facility.

Majority of the respondents stated that vaginal delivery (47, 63%) was not a VVF risk factor of VVF recurrence (Table 4.5). This shows that women with VVF could not associate VVF recurrence with vaginal delivery. Women need to be encouraged to discuss matters relating to childbirth as childbirth is regarded as a natural process that any woman goes through and that going to the hospital is not seen as a necessary course of action (Girma, 2008).

Majority of the respondents (42, 56%) stated that using vaginal constrictors was not a risk factor of VVF recurrence (Table 4.5). This suggests that people have very little knowledge of the risk factors of VVF recurrence. Various methods of tightening the vagina practiced throughout Africa involves inserting herbal mixtures that have an irritating or erosive effect on the vaginal mucosa which is the natural defense against infections. If infection sets in the vagina mucosa may form a weak point and a hole can occur on the already repaired area causing urine to continually leak through the vagina as before repair.

Majority of the respondents (43, 57%) stated that using traditional medicine to speed up labour was not a VVF risk factor of VVF recurrence (Table 4.5). This also shows that people lacked knowledge of the risk factors of VVF recurrence. The findings of the study are not in consistent with Mkumba study done in 2003 which revealed that when participants were asked what contribute to formation of VVF, they stated that traditional beliefs and practices. Traditional beliefs such as 'Incila' was cited as a contributing factor to VVF hence participants said certain traditional practices were to be done to resolve this problem, thereby causing serious and life threatening delays to referring the mother for professional help.

More than half of the respondents (42, 56%) stated that witchcraft was a risk factor of VVF recurrence (Table 4.5). This may suggest that women with VVF have little knowledge on some of the risk factors of VVF recurrence as evidence suggests that the risk factors of VVF do not include witchcraft as a risk factor or perceived cause of VVF. However, Kazaura *et al.,* (2010)'s study revealed that from the focus group discussions sorcery was perceived as causing obstetric fistula. Similarly, the Tanzania study conducted by the collaborative efforts of a number of institutions in 2006 also revealed that fewer than half of the women perceived bewitchment to the cause of fistula.

Majority of the respondents (40, 53%) stated that Caesarean section was a risk factor of VVF recurrence (Table 4.5). The Tanzanian study by Kazaura *et al.,* (2010) revealed that 24% thought Obstetric fistula was caused by a wrong operation during caesarean section. Similarly, a study done by Nathan *et al.,* (2008) conducted in Benin revealed that 43% of the participants thought their fistulae were a result of trauma from the operative delivery. These results suggest that there is inadequate sensitization of the communities on the risk factors of VVF recurrence, as Caesarean section is the only way to relieve prolonged obstructed labour which is the major cause of VVF (Ahmed and Holtz, 2007).

The findings revealed that majority of the respondents (67, 89%) stated that non use of family planning method was a risk factor of VVF recurrence (Table 4.5). This is consistent with Kazaura *et al.,* (2010)'s study which revealed that 3.1% of women with VVF said obstetric fistula was a result of poor family planning practices such as having children to frequent and close. However, access to family planning services is one of the ways to prevent VVF (WHO, 2005).

The findings revealed that majority of the respondents (58, 77%) knew that Gods will was not a risk factor of VVF recurrence (Table 4.5) This may suggest that women believe that God is merciful and cannot give such a disease to anyone. It could also be attributed to the fact that majority of women knew that prolonged obstructed labour was a risk factor of VVF recurrence. This is however in contrast with a study done in Ethiopia by Muleta *et al.,* (2008) which revealed that 17 out of 39 untreated women with fistula and 3 out of 13 treated women with fistula said fistula had been given to them as a punishment from God. They considered a fistula to be an evil spirit. Similarly, UNFPA and Family Care International (2007) report on living testimonies across country assessments revealed that women living with obstetric fistula viewed their condition as the will of God or even a punishment from God.

More than half of the respondents (41, 55%) stated that being afraid of pushing during delivery was a risk factor of VVF recurrence (Table 4.5). The findings of this study is in agreement with the Tanzanian study conducted in 2006 by the collaborative efforts of a number of institutions to understand the dimensions of obstetric fistula and its related social vulnerability through the experiences and views of girls and women living with fistula as well as their families, communities and health workers who cared for them which revealed that few women with obstetric fistula believed that their fistula was the result of women scared of pushing during delivery. However, some studies revealed that few women with VVF believe that their fistula is the result of women afraid of pushing. These beliefs about the risk factors of recurrence may reduce the number of women accepting Caesarean section as a mode of delivery in subsequent pregnancies. Ahmed and Holtz (2007) in Nigeria reported that even if finally the woman is cured of VVF, she is sentenced to a life of medication of childbirth as all subsequent deliveries have to be by Caesarean section.

5.5 ATTITUDE TOWARDS VVF PREVENTION

Attitude looks at the way that one thinks and feels about something or the way one behaves towards somebody. The section looked at the way women think and feel about prevention of VVF recurrence. The study results showed that (41, 61%) had a positive attitude towards VVF prevention with only (29, 39%) having poor attitude towards VVF prevention (Figure 4.10). These findings can be attributed to the fact that these women were awaiting repair which improve the quality of life for them. The study findings are not consistent with Nisar, Yousfani & Muntaz (2005) study which revealed that despite availability of transport throughout the communities women could not access emergency obstetric care and had poor attitudes towards heath care facility deliveries.

Majority of the respondents (40, 54%) had low commitment (Figure 11). Commitment was measured or indicated by the absence of alienation (Bigbee, 1985). Commitment reflected ones capacity to become involved, rather than feeling estranged. Individuals high on this dimension are committed to various aspects of their life including interpersonal relationships, family and self. The findings are supported by several studies (Bangser, 2006; Kelly, 1995; Muleta & Williams, 1999; Women Dignity Project & Engender Health, 2006) which revealed that girls and women with obstetric fistula most of the times remained in their homes alone, stopped making social visits and no longer attended public events such as funerals, celebrations and meetings. Kabir *et al., (*2003)'s study in Nigeria also revealed that up to half of the patients were bitter about the condition they found themselves and would not easily travel to the hospital facilities (Mselle *et al.,* 2011).

Majority of the respondents (51, 68%) had low control (Figure 11). Control was measured by the absence of powerlessness that an individual feels (Bigbee, 1985). The results agree with the study done by Mselle *et al.,* (2011) in Tanzania which stated that for all the women with VVF interviewed, the smell of urine was intolerable and a constant source of embracement causing women to withdraw from social life. UNFPA (2004) similarly states that women with obstetric fistula never present themselves for treatment for fear of being known by the health care provider and the community at large as having fistula.

Majority of the respondents (47, 63%) had high challenge (Figure 11). Challenge was measured or indicated by the absence of a need for security, it represents the individuals positive attitude towards change and the belief that one can profit from failure as well as

success (Brookes, 1994). Mselle *et al.,* (2011)'s study revealed that repaired women with VVF never regain the nerves and muscle control needed to stay dry. In this current study, the findings are that after primary repair, some 60% of women with VVF had urine incontinence. This is in contrast with Holme *et al.,* (2006)'s study who reported that 17.1% of women with VVF were having urine incontinence after primary fistula repair. Therefore, many women live with fistula for years and have to face the agony associated with it.

5.6 SELF –ESTEEM

Self esteem dealt with how an individual perceives her set of thoughts and feelings about his or her own worth and importance, that is a global positive or negative attitude towards oneself. The current study has revealed that (36, 48%) of the respondents had high self esteem and (39, 52%) had poor self esteem (Figure 4.13). According to Diener and Diener (1995), high self esteem was the strongest factor in overall life satisfaction. However, the majority of respondents with low self esteem could be attributed to the fact that the offensive odor that accompanies the incontinence related to VVF is a source of shame, stigma and isolation. The findings of the current study are in agreement with studies that reports loss of self esteem and humiliation as being experienced among women living with fistula (Ojanunga, 1994). Similarly, Kabir *et al.,* (2003)'s study revealed that up to half of the women with obstetric fistula had low self esteem.

5.7 RELATIONSHIPS BETWEEN INTENTION TO PREVENT VVF RECURRENCE AND KNOWLEDGE, ATTITUDE AND SELF ESTEEM.

Results showed that there was a positive statistical significance relationship between intention to prevent VVF recurrence (dependent variable) and attitudes towards VVF prevention (r^2= 0.26, n=75, p=0.05, 2-tailed). The correlation between intention to prevent VVF recurrence and attitudes towards VVF prevention in this study suggest that when attitude is high, intention to prevent VVF recurrence increases (Table 4.11). This could be attributed to the fact that these women were experiencing the problem. Nevertheless, given the small correlation between these two constructs, this assertion is rather contestable. This is supported with the preliminary results of the in-depth study of 65 obstetric fistula women conducted in Niger by Maulet *et al.,* (2004) where 91% of women declared that once cured, they would like to use modern contraception methods to prevent recurrence of VVF. In the same study 25% of the women knew how long they should wait before their next

pregnancy (6-12 months), 27.3% answered three to ten years far longer than the recommended period which might be connected with the fear of becoming pregnant again and fistula occurrence. Therefore, the null hypothesis which stated that there was no association between intention to prevent VVF recurrence and attitude towards VVF prevention was rejected.

The findings of the current study show that there was a negative statistical significance correlation between intention to prevent VVF recurrence (dependent variable) and self esteem (r^2= -0.25, n=75, p=0.05, 2-tailed). This reveals the failure of self esteem in improving intention to prevent VVF recurrence (Table 4.11). This indicates that when self esteem is low, intention to prevent VVF recurrence is high or when self esteem is high, intention to prevent VVF recurrence is low. In considering the findings of this study, several issues are clear. One of the main reasons why women did not seek care was the lack of knowledge that anything could be done. Secondly, shame associated with the condition often prevented the women from seeking help. The study findings are consistent with a study done by UNFPA (2006) in Eretria where women with a repaired VVF who returned for additional treatment were those who still felt isolated. In the same study, all women hoped to be fully healed from the effects of obstetric fistula, longed to join in social activities, raise a family and those with no children hoped to get pregnant. Therefore, the null hypothesis which stated that there was no association between intention to prevent VVF recurrence and self esteem was rejected.

However, there was no significant relationship between intention to prevent VVF recurrence and knowledge of the risk factors of VVF recurrence. Despite the fact that majority of the respondents (41, 55%) exhibited high levels of knowledge of the risk factors of VVF recurrence, this knowledge did not necessarily result in intention to prevent VVF recurrence. This could be due to the fact that majority of the respondents had VVF for the first time. This study is consistent with a study done by Hassen and Ekele (2009) which revealed that even though the majority (70%) of women with VVF had knowledge of the cause/ risk factors from health talks; some (32%) would still not change their risk obstetric behaviours. Therefore, we fail to reject the null hypothesis, which stated that there was no association between intention to prevent VVF recurrence and knowledge of the risk factors of VVF recurrence.

5.8 MULTIPLE REGRESSIONS

The findings of the current study showed that attitude towards VVF prevention (β=.299) and self-esteem (β=.270) can help predict ones intention to prevent VVF recurrence. This means that attitude and self esteem have an influence intention to prevent VVF recurrence. However, Knowledge of the risk factors of VVF recurrence (β=.062) was not a significant predictor. This means that knowledge of the risk factors of VVF recurrence has no influence on intention to prevent VVF recurrence.

5.9 LIMITATIONS OF THE STUDY

- The Study was hospital based; require population based studies to include a larger population where probability sampling methods will be used and data generalized to the target population.

- Data may have been subtest to interviewer bias as the women with VVF may have worried that their answers could affect their care. To deal with this counseling was done to inform respondents that their responses would not affect their care.

- Given that the entire instrument used in the study were self reports, respondents may have answered according to their own opinion, thereby affecting the results of the study. This was minimized by explaining the purpose of the research to the respondents.

- The study was the first of its kind, so there was limited data on the Zambian perspective. There are few studies that have been done on the topic in Zambia. This made it difficult to make adequate comparisons with other local researches and determine the differences or similarities in the findings.

- Convenient sampling was used to select respondents and this would affect the generalizability of findings.

5.10 IMPLICATIONS TO NURSING

This section is going to discuss the implication of the study to nursing. The implications will be discussed under the following headings: nursing practice, nursing administration, nursing education and nursing research.

5.10.1 SIGNIFICANCE TO NURSING PRACTICE

The findings have provided preliminary information about intention to prevent VVF recurrence, knowledge of the risk factors of VVF recurrence, attitude towards VVF prevention and self esteem. While only 55% had high level of Knowledge of the risk factors of VVF recurrence, almost all of them (97%) had positive intentions to prevent VVF recurrence. Provision of information, education and communication (IEC) is one of the responsibilities of nurses. Knowledge of the risk factors of VVF recurrence enables women with VVF to prevent future recurrence. Since respondents had positive intentions to prevent VVF recurrence, nurses should focus on interventions to help improve knowledge of the risk factors of VVF recurrence and attitude towards VVF prevention. Nurses should health educate women who have undergone VVF repair on discharge on prevention of future recurrence. Orientation workshops may be conducted on prevention of VVF recurrence to nurses to help increase knowledge of the risk factors of VVF recurrence.

5.10.2 SIGNIFICANCE TO NURSING EDUCATION

Although Obstetric fistula is beginning to gain recognition in the health sector, the system has not yet paid much attention to teaching women on the condition. The findings revealed that only 55% had high levels of knowledge of the risk factors of VVF recurrence. This is a negative effect in nursing education. There is need to call clinical preceptors to teach student nurses on VVF which is already in the curriculum. This will enable these when they qualify as nurses to teach the clients effectively and with confidence. There is also need for refresher courses to teach qualified nurses on the risk factors of VVF recurrence. This will effectively help in improving or maintaining good quality of life for women with repaired VVF.

5.10 .3 SIGNIFICANCE TO NURSING MANAGEMENT

The results of this study should be given priority as women with VVF have positive intentions to prevent VVF recurrence. Nurses play a vital role in policies related to quality patient care. So nursing managers should influence development of guidelines related to prevention of VVF recurrence. The nurse managers must also ensure that nurses who give IEC to clients on VVF are supervised regularly and ensuring that nurses have all the necessary IEC materials they require.

5.10.4 SIGNIFICANCE TO NURSING RESEARCH

The literature review revealed that very few studies have been done on VVF Especially in Zambia. Nurse researchers, therefore, need to investigate more on VVF so that preventive measures can be instituted to prevent future recurrence among repaired women. The increase in knowledge on VVF may increase utilization of health services thereby help the government attain development goal number 5 which aims at reducing maternal morbidity by three-quarters by 2015.

The results of the multiple regression showed that knowledge of the risk factors of VVF recurrence was not a significant predictor of intention to prevent VVF recurrence. However, attitude towards VVF prevention and self esteem are predictors of intention to prevent VVF recurrence among women with VVF with a variance of 15%. Hence, further studies should be done to depict other variables that could predict intention to prevent VVF recurrence.

5.11 CONCLUSION AND RECOMMENDATIONS

5.11.1 CONCLUSION

A descriptive correlation cross sectional study was conducted to determine the relationship between intention to prevent VVF recurrence, knowledge of the risk factors of VVF recurrence, attitude towards VVF prevention and self esteem. The sample consisted of 75 respondents conveniently selected and admitted to the two repair centres in Zambia which are Katete and Chilonga Mission Hospitals. A structured interview schedule was used for data collection. Interview schedules were checked for completeness and accuracy and data were entered on the SPSS version 16. The data were then analyzed using this computer software.

The objective of the study have been met. It was revealed that 97% had positive intentions to prevent VVF recurrence, 55% of the respondents had high knowledge levels, 61% had positive attitude towards VVF prevention and 52% had low self esteem. The study also revealed that there was a positive relationship between intention to prevent VVF recurrence and attitude towards VVF prevention and a negative relationship between intention to prevent VVF recurrence and self esteem.

The findings of the study also showed that attitude and self esteem can help predict ones intention to prevent VVF recurrence. Therefore, we fail to reject the null hypothesis for knowledge since there was no association and we reject for attitude and self esteem since there was an association.

5.11.2 RECOMMENDATIONS

The study found out that (73, 97%) of the respondents had positive intentions to prevent VVF recurrence, (41, 55%) were knowledgeable of the risk factors of VVF recurrence, (46, 61%) had positive attitudes towards VVF prevention and (39, 52) had low self esteem. The study also revealed that 91% of the respondents were diagnosed with VVF for the first time, majority 60% had urine incontinence after primary repair, the major cause of VVF in majority of respondents (91%) was prolonged obstructed labour and that 40% of the respondents had recurrence of their VVF following pregnancy. Therefore, in view of the findings of the study, the researcher made the following recommendations to;

5.11.2. 1 MINISTRY OF HEALTH

- Ministry of health should allocate more funding to researches of this nature. For example this study has provided a rough idea that majority of the respondents had positive intentions to prevent VVF recurrence despite lacking knowledge of risk factors of VVF recurrence. This means that with the already positive intentions, knowledge of the risk factors of VVF will go a long way in preventing recurrence among repaired women.

- The Ministry of Health need to introduce waiting homes in hospitals with emergency obstetric care so that repaired women with VVF can wait for delivery when they are 36 weeks of gestation to prevent the recurrence of the fistula in subsequent pregnancy.

- The MOH should scale up training of skilled attendants on management of obstructed labour so that women with a repaired VVF can benefit from the skilled manpower as there will be early diagnosis of obstructed labour hence prevent a recurrence of VVF in

subsequent pregnancies.

- The MOH should strengthen on the already existing policy on management of obstructed labour so as to enable skilled attendants to adhere to it when managing women with a repaired VVF hence preventing a recurrence. The study findings have shown that prolonged obstructed labour was the cause of VVF in 91% of cases.

- Conduct fistula repair camps in all the provinces in conjunction with other stakeholders such as UNFPA so as to repair women with VVF. Currently, in the country, there are selected district where fistula camps are conducted, leaving the majority of women unrepaired who suffer the agony of humiliation and ostracism which may subsequently lead to depression. If a woman with unrepaired VVF get pregnant, there are high chances of their VVF to become extensive hence repair can be difficult.

- The MOH needs to lobby for funds for population based studies on VVF women because currently few studies that have been done are hospital based. Population based studies will enable the Ministry to know the extent of the problem in the country so as to put measures to prevent recurrence of the condition.

- The MOH needs to support community sensitization or public education on the importance of hospital delivery to women with a repaired VVF through the media such as television, radio and print media. Sensitization should also include teachings on good attitude as the study findings revealed that there is a relationship between intention to prevent VVF recurrence and attitudes towards VVF prevention.

- The study findings show that majority of the respondents (91%) were diagnosed with VVF for the first time. This may mean that the extent of the problem is on the increase. The MOH should intensify community sensitization on importance of hospital delivery.

- MOH should also train more personnel on how to repair VVF as study findings have shown that 60% of the respondents had urine incontinence as a cause of multiple repairs.

5.11.2.2 **KATETE AND CHILONGA MISSION HOSPITAL**

- Management should ensure that counseling and screening services of pregnant women with a repaired VVF is intensified so as to enhance complication identification and management of obstructed labour.

- Management should embark on intensely creating awareness to the public through displaying posters on risk factors of VVF recurrence all over the hospital premises as they have done on other conditions like HIV/AIDS. Leaflets on VVF should be provided in local languages as the study findings show that 75% of the respondents have only attained primary education. Also educational brochures should be provided to all women coming for repair to provide awareness of the condition and its management.

- Antenatal clinics should be used as opportunities for teaching since the study finding review that some of the respondents did not know the risk factors of VVF recurrence. It should be emphasized that prolonged obstructed labour can occur even in multi gravida women meaning that every pregnancy is a risk of VVF development.

- Management should formulate VVF registers so that women with VVF coming for repair can be entered in the register for easy follow up as study findings have revealed that about 40% of women had a recurrence following their subsequent pregnancies.

- Further research on the same topic is recommended to be conducted on the large sample size using probability sampling methods so as to be able to generalize the findings.

5.12 DISSEMINATION AND ULTILIZATION OF FINDINGS

The findings of this study were disseminated by submitting a copy of the research report to the Department of Nursing Sciences in the School of Medicine to serve as reference to other researchers. Another bound report was presented to the Medical Library in the School of Medicine to also serve as reference to other researchers. Other copies to stake holders involved in the Campaign to end Fistula such as UNFPA and Ministry of Health. A report of the study results were given to Katete and Chilonga Mission Hospitals so that they would use them to render evidence based care. Publications in peer reviewed journals will be prepared and submitted.

The researcher hopes to conduct a workshop to disseminate findings to the Ministry of Health and other stake holders such as UNFPA.

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APPENDIX 1

WOMEN'S INTENTION TO PREVENT VESICOVAGINAL FISTULA RECURRENCE IN TWO REPAIR CENTERS IN ZAMBIA

INFORMATION SHEET

INTRODUCTION

I, Nchimunya Nambala, a student pursuing Master of Science in Nursing Degree program at the University of Zambia is kindly requesting for your participation in the research study mentioned above, because it is important to assess intention to prevent Vesico vaginal fistula recurrence, knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self esteem among women with VVF. Before you decide whether or not to participate in this study, I would like to explain to you the purpose of the study, any risks or benefits and what is expected of you. Your participation in this study is entirely voluntary. You are under no obligation to participate; you may choose to participate or not to participate. If you decline to participate, no privileges will be taken away from you. If you agree to participate, you will be asked to sign the consent form in front of someone. Agreement to participate will not result in any immediate benefits.

PURPOSE OF THE STUDY

The study will obtain information on intention to prevent Vesico vaginal fistula recurrence, knowledge, attitudes and self esteem among women with VVF. This is important as the data obtained from this study will assist policy markers find ways and means of preventing the recurrence of Vesico vaginal fistula among women with a successful repaired VVF.

PROCEDURE

After you have signed the consent form, and have had a chance to ask questions, you will be asked questions concerning Vesico vaginal fistula. You will also be given a chance to make suggestions on what you think would prevent recurrence of Vesico vaginal fistula among successfully repaired women.

RISK AND DISCOMFORTS

No risks or discomforts are involved apart from the use of your time in answering questions and the presence of the witness. Answering questions will take approximately 30 minutes.

BENEFITS

By taking part in this study, you will be able to provide us with information that will help relevant authorities and policy makers to come up with effective strategies and policies to prevent the recurrence of Vesico vaginal fistula. No monetary favours will be given in exchange for information obtained.

CONFIDENTIALLY

Your research records and any information you will give will be confidential to the extent permitted by law. You will be identified by a number, and personal information will not be released without your written permission except when requested by law. The Ministry of Health, the University of Zambia, Research Ethics committee or the School of Medicine may review your records again this will be done with confidence.

APPENDIX 11

INFORMED CONSENT FORM

The purpose of this study has been explained to me and I understand the purpose, the benefits, risks and discomforts and confidentiality of the study. I further understand that:

If I agree to take part in this study, I can withdraw at anytime without having to give an explanation and that taking part in this study is purely voluntary.

I……**. (Names)**
Agree to take part in the interview schedule

Signed/ thumb:…….. Date:……

Signed/thumb:…….. Date:……

PERSON TO CONTACT FOR PROBLEMS OR QUESTIONS

Nchimunya Nambala, University of Zambia, Nursing Sciences Department, P.O.BOX 50110, Lusaka

The Head, University of Zambia, Nursing Sciences Department, School of Medicine, P.O BOX 50110, Lusaka.

The Chairperson, Research Ethics Committee, University of Zambia, P.O BOX 50110, Lusaka.

APPENDIX III

ASSENT FORM

WOMEN'S INTENTION TO PREVENT VVF RECURRENCE IN TWO REPAIR CENTERS IN ZAMBIA.

ASSENT FORM FOR MINORS AGED 12-17 YEARS

INTRODUCTION

You have been selected to take part in a research study. This study will assist us in obtaining information on intention to prevent VVF recurrence, knowledge of the risk factors of VVF recurrence, attitudes towards VVF prevention and self esteem among women with VVF. This is important as the data obtained from this study will assist policy markers find ways and means of preventing the recurrence of Vesico vaginal fistula among successfully repaired women. By taking part in this study, you will be able to provide us with information that will help relevant authorities and policy makers to come up with effective strategies and policies to prevent the recurrence of Vesico vaginal fistula. No monetary favours will be given in exchange for information obtained.

Your research records and any information you will give will be confidential to the extent permitted by law. You will be identified by a number, and personal information will not be released without your written permission except when requested by law. The Ministry of Health, the University of Zambia, Research Ethics committee or the School of Medicine may review your records again; this will be done with confidence.

If you agree to take part in this study, You can say yes. You can ask as many questions as you like before you decide to participate in this study. You can say no, no one will be annoyed with you. Even when you say yes now and change your mind later no one will be annoyed with you. You can talk to your parents/guardian about the study and you also can talk with the researcher.

Statement of Assent:

___ YES, I want to be in the study. ___ NO, I do not want to be in the study.

_____	_____	_____
Name of Child	**Signature**	**Date**
_____	_____	_____
Name of Investigator	**Signature**	**Date**

APPENDIX IV

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF NURSING SCIENCES

APPENDIX III: STRUCTURED INTERVIEW SCHEDULE FOR WOMEN WITH VESICO VAGINAL FISTULA

TOPIC:

Women's Intention to Prevent VVF Recurrence at fistula repair centres in Zambia

NO OF INTERVIEW SCRIPT:.....

PLACE OF INTERVIEW:.....

DATE OF INTERVIEW:.....

INSTRUCTIONS FOR THE INTERVIEWER

Introduce yourself to the respondents and explain the reason for the interview.

1. Do not write the name of the respondent on the interview schedule.
2. Circle the most appropriate response to the question for closed ended questions
3. Fill in the answer on the space provided for open ended questions.
4. All the information provided by the respondents should be kept in strict confidence.
5. Provide time for the respondent to ask questions at the end of the interview.

Thank the respondent at the end of each interview.

SECTION A: SOCIO-DEMOGRAPHIC DATA

For official use

1. Age at your last birthday last birthday _____Years [ ]
2. Age at fistula occurrence _____Years [ ]
3. Tribe [ ]
   1. Tonga
   2. Lozi
   3. Ngoni
   4. Bemba
   5. Luvale
   6. Kaonde
   7. Others (specify)

4. Religious Denomination [ ]
   1. Seventh Day Adventist
   2. Catholic
   3. UCZ
   4. Jehovah's Witness
   5. New Apostolic church
   6. Pentecostal Assembly of God

5 Highest level of education [ ]
   1. None
   2. Primary
   3. Secondary
   4. College
   5. University
   6. Other (specify)

For official use

6. Occupation [ ]
   1. House wife.
   2. Student
   3. Formally employed
   4. Self employed
   5. Unemployed

7 Marital status [ ]
   1. Single
   2. Married
   3. Divorced
   4. Widowed
   5. Separated
   6. Cohabiting

8. Were you divorced when you started leaking urine? [ ]
   1. Yes
   2. No

9. How many children do you have? [ ]
   1. None
   2. One –three
   3. Four – six
   4. Seven –nine
   5. More than nine

10. How many antenatal visits did you have during your previous pregnancy [ ]
   1. One
   2. Two
   3. Three
   4. Four
   5. Other (specify)

11. If less than/more than four times what was the reason? For official use

..... [ ]

.....

12. Where did you deliver your last baby from? [ ]

1. Hospital
2. Clinic
3. Home

13. Who attended to you during delivery of your last baby? [ ]

1. Skilled birth attendant
2. Trained Traditional birth attendant
3. Relative
4. Friend
5. Others (specify)

14. How long was your labour during your last pregnancy? [ ]

1. Less than 24 hours
2. More than 24 hours
3. One week
4. Others (specify)

15. What caused your current VVF [ ]

1. I do not know
2. Prolonged Obstructed labour
3. Cancer
4. Operation
5. Witchcraft
6. Radiation therapy
7. Others (specify)

16. Cause of VVF according to the hospital records----------

17. How many times have you had VVF? [ ]

1. First time
2. Second time
3. Third time
4. Others (specify)

18. Before the current repair, how many attempts of fistula repair did you have? [ ]

1. None
2. One
3. Two
4. Others (specify)

19. If you have had more than one attempts of fistula repair, what is the reason for multiple repairs?

.....

.....

20. How can VVF be treated? [ ]

1. Operation
2. Traditional medicine
3. Prayers
4. No idea

21. Which province of Zambia are you coming from? [ ]

1. Southern Province
2. Eastern province
3. Western Province
4. North western Province
5. Northern Province
6. Luapula Province
7. Lusaka Province
8. Central Province
9. Copper belt Province

22. How far is your home town/home village from the health care facility?

.....

.....

.....

SECTION B: INTENTION TO PREVENT VVF RECURRENCE

Give your opinion on how you intend to prevent VVF recurrence in your subsequent pregnancies after a successful fistula repair. [ ]

Score **23. How would you rate your intention to deal with the following issues?**	**Strongly disagree** **0**	**Disagree** **1**	**Uncertain** **2**	**Agree** **3**	**Strongly Agree** **4**
a. I will be delivered by a skilled birth attendant	0	1	2	3	4
b. I will stay close to the hospital after 36 weeks of gestation	0	1	2	3	4
c. I will go to the hospital immediately labour begin	0	1	2	3	4
d. I will deliver at the hospital	0	1	2	3	4
e. I will have a vaginal delivery	0	1	2	3	4
f. I will have a caesarean section	0	1	2	3	4
g. I will use traditional medicine to speed up labour	0	1	2	3	4
h. I will attend antenatal care as stipulated throughout pregnancy	0	1	2	3	4

Possible highest score = 32, possible lowest score = 0

Negative 0 – 16; positive 17 -32

SECTION C: KNOWLEDGE OF VVF RISK FACTORS OF RECURENCE.

For official use

24. What do you understand by Vesicovaginal Fistula? **[ ]**

1. An opening between the women's bladder and vagina
2. An opening between the woman's vagina and rectum
3. An opening between both the vagina and bladder and vagina and rectum
4. An opening between the woman's bladder and rectum
5. None

25. What are the risk factors for Vesico vaginal fistula recurrence? ` [ ]

Tick all the correct answers

1. Delivery by non skilled worker
2. Prolonged Obstructed labour
3. Home delivery
4. Not seeking emergency obstetric care
5. Vaginal delivery
6. Using vaginal constrictors
7. Using traditional medicine to speed up labour
8. Witchcraft
9. Caesarean section
10. Family planning
11. God's Will
12. Women afraid of pushing

Scoring: 1 mark each = 12 marks

SECTION D: ATTITUDES TOWARDS VVF PREVENTION.

May you please give your views and opinions about the following statements

Score	**Strongly disagree 0**	**Disagree 1**	**Uncertain 2**	**Agree 3**	**Strongly agree 4**
26. Involvement in health Promotion activities is stimulating.					
27. I can avoid illness if I take care of myself					
28. I find it difficult to be enthusiastic about good health					
29. Luck plays a big part in determining how soon I will recover from an illness.					
30. No matter how hard I try to maintain my health, my efforts will accomplish very little.					
31. I am in control of my health.					
32. I admire people who work hard to improve their health.					
33. Good health is more important to me than financial security.					
34. My good health is largely a matter of good fortune.					
35. No matter what I do, I`m likely to get sick.					
36. I find it boring to eat and exercise properly to maintain my health.					
37. The main thing which affects my body is what I myself do.					
38. Changes taking place in health care are not exciting to me					
39. I find people who are involved in health promotion interesting					
40. Setting health for health is unrealistic					
41. Most things that affect my health happen to me by accident.					
42. Changes taking place in health care will have no effect on me.					

Score	Strongly disagree 0	Disagree 1	Uncertain 2	Agree 3	Strongly agree 4
43. If I get sick, it is my own behaviour which determines how soon I will get well again.					
44. I do not find it interesting to learn about health					
45. I will stay health if it is meant to be					
46. I am not interested in exploring new health care regimens or programs to my health.					
47. No matter what I do, if I am going to get sick, I will get sick.					
48. I feel no need to try to maintain my health because it makes no difference anyway					
49. The current focus on health promotion is a fad that will probably disappear.					
50. No matter how hard I work to promote health for society, it never seems to improve.					
51. Our society holds no worthwhile goals or values about health					
52. If I take the right action, I can stay health.					
53. I get excited about the possibility of improving my health					
54. I am determined to be as health as I can be.					
55. When my health is threatened, I view it as a challenge.					
56. I read everything I can about health					
57. I can be health as I want to be.					
58. When something goes wrong with my health, I do everything I can to get to the root of the problem.					
59. I have little influence over my health.					

Possible highest score =136, Possible lowest score = 0

Negative 0 – 67, Positive 68 – 136

SECTION E: ROSEBERG'S SELF ESTEEM SCALE

STATEMENT	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
60. I fell that I am a person of worth, at least on an equal plane with others.	3	2	1	0
61. I fell that I have a number of good questions	3	2	1	0
62. All in all, am inclined to feel that I am a failure	0	1	2	3
63. I am able to do things as well as most other people	3	2	1	0
64. I fell I do not have much to be proud of	0	1	2	3
65. I take a positive attitude towards myself	3	2	1	0
66. On the whole, I am satisfied with myself	0	1	2	3
67. I wish I could have more respect for myself	3	2	1	0
68. I certainly feel useless at times	0	1	2	3
69. At times I think I am no good at all.	0	1	2	3

Possible highest score = 30, possible lowest score = 0

Low 0 – 14; High 15 -30

70. Do you have any suggestions on what should be done to prevent VVF recurrence among Women with successful VVF repairs?

.....

.....

.....

.....

.....

.....

.....

APPENDIX V: BUDGET

BUDGET CATERGORY	ITEM COST IN KWACHA	QUANTITY	TOTAL
1.STATIONERY			
a)Flash disc	250,000	2	500,000
b) Bond paper	30,000	10	300,000
c)Pens	1,000	10	10,000
d)Pencils	500	4	20,000
e)Rubber	500	4	20,000
f)Note books	5,000	4	25,000
g)Tipex	8,000	4	32,000
h)Stapler	10,000	4	40,000
i)Staples	50,000	1	50,000
j)Perforator	50,000	1	50,000
k)Spiral binder	5,000	4	25,000
l)Box files	10,000	2	20,000
m)Scientific calculator	50,000	2	100,000
SUBTOTAL			**1,192,000,00**
2.**PERSONNEL**			
a) Lunch allowance -Researcher	50,000	1 x90 days	4,500,000.00
b) Transport allowance-Researcher	30,000	1x 90 days	2, 700,000.00
c) Research bags	50,000	1	50,000,00
SUBTOTAL			**7,250,000,00**
3.TYPING SERVICES			
A) Research proposal typing and printing	5,000	50 pages	250,000
b) Research proposal photocopying	250	50x5 copies	62,500
c)Research proposal binding	10,000	5	50,000
d) Typing and printing interview schedules	5,000	1 x10 pages	50,000
e) Photocopying interview schedules	250	10 pages x 76copies	190,000
f)Research report typing and printing	5,000	120 pages	600,000
g)Research report photocopying	250	120 pages x 5 copies	150,000
h)Research report binding	50,000	5 copies	250,000
SUBTOTAL			**1,502, 000**
TOTAL			**K9,944,000,00**
CONTIGENCY FUND 10%			**994,400,00**
GRAND TOTAL			**K10,938,400,00**

JUSTIFICATION OF THE BUDGET

STATIONERY

Stationary was needed to carry out the study. Stationary provided ten (10) reams of typing bond papers that were used for printing the questionnaires, research proposal and final report. Paper was also required to make extra copies of the research proposal for submission to the Research ethics Committee and the board of graduate studies. Pen and paper for writing, rubber and tipex for erasing mistakes, note book for writing note, perforator for perforating documents, stapler and staples for putting the work in an orderly manner, spiral binders for binding the proposal, box files for filling documents and saving information, scientific calculators for doing mathematical calculations.

The flash discs were for copying, storage and safe keeping of research data.

PERSONNEL

Research bag for carrying documents was needed. Transport allowance to move to and from home. Lunch allowance was needed throughout data collection for each interview took about 35 minutes to allow adequate time for administration of the interview schedule and for observations**.**

TYPING SERVICES

Money was required for all typing services because the researcher did not have a computer or laptop, hence the figure allocated in the budget.

CONTIGENCY FUND

10% of the total amount for the budget was added to the budget for unforeseen expenses during research.

APPENDIX VI: WORK SCHEDULE

TASK TO BE PERFORMED	DATE	PERSONNEL ASSIGNED TO TASK	PERSON DAY REQUIRED
1. Literature Review	Continuous	Researcher and Research supervisor	
2.Proposal Development	January 4th -24th Sept 2010. Week 1-38	Researcher and Research supervisor	2 x 266=532 days
3.Presentation to Graduate studies	October 27th -26 th November 2010 Week 39-47	Researcher	1 x 61=61 days
4. Approval by Research Ethics Committee.	29th November, 2010 -30th July, 2011. Week 48-82	Ethical committee	1x 244= 244 days
5.Data collection	1st September-30th November 2011. Week 87-98.	Researcher and Research Assistants.	3 x 30=90 days
6.Report analysis	1st December-31st December 2011. Week 99-102	Researcher	1 X 31=31 days
7. Report Writing	1st January- 30 th March 2012 Week 103-114	Researcher	1 X 90 =90 days
8.Submission of draft report	1st April -30th April 2012 Week 115-118	Researcher	I X30= 30days
9.Submission of final report	1st May -28 th May 2012 Week 119-122	Researcher	1 X 28= 28 days
10.Dissemination of results	1st June -30th June 2012 Week 123-126	Researcher	1 X30 = 30 days

APPENDIX VII: GHANT CHART

NO	**TASK TO BE PERFORMED**	**RESPONSIBLE PERSON**	**JAN-AUG 2010**	**SEP 2010**	**OCT 2010**	**NOV-DEC 2010**	**JAN 2011-JULY 2011**	**SEPT 2011**	**OCT 2011**	**NOV 2011**	**DEC 2011**	**JAN-MAR 2012**	**APR 2012**	**MAY 2012**	**JUNE 2012**
1	Literature Review	Researcher and Research supervisor													
2	Proposal Development	Researcher and Research supervisor													
3	Presentation to Graduate studies	Researcher													
4	Approval by REC	Researcher													
5	Data collection	Researcher													
6	Data Analysis														
7	Report Writing	Researcher													
8	Submission of Draft report	Researcher													
9	Submission of final report	Researcher													
10	Dissemination of results	Researcher													