

**HOME DELIVERY AND RISKS OF FISTULA IN MUFINDI DISTRICT,
TANZANIA**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
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ABSTRACT

Few studies have been conducted on fistula in Tanzania and indeed on its relationship to home delivery. The general objective of this study was to examine the relationship between home delivery and fistula in Mufindi District. It also examined factors influencing home delivery and assessed women attitudes towards home delivery and also community awareness towards fistula. The study adopted cross-sectional research design where data were collected from 130 respondents through questionnaire survey interview, FGD and observations, checklist was used for key informant interview and FGD. The secondary information were collected from reviewing various literatures from Mufindi District office, Mufindi district hospital and other sources. Statistical analysis of data was done using descriptive statistics. Likert scale was used for attitude measure. Logistic regression was employed to get relationship for home delivery and fistula. The findings show that there is a direct relationship between home delivery and fistula, data showed 88.9% of fistula cases in Mufindi were home deliveries while 11.1% were hospital. The study shows that woman have negative attitude towards home delivery, 61.9% disagreed that home delivery is safe, 70% disagreed that hospital midwives are very harsh, 57.9% disagreed that experienced mothers has no need to deliver at hospital. Furthermore, the study shows that there is low community awareness of fistula in Mufindi as there was a lot misconceptions, about a relatively lower percentage of respondents were able to give the exact meaning of fistula and its causes. The study also finds poor timing, long distance to health facilities, poor roads, unreliable transport, traditions and customs, HIV tests, lack of decision making power, costs of transport and other experiences, number of child and experience from previous deliveries, were factors for home deliveries in Mufindi.

DECLARATION

I, LEVINA GAETAN LUNYUNGU, do hereby declare to the senate of the Sokoine University of Agriculture that this dissertation is my own original work and has neither been submitted or being concurrently submitted for a higher degree award in any other institution.

Levina Gaetan Lunyungu
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Date

The above declaration is confirmed

Prof. J.G .Lyimo-Macha
(Supervisor)

Date

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DEDICATION

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LIST OF ABBRIVIATIONS

AMREF	African Medical and Research Foundation
ANC	Antenatal care
BMC	Bugando Medical Centre
CCBRT	Comprehensive Community Based Rehabilitation Tanzania
DHS	Demographic and Health Survey
DMO	District Medical Officer
EmOC	Emergency Obstetric Care
ICPD	International Conference on Population and Development
IMR	Infant Mortality Rate
MDG	Millennium Development Goals
MMR	Maternal Mortality Rate
MoH	Ministry of Health
MOHSW	Ministry of Health and Social Welfare
MuHAS	Muhimbili University of Health and Allied Sciences
MWH	Maternal Waiting Homes
NGO	Non Governmental Organisation
OF	Obstetric Fistula
RH	Reproductive Health
RVF	Recto-vaginal Fistula
SPSS	Statistical Package for Social Sciences
SSA	Sub-Saharan Africa
TBA	Traditional Birth Attendants
VVF	Vesico-vaginal Fistula
WDEH	Women Dignity and Engender Health

WHO	World Health Organisation
WRATTZ	White Ribbon Alliance for Safe Motherhood in Tanzania
UN	United Nations
URT	United Republic of Tanzania

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

It is estimated that 47% of global maternal mortalities occur in Africa with highest levels in sub-Saharan Africa due to many deliveries occurring outside health facilities. Home deliveries are over 60% taking place largely in rural areas with unskilled attendants. About 35% of women in developing countries receive no antenatal care during pregnancy; almost 50% give birth without skilled attendants (Simfukwe, 2008).

Maternal mortality is a great global health challenge and one for which progress has been most elusive. Almost the entire half million maternal deaths globally are in low- and middle-income countries. In Africa, the continent with the highest maternal mortality ratio, three quarters of deaths are due to direct obstetric causes, such as hemorrhage (33.9% of deaths), sepsis (9.7%), and hypertensive disorders (9.1%) . Many of these deaths can be averted through skilled delivery care and provision of emergency obstetric care for women who develop complications. Yet utilization rates of these services are low: only one in three women in rural sub-Saharan Africa deliver with a skilled attendant (Kruk *et al.*, 2010).

Throughout much of sub-Saharan Africa and parts of Asia, low health budgets and shortages of providers, equipment, medicines, and clinics outside of cities have limited access to professionally-attended childbirth. However, Tanzania, a low-income country in East Africa, has managed to build up an extensive health infrastructure with nearly 5 000 dispensaries throughout the country. These first-level health clinics provide primary care and are expected to perform uncomplicated deliveries. An estimated 90% of the

population lives within 10km of a health facility. Although these figures suggest good physical availability, only 47% of Tanzanian women deliver in a health facility (Kruk *et al.*).

Most (53%) deliveries in Tanzania occur outside the health facilities. Of these 53% of births that occur outside the health facilities 31% are attended by relatives, 19% by Traditional Births Attendants (TBA) while 3% have no assistance at all. Though, the proportion of mothers delivering in health facilities and receiving skilled attendance at birth is low but more than 94% of the women attend antenatal care (ANC) in health facilities at least once. This indicates that there are factors that impede these women delivering in the health facilities (MuHAS, 2010).

Studies conducted in East Africa and Benin found that, inadequate health facilities, distance from home to hospital, low income, preference on natural child birth, maintenance of traditions customs and beliefs, low quality of health care provided and lack of privacy have been influencing home deliveries in most developing countries (Kimani, 2008). The leading cause of death and disability among women of reproductive age in low-income countries are complications of pregnancy and childbirth. Access to skilled birth care has been identified as major condition to lower maternal morbidity and mortality (MuHAS, 2010).

In developing countries prolonged labour remains the main reported cause of Obstetric Fistula. From various regions within sub-Saharan Africa, the underlying factors for Obstetric Fistula are considered biological, social and cultural, behavioral and environmental. Some of the examples encircling these factors are young maternal age at

delivery, poverty, childhood malnutrition, illnesses, a genetics and health seeking behaviour (WebMD, 2011).

Women's Dignity and Engender Health, (2006) State that fistula provides a critical lens onto the health and social systems that promote or limit the capacity of girls and women to achieve well-being. Underlying the medical presentation of fistula are its true determinants: poverty, which constrains families from accessing basic health care services; resource limitations, which undermine the capacity of health care workers to deliver high-quality care; insufficient investment in infrastructure, which makes transport to a health care facility nearly impossible, particularly in times of emergency; insufficient access to information and knowledge about maternal health and pregnancy-related emergencies; inadequate decision-making status for girls and women; and a continuing acceptance of women dying in childbirth or surviving with unspeakable consequences.

Approximately 2 million girls and women are estimated to be living with fistula worldwide, In Tanzania alone, approximately 2 500–3 000 new cases of fistula are estimated to occur each year (Raassen, 2005 as cited by Women dignity, 2006).

However, according to District Medical Officer, Home delivery counts for 29% of all deliveries with few reported cases (about 10) of fistula in Mufindi District. People feel shy to report about fistula (DMO Mufindi personal communication, 2012). Therefore this study intends to explore the link between home delivery and risks of fistula in Mufindi District.

1.2 Problem Statement

Obstetric fistula is one of the most neglected issues in the field of women's health and rights. Despite more than a decade of work on "safe motherhood" internationally, millions of girls and women still die in childbirth or live with maternal morbidities such as fistula. The World Health Organization estimates that approximately two million girls and women live with fistula worldwide and that an additional 50 000 – 100 000 girls and women are affected each year. Recent (2011) data on obstetric fistula in Tanzania show that there are between 2 500 and 3 000 new cases each year, which is higher than earlier (2006) estimates of about 1 200 per year, indicating that the problem had been underestimated (Mselle *et al.*, 2011). Yet fistula remains one of the most neglected issues in women's health and rights. It devastates lives, causing women, in most cases, to lose their babies and to live with the humiliation of leaking urine and/or faeces constantly. Fistula inhibits women's ability to work or interact with communities, driving them further into poverty and often exacerbating both their economic and their social vulnerability. Fistula also affects families in different ways: The financial burden of paying for treatment and transport to hospitals, together with the loss of one income-earner, places significant strains on the families of girls and women living with fistula. Families also suffer stress and worry about the impact of fistula on the woman.

While the Millennium Development Goals have incorporated many of the action plans previously outlined in the program of Action of International Conference on Population and Development (ICPD) towards empowering women in order to achieve sustainable social economic and environmental development, the health condition of women in developing countries is still far from the expected goals. Socio economic disadvantages, adverse traditional practices, reproductive role and low status of women across developing countries expose women to preventable diseases and premature deaths. The burden of

poor reproductive health outcomes continues to be significantly higher among women whose right to reproductive health has been ignored or denied.

The key indicator for monitoring the country's progress in achieving the Millennium Development Goal (MDG) 5, to reduce maternal mortality by 75% by 2015 is the proportion of births attended by skilled personnel. In Tanzania, the utilization of health facilities for birth care is surprisingly low, compared to antenatal attendance, which is stable and high. While 94% of pregnant women attended antenatal clinics for check-ups in 2005, only 43% gave birth in health facilities, and in 2006, only 36% of births were attended by a skilled attendant.

On efforts to meet the MDGs, many interventions and studies have been carried to reduce maternal mortality rates, some including studies to explore the relationships between home delivery and increase of maternal mortality rate and fistula, for example a study by Mselle *et al.* (2011), "Waiting for attention and care: birthing accounts of women in rural Tanzania who developed obstetric fistula as an outcome of Labour". Many studies conducted by medical officers are related to how fistula can be repaired, they do not focus on exploring the relationship between place of birth and the risks to fistula and particularly less has been studied on the relationship between home delivery and the risks of fistula. Therefore, this study will focus on the relationship between home delivery and risks of fistula as well as assessing community awareness on the causes of fistula in Mufindi District.

1.3 Justification for the Study

Several studies have been conducted on factors contributing to home delivery and maternal mortality rate, Studies conducted in East Africa and Benin found that, in

adequate health facilities, distance from home to hospital, low income, preference on natural child birth, maintenance of traditions customs and beliefs, and low quality of health care provided and lack of privacy have been influencing home deliveries in developing countries (Kimani, 2008). But few studies have been conducted on relationship between home delivery and fistula. Examining fistula from the perspectives of girls and women provides vital evidence on how health care and social systems often fail to meet women's basic needs. Yet the voices of these girls and women are rarely heard, much less reported. Their experience can shed critically needed light onto policies and interventions to decrease maternal morbidity and mortality, as well as improve the health and wellbeing of girls and women.

Findings from this study provides empirical information for policy makers, as well as development partners and health workers to design appropriate interventions to address fistula, also may be useful lesson that can bring awareness to the community, support and effort aimed at improving women health especially in rural areas. This study is in line with the Millennium Development Goals (MDG), goal number three of empowering women and also goal number five of improve maternal health.

1.4 Objectives

1.4.1 General objective

The general objective of this study was to explore home delivery and its relationship with fistula in Mufindi District.

1.4.2 Specific objectives

- i. To determine factors influencing home delivery
- ii. To determine the attitude of women towards home delivery

- iii. To explore community awareness on fistula
- iv. To explore the relationships between home delivery and the risks to fistula

1.5 Research Questions and Hypothesis

1.5.1 Research questions

- i. Are women comfortable to deliver at home?
- ii. Is the community aware of the causes of fistula?
- iii. What are the reasons for opting for home delivery?

1.5.2 Research hypotheses

- i. Null hypothesis: Socio-economic factors do not significantly influencing home delivery

Alternative hypothesis: Socio-economic factors significantly influence home delivery
- ii. Null hypothesis: There is no significant relationship between home delivery and risks to fistula

Alternative hypothesis: There is significant relationship between home delivery and risks to fistula

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Definitions

2.1.1 Home delivery

Home delivery refers to childbirth taking place outside health facility, either at home or on the way to the health facility, without attendance of a skilled health service provider (Simfukwe, 2008). In Tanzania home delivery is referred to childbirths outside health facility (MoH, 2000).

World Health Organization and other agencies call for global action of ensuring that all pregnant women have access to a skilled attendant at delivery and referral for high risk pregnancies and obstetric emergencies. A number of developing countries including Tanzania have made policies and have established strategies and extensive health infrastructures to offer reproductive and child health services free of charge in improving reproductive and child health care services (Mpembeni, 2008).

With all these efforts still women health status continues to be compromised by inadequate maternal health care especially in rural areas. Rosser *et al.* (2000) and Kimani (2008) reported that unskilled attendants attend most of deliveries at home, traditionally without hygiene, and unsafely as a result they create risks.

Various studies have found that many deliveries took place at home, majority of them in developing countries. In Nepal, Seera Mareddy (2006) reported that more than 90% of deliveries took place at home and most of them were natural and traditionally attended, privately performed, but unhygienic. Also Koenig (2007) found that in Bangladesh 90% of

deliveries took place outside health facilities and were assisted by medically unskilled birth attendants.

In Sub Saharan Africa the percentage of home deliveries attended by unskilled attendants is also high. Per et al (2007) reported that 60% of mothers in Sub Saharan Africa deliver without assistance of health personnel's. In Uganda, while antenatal services coverage is 90% it is deplorable that 74% of deliveries occurs outside health facilities (Telemu, 2002).

2.1.2 Fistula

Obstetric fistulae (either vesicovaginal or rectovaginal) are types of morbidity that are normally caused by prolonged labour during childbirth without timely medical intervention like a caesarean section. Obstetric fistula is a hole between a woman's birth passage and one or more of her internal organs, usually the bladder or the rectum. It may develop after obstructed labor, when the pressure of the baby's head against the mother's pelvis cuts off blood supply to delicate tissues until it causes necrosis. Obstetric fistula is one of the most severe childbirth injuries that occur when labour is allowed to progress for a period lasting from several days to a week without quick intervention, usually a caesarean section (Mselle *et al.*, 2011).

Obstetric fistulae are well known in remote settings in developing countries, while virtually unknown in countries, where there is easy access to caesarean section. An obstetric fistula is the last and most serious obstetric complication, whenever obstructed labour has occurred. It is preceded by a disastrous chain reaction of obstetric complications, often resulting in neonatal death (estimated more than 90%).

It represents a neglected medical taboo problem and is characterized by long term maternal morbidity. Anatomically, vesicovaginal, urethrovaginal, ureterovaginal and rectovaginal fistulas and often some more complex changes of the female genitals (e.g. vaginal stenosis, lack of urethra, anal sphincter injuries, can be seen, ranging from simple to extremely difficult challenges for surgical repair. Symptoms include urinary and faecal incontinence making the affected woman smell of urine and stools and unable to keep clean; peroneal paralysis (drop foot) resulting in impaired physical mobility; painful skin changes in the genital region; recurrent urinary tract infections; infertility; menstrual disorders; dyspareunia and psychological disorders. These women all experience different grades of social marginalization often leading to outcast status. Moreover, there are psychological, sexual and social consequences for their surviving offspring, if any, and families (CARE Somalia, 2004).

2.2 Prevalence of Fistula

The World Health Organization (WHO), estimates between 50 000 to 100 000 women develop Obstetric Fistulae (OF) each year and over two million women currently live with OF (Kazaura, 2011). Recent data on obstetric fistula in Tanzania show that there are between 2 500 and 3 000 new cases each year, which is higher than earlier estimates of about 1 200 per year, indicating that the problem had been underestimated. However, because these estimates are institutionally based, it is like that the increase is due to a rise in the number of affected women visiting health facilities for treatment.

2.3 Factors Contributing to Home Delivery

Findings from different studies shows that, home delivery has been influenced by various socio-economic factors. Screeramady (2006) found that hospitalization is too costly many cannot afford, even if the hospital services are free, there are other costs for transport and

other items, all these make hospital delivery expensive and few women can afford. Kayongo (2006) indicated that most health units especially in rural areas are not equipped and overcrowded, there is no privacy unless one can afford to pay for private room.

NBS (2000) and MPEE (2006) reported that sophisticated machines, shaving, keeping the baby away from mother after delivery, uncomfortable positions during delivery scare women, to avoid this situation they better deliver at home. Perception of societies on pregnancy and giving birth is a normal and natural process and not a disease so there is no need of hospitalization unless there are complications and mothers feel much happier to stay at home with other relatives and family members (Ensor, 1985) Mothers have great freedom at home rather than at hospital, decides who will visit her and when, what she will eat, who will take care of her.

Gihanga (1997) reported that women demand natural childbirth and refuse any interference, deliveries are perceived to be convenient. Moreover health units do not appreciate traditional beliefs and taboos like use of traditional herbs that facilitates labour. Again Gihanga (1997) found that some expectant mothers do not speak the same language as the hospital personnel, this creates gap between them as a result they decide to deliver at home.

MDCHM (2006) found that most of women's start journey to health facility when they are already in established labour and sometimes end up delivering on the way with the assistance or without any assistance, if they could stay at home many of women feel they could avoid such embarrassment. Distance from home to health facility, lack of transport and escort are among reasons for unplanned home deliveries.

Mlay (2006) has also reported that Tanzanian women choose to give birth at home or at traditional birth attendants for variety of reasons such as poor services at health facilities .abusive language from some of the health personnel's, distrust of the level of care that will be provided at health facility, poor financial position and social norms which promote and maintain the practice of home delivery.

Studies conducted in East Africa and Benin found that inadequate health facilities, distance from home to hospital, low income, preference of natural birth, maintenance of traditions and customs and beliefs, low quality of health care provided and lack of privacy have been influencing home delivery in developing countries .Kimani (2008) Mpembeni *et al.* (1999).

Mufindi district may have different and more factors than those found in the areas which studies have been conducted.

2.4 Causes of Fistula

Various misconceptions about causes of OF have previously been reported. In one study conducted in Uganda, traditional birth attendants associated OF with surgery (caesarean section); either because physicians delay to operate the mother or use of 'metal forceps to pull out the baby'. Other reported perceived causes of OF include having a full bladder and rectum during labour and birth attendants having nails that are too long or without use of gloves during delivery (Kazaura , 2011).Injuries during childbirth; Injuries during delivery are the most common cause of rectovaginal fistulas. Such injuries include tears in the perineum that extend to the bowel or an infection or tear of an episiotomy a surgical incision to enlarge the perineum during vaginal delivery. These may happen following a

long, difficult labor. Fistulas occurring from childbirth may also involve injury to anal sphincter.

Crohn's disease. The second most common cause of rectovaginal fistulas, Crohn's disease is a type of inflammatory bowel disease in which the lining of digestive tract becomes inflamed. Most women with Crohn's disease never develop a rectovaginal fistula, but having Crohn's disease does increase risk of the condition. Cancer or radiation treatment in pelvic area. A cancerous tumor in rectum, cervix, vagina, uterus or anal canal can lead to development of a rectovaginal fistula. Radiation therapy for cancers in these areas can also increase risk of developing fistula Surgery involving vagina, perineum, rectum or anus. Prior surgery in lower pelvic region, such as removal of uterus (hysterectomy), in rare cases can lead to development of fistula.

Other causes. Rarely, a rectovaginal fistula may be caused by infections in anus or rectum; infections of small, bulging pouches in digestive tract (diverticulitis); long-term inflammation of colon and rectum (ulcerative colitis); or vaginal injury other than during childbirth (Mayo Clinic, 2013).

Although fistula presents as a medical condition, it is rooted in social, cultural, and economic determinants that underlie vulnerability. Fistula largely affects girls and women living in poverty and those living in rural areas. They often lack access to adequate health care services and information, cannot pay for medical treatment, and are poorly educated. Fistula affects young and old alike.

2.5 Efforts to Reduce Fistula

In 2003, UNFPA and its partners launched the global Campaign to End Fistula, www.endfistula.org, with an overall goal of making the condition as rare in the South as it is in the North. This includes interventions to prevent fistula from occurring, treat women who are affected, and renew the hopes and dreams of those who suffer from the condition. This includes bringing it to the attention of policy-makers and communities, thereby reducing the stigma associated with it, and helping women who have undergone treatment, to return to full and productive lives. The Campaign currently covers more than 30 countries in sub-Saharan Africa, South Asia and some Arab States. In each country, the Campaign proceeds in three phases. First, needs assessments are undertaken to determine the extent of the problem and the resources to treat fistula. Second, each country that completes a needs assessment, receives financial support for planning, including raising awareness of the issue, developing appropriate national strategies and building capacity. Finally, a multi-year implementation phase begins, which includes interventions to prevent and treat fistula, such as improving obstetric care; training health providers; Creating or expanding and equipping fistula treatment centers; and helping women reintegrate into their communities.

All efforts to manage obstetric fistula in Tanzania began in the 1970s, but were formally institutionalised in 1996 when the Bugando Medical Centre (BMC) started a training programme for local surgeons on fistula surgery. By 2001, 50 hospitals reported conducting fistula surgery and some had special wards or units for obstetric fistula patients. In addition, the African Medical and Research Foundation (AMREF) developed a fistula programme, which contributed substantially to the development of an effective and comprehensive strategy to address fistula in Tanzania. Many gynaecologists and nurses have been trained to handle fistula cases and fistula surgery is now provided free of

charge. Active case finding programmes, which trace patients in rural areas and bring them to hospitals for treatment, as well as an outreach programme to perform simple fistula repair, are in place (Maselle *et al.*, 2011)

2.6 Prevention of Fistula

Prevention of fistula has two main foci - the prevention of early pregnancy and improving access to essential obstetric and basic health care services. Both issues are directly linked to poverty. Although large-scale poverty reduction activities are clearly outside the scope of the initiative, it is important to recognize that health interventions, whenever possible, should be supported and complemented through poverty reduction activities as well as policy action to address the problem of early marriage and childbearing.

A primary health intervention should address the lack of access to timely obstetric care. This will require addressing each of the classic delays: the delay in the decision to seek medical care, the delay in reaching a health care facility and delay in receiving care at the health care facility. The delay in seeking medical care often arises from the lack of trained birth attendants who can recognize impending complications. In many unattended births, women and their families do not recognize life-threatening complications early enough to access treatment. Another cause of this initial delay may be the fear of high costs associated with seeking medical treatment. The delay in reaching a health facility involves transport treacherous roads, long journeys and/or the expense or unavailability of transportation. The delay in getting care at the facility is the most critical one and should be addressed as a matter of priority. It requires ready access to surgical supplies, adequately trained personnel and operating theatres. In many cases, it may mean expediting or waiving the hospitals' fee requirements.

Strategies to address fistula must aim to address the prevention to care continuum, thus including preventative methods (postponing marriage and pregnancy for young girls and increasing access to education and family planning services for women and men, and providing access to quality medical care for all pregnant women to avoid complications), and curative methods (repairing physical damage through surgical intervention); and rehabilitative methods (repairing emotional damage through counseling, social rehabilitation and vocational training). Fistula prevention requires good management of labor with a partograph, early diagnosis of prolonged and obstructed labor and timely referral to an obstetric care facility. At facilities, prompt surgery should be available. The waiver of hospital user fees for maternity care can facilitate this.

Health care distribution and utilization in Tanzania, as in other countries in sub-Saharan Africa, the distribution and utilization of health care facilities are limited. With an emphasis on equity, the national health policy in Tanzania aims to secure access to quality primary and reproductive health care for all. Birth care should be offered free at all public and private health care facilities at all levels, from local dispensary, health Centre, district hospital and regional to national referral hospitals. The country has a basic health care infrastructure extending into peripheral rural areas. Estimates indicate that about 80% of the population has access to health services, and that over 90% of the population live within 10 km of a health facility .There is, however, an urban bias in the distribution of health facilities negatively affecting availability of health care in general and emergency obstetric care (EmOC) for women residing in rural areas (Mselle *et al.*, 2011)

Furthermore, inadequate supplies and serious human resources shortages continue to compromise the quality of services offered. For example, each nurse and midwife serves nearly 4 000 individuals, whereas each obstetrics and gynecology specialist serves a

population of about 400 000. The vast majority of skilled health personnel work in the large cities.

2.7 Fistula and Stigma

Stigmatization is a problem in women with fistula as consequences including permanent incontinence of urine and /or faces, genital sores, ulcerations, frequent infections and in some cases infertility lead to social consequences of isolation, abandonment accompanied by loss of financial support and often inability to work. A study conducted in Ethiopia reported that women who experienced fistula lived with the condition 1 to 5 years before seeking care, lived with total humiliation and isolation(Women dignity and engender health,2006)

2.8 Gender and Culture

Women in general are not recognized as equal partners in relationships and marriages and there is still an expectation that women will have children because it is their duty rather than their choice or desire. As a result, women affected by obstetric fistula tend to remain invisible and the silence that surrounds their suffering is an additional burden that increases their difficulties at individual level as well as in their relationships with their partners, husbands, families and communities. Gender imbalances, traditional beliefs and misconceptions all results in additional risk factors for obstetric fistula in Mufindi. Low literacy levels, especially among women in rural areas, continue to perpetuate misconceptions and superstition.

2.9 Conceptual Framework

In this study, factors influencing home delivery form the independent variables including other factors like transportation costs, distance from home to hospital, inadequate health

facilities, traditions and beliefs, lack of privacy and low quality of health care provided.

While Fistula will be dependent variable (Appendix 1).

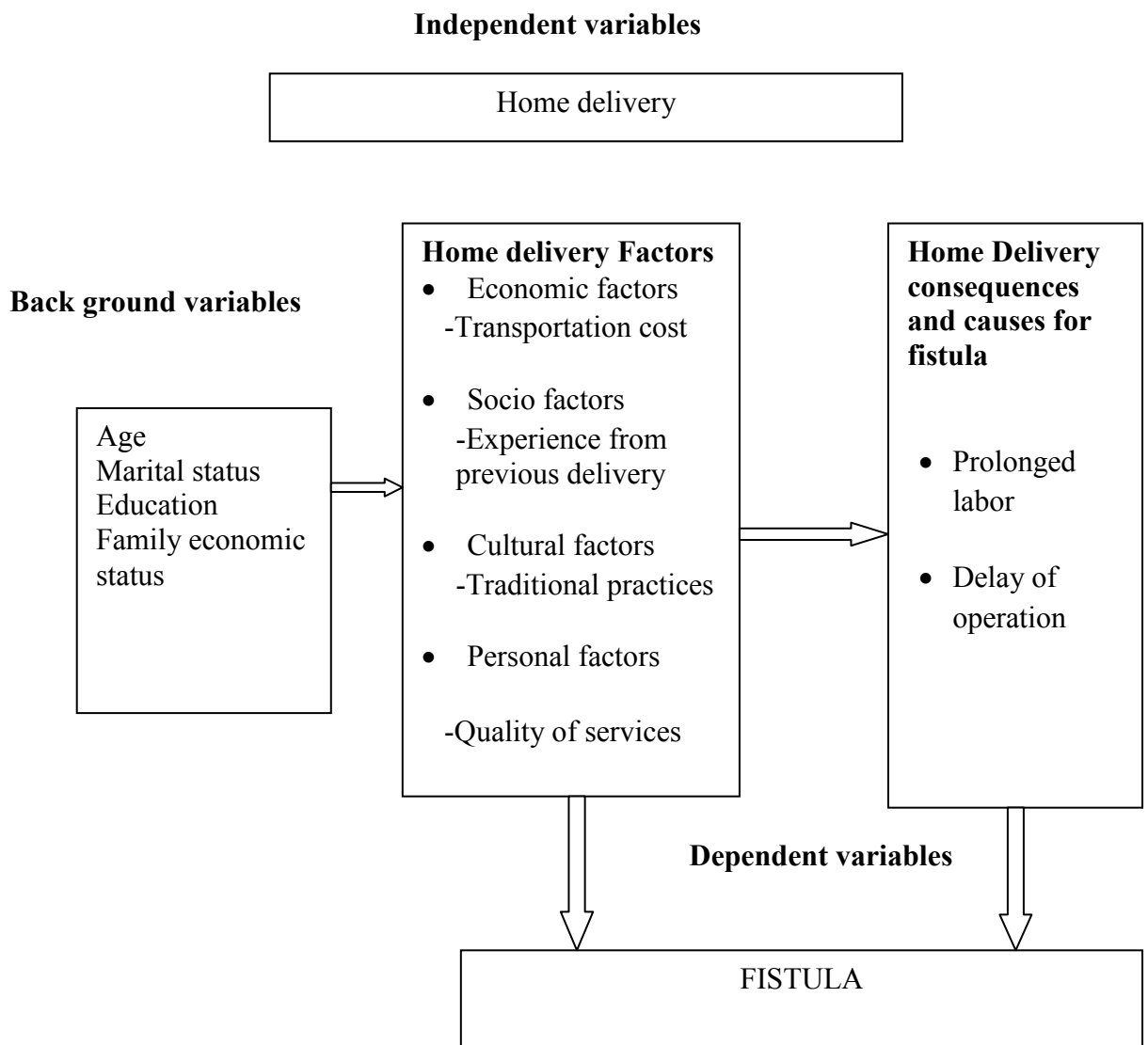


Figure 1: Conceptual framework

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Description of the Study Area

The study was conducted in Mufindi District, Iringa. Mufindi is one of the four districts that make up Iringa region located in the Southern highland of Tanzania. The district has a sizeable population of 139 933 women and 125 896 men with total population 265 829 (Population and housing census 2012). Mufindi District is situated about 80 km from Iringa municipality and its boarders Iringa rural in the North, Kilolo in north east, Njombe in south, Kilombero in the south east and Mbarali in the west. Administratively the district is divided into five (5) divisions, 28 wards and 132 villages and the main economic activity is agriculture. Mufindi has a total of 63 health facilities, 6 being health centres, 55 being dispensaries and 2 hospitals, with total of 274 health personnel's.

3.2 Research Design

A cross-sectional research design was used, in which data was collected at one point in time. According to Casley and Kumar (1998) Cross sectional research design is favourable and good in determining relationships between variables and facilitates simple statistical description and interpretation of data and provides a possibility of determining relationship between variables needed.

3.3 Sampling Procedure

3.3.1 Sampling methods and sample size.

Probability and non-probability sampling technique were used to select sample. Purposive sampling technique was employed to select villages in Mufindi District whereby two villages far from health facility, one village mid distance and one village near health

facility were selected for making comparisons. Simple random sampling was also used to select respondents.

Sampling Formula

$$n_0 = \frac{Z^2 pq}{e^2} \dots\dots\dots(1)$$

Which is valid where n_0 is the sample size, Z^2 is the abscissa of the normal curve that cuts off an area α at the tails ($1 - \alpha$ equals the desired confidence level, for this study is 95% or 1.96), e^2 is the desired level of precision (0.05), p is the estimated proportion of an attribute that is present in the population (29%), and q is $1-p$. ($1 - 0.15$) The value for Z is found in statistical tables which contain the area under the normal curve.

$$n = 1.96 \times 1.96 \times 0.29 \times 0.71 / 0.05 \times 0.05, \quad n = 3.8416 \times 0.2059 / 0.0025$$

$n = 316.39$ approximate to 316 respondents.

Because this study was conducted in only four villages, there was a need to adjust the sample size above while maintaining the proportions to be 130 respondents, as Kish(1965) and Sudman (1976) cited by Israel, (2012) suggest that a minimum of 100 to 200 elements are sufficient to accommodate a comparative analysis when sample need to be adjusted. For this study, a sample of 130 respondents was involved due to financial constraints. The description of distribution of respondents was as follows, 60% of 130 respondents which is 80 respondents was women who delivered, 30% of respondents which is 50 people was the husbands of women who delivered and 10% of respondents which is 20 people was other supporting relatives (mother in laws, father in laws, uncles, aunts).

3.4 Data Collection

Both primary and secondary, quantitative and qualitative data were collected. Primary data was collected by using structured questionnaire with closed and open ended questions, Questionnaires were administered to respondents (mothers/ women and other household members) also an in-depth interviews (IDIs) were conducted with key informants (District Medical Officer, Community Development Officer, Ward officers, Traditional Birth Attendants and Health officers). Secondary information was obtained from district reports and documents. Focus group discussions (FGDs) guided by checklist; tape recorder were used to collect information from focus groups. FDGs and IDIs were used to gain a better understanding of how rural women (Mufindi) and their families reasoned about giving birth at home. FDGs were used to explore the social context of home delivery and to capture women attitudes towards home birth and norms surrounding decision making. FDGs also allowed the exploration on differing views among the participants through the discussions they entitled.

The questionnaire interviews were used to learn about personal experiences related to home delivery and hospital delivery, including decision making on place of delivery .The semi structured interview guide was used in both the FDG and were carried out in Swahili language.

3.4.1 Knowledge index on community awareness on fistula

Knowledge on fistula was measured by using knowledge index. Positive and negative statements on knowledge about fistula were included in the questionnaire, in which for each statement the respondents indicated whether they agree or disagree to the statement. The statements were if fistula can be caused by use of metal forceps to pull the baby, prolonged and obstructed labour, accident, rape, full bladder during labour, fistula means

leaking urine, delay to delivery services, fistula cannot be avoided, long nails of birth attendants can cause fistula, fistula is a sexual transmitted disease, lack of knowledge and reproductive health in some reasons can cause fistula and caesarian section in some cases can cause fistula. Their responses to each variable statement were initially recorded as “Agree” and “Disagree”. Then for each variable statement a value of “1” was given for the correct response and “0” for the incorrect response. The knowledge index was calculated as follows:-

$$KI = \sum (X_{ij}/X_n) \quad (i=1 \dots X, j=1, 2, \dots, n) \dots\dots\dots(2)$$

Where;

KI= Knowledge index of the ith respondent

X_{ij} = frequency of responses on HIV transmission and prevention knowledge

X_n = number of statements on HIV transmission and prevention

X = number of responses considered as indicator of knowledge

n= sample size

3.5 Attitude Towards Home delivery

Attitude was measured by using Likert scale. The format of a typical five –level Likert was used in which the respondent was asked to; strongly disagreed, disagreed, neither agree nor disagree (uncertain), agree or strongly agree against the statements. Statements that were used to construct the Likert scale included assumption that (i) Delivering at home is more safe, (ii) Hospital midwives are very harsh, (iii) Traditional birth attendants treats with respect and are more helpful (iv) Delivering at home reduces costs, (v)A experienced mother no need to deliver at hospital, (vi)More privacy while delivering at home (vii)Presence of male birth attendants makes me uncomfortable (viii)There are poor services in hospital. The mentioned assumption was among of the eight (8) statements

developed to assess the respondents' attitude in relation to home delivery. A numerical score was given by each respondent for each question indicating their negative, neutral or positive attitude towards home delivery. The score for each respondent for each question was recorded, and their total score was computed. The proportion of respondent falling under each of the five categories (scoring 1 to 5) was then determined.

3.6 Ethical Considerations

Permission to conduct the study was requested from the District Executive Directors and from the village leader's .Informed verbal consent to participate in the study was sought from the respondents and the confidentiality of the gathered Information was given and adhered by conducting interviews in well-established private location as suggested by interviewee. They were also informed about their right to agree or refuse to participate in the study and their right to withdraw from the study at any time. Special permission was obtained from informants in the study to use a tape-recorder during the interview .Because of the cultural sensitivity around reproductive issues, interviews were sex-matched such that female interviewer was interviewing women.

Focus group discussions were conducted with traditional birth attendants, women of reproductive age, men and health workers simultaneously with data collection. These discussions considered gender sensitivity by separating males from females during the process. Each gender group was also divided into two separate sub-groups: Adolescent and adult. Each group comprised of ten discussants belonging to similar age groups and with similar educational status to ensure homogeneity of the groups.

3.7 Data Analysis

Data were analyzed by using statistical package for social sciences (SPSS) Software, whereby for objectives i, ii and iii were analyzed descriptively through frequency, means and percentage. Also for objective ii Likert scale was used to capture the attitudes of women over home delivery. For objective iii knowledge score (index) was used to capture individuals knowledge levels. Objective IV was analyzed through Binary logistic regression. The following is an analytical model

$$\text{Log } P/(1-P) = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \dots + \beta_nx_n + \varepsilon_1$$

Where by P = A chance that home delivery has risks of fistula

(1-P) = A chance home delivery does not bring risks of fistula

Log P/(1-P) = Logarith of the odds in favour of delivering at home against delivering at hospital

$\beta_0, \beta_1, \dots, \beta_n$ = Constant/coefficient

ε_1 = random error term

x_1 = Age of a mother,

x_2 = Marital status =1 if, a respondent is married = 0 if not married

x_3 = Education level of the woman (measured by number of years spent in school)

x_4 = Family Income level,

x_5 = Distance from the hospital, (measured in kilometer)

x_6 = Altitude towards delivering at health facilities, = 1 if, positive and 0 if negative

x_7 = Experience of previous delivery, =1 if, ever delivered at home and 0 if, otherwise

x_8 = Delivering costs

x_9 = Traditions and customs

x_{10} = decision on place of delivery = 1 if a mother decide where to deliver her baby
and =0 if other people decide where a mother has to deliver her baby

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Characteristics of the Respondent

The respondents in the study area were asked about their age, marital status and education level. Also respondents categorised as supporting groups were asked about the age, marital status, education and occupation. Regarding of the age of respondents, the minimum and maximum age of respondents were 21 and 40 respectively. The results (Table 1) show that the majority of the respondents (37.5.7% and 32.6%) were in the age group of 20-27 and 28 to 33 years. This is due to the fact that the target group in this study were women of reproductive age .

Table 1: Respondents' characteristics

Variable	Frequency	Percentage
Age		
21-27	26	32.6
28-33	27	29.9
33-40	30	37.5
Marital status		
Single	11	13.8
Married	47	58.8
Divorced	10	12.5
Widow	4	5.0
Cohabited	3	3.8
Separated	5	6.2
Education level		
Informal	11	13.8
Primary	48	60.0
Secondary	19	23.8
College	2	2.5

4.2 Factors Influencing Home Delivery

From observations and from respondents mentioned the factors of home delivery.

4.2.1 Age of a mother

Findings from this study showed that women who are middle aged prefer to give birth at home due to different reasons, like they don't want to stay naked to midwives who are younger they consider them as their daughters and also the young males attendants considered as their sons, they feel shy and is against their culture. In Mufindi 3.8% of older women give birth at home due to different reasons. Of 50% of women who delivered at home 61.6% were of age of 38 and above thus experience matters .Because of fear of delivery complications and less experience mothers of 20-30 years were more likely to deliver at hospital more than home. The few who delivered at home at the age bellow 30 years seem to be abandoned.

4.2.2 Marital status

Target group and supporting group were asked about their marital status because marital status has influence especially to women on economic status and decision making .The assumption was that married women were likely to deliver at hospital than unmarried. This study finds that 13.8% of women who were interviewed were single, 58.8% were married, 12.2% were divorced, 5.0 were widows, 3.8 were cohabited and 6.2 were separated. Of that 58.8% of married women 69.6% delivered at home, were single, divorced and separated. On the other hand 65% of women who delivered at hospital were married and 35% were unmarried.

4.2.3 Education of women

The findings from this study showed that 13.8% of women in Mufindi had not attended formal education system, 59% with primary education, 23.6% with secondary education and 2.4% with higher education. Of that 13.8% of those who are not educated 58% delivered at home. Number of years in school has positive relationship with the health understanding. The higher the education the more the frequency of health services and understanding due to the fact that individuals have better understanding on the health (delivery). A study in Bangladesh at community level on VVF patients was conducted to assess and identify the social risk factors related to obstetric fistula. The study revealed that about 68% were illiterate and 22% had received formal education.

4.2.4 Community education level

Education level of other household members and community members have a direct influence of women place of delivery, as other household members make decisions on women health and place of delivery, also are the ones giving advice and taking care of women during pregnancy. The study found that in Mufindi 26% of people are illiterate, 52% with primary education, 18% with secondary education and 4% with higher level of education. Of that 26% of illiterate 57% of their wives or relatives gave birth at home. This implies that home delivery in Mufindi will continue if illiterate will not be eradicated.

Table 2: Community education level (n=50)

Level of education	Frequency	Percentage
Informal	13	26.0
Primary	26	52.0
Secondary	9	18.0
College	2	4.0

4.2.5 Family income level

Family income level also influences place of delivery. Families with average and high incomes are in good position to handle hospital costs both in government and private health facilities, although in government health facilities delivery services are provided free of charge but there are other costs like transport to health facility, medicines where necessary and other costs of preparations like pairs of khangas and vitenge and infants clothes, soaps etc. In Mufindi the study found that 10% of women who delivered in hospitals were delivered at private health facilities ,of that 10% of women who delivered at private facilities 60.5% comes from families with high income ,33.5 comes from families with average income and 6% comes from poor families.

Table 3: Facility and place of delivery(n=80)

Categories	Frequency	Percentage
Private	8	10.0
Government	32	40.0
Home	40	50.0
Total	80	100.0

4.2.6 Hospital costs

Hospital costs in government health facilities seems not be an obstacle for women to deliver in health facilities, but other costs like transport and other needs like buying equipment's like dishes, cotton wool, plastic sheets and gloves. In private health facilities maternity services are not free of charge, women from Kitiru reported that delivery costs in Mgololo and Uniliver company hospitals range from 20 000 - 45 000 Tsh for normal delivery and 65 000 - 75 000Tsh for caesarian section, this can be afforded by people with average and high income.

Table 4: Hospital costs (n=80)

Costs (Tsh)	Frequency	Percentage
government and home	72	90.0
20 000	1	1.2
35 000	3	3.8
45 000	1	1.2
65 000	1	1.2
75 0000	2	2.5
Total	80	100.0

4.2.7 Accessibility of maternal health services.

Findings from the study show that 47.5% lives near and 52.5% lives far from health facilities, where 35% between 0-5 km from health facility, 21.2% lives between 5- 10 km and 43.8% lives more than 10 km from health facility. This study's findings correlate with the study done by family health International in Tanzania which found that 80% of women live more than 5km from health facility and that walking is the main means of transport

even for pregnant women. Findings also correspond to the study done by PRICE (1984) in Tanzania which found that 84% of women who deliver at home intended to deliver in health facility but could not do so because of distance. And also in agreement with study done in Zambia in 2003 which pointed out people just do not have the money to pay the transportation costs. These findings indicate that, although health facilities are available in most of the rural areas, it is still difficult to utilize the services, most likely due to distance and cost of transport. To avoid such costs and disturbances, women decide to give birth at home and with poor facilities and other life threatening Complications.

Table 5: Distance from health facility (n=80)

Distance (km)	Frequency	Percentage
0 – 5 km	28	35.0
-10 km	17	21.2
More than 10 km	35	43.8
Total	80	100.0

4.2.8 Decision making power

The study elucidates the decision-making process about where to give birth, in which primarily husbands, mothers, mothers-in-law and grandmothers, but also Traditional Birth Attendants and even local health care workers, have strong influence. Findings are in line with previous research in Nepal and Indonesia, Tanzania and Malawi that found household gender dynamics to be a crucial context to decision-making about where to give birth. findings are also in line with an international review of decision-making around health care for malaria that found that even when rural women have responsibility for the health status of households, they must consult with husbands, mothers-in-laws, parents and other relatives who have the ultimate decision making power about seeking care .

Decision-making power, appeared to present women with no choice but to give birth at home. Women who depended on their husband's consent to deliver in a health facility had to wait for him to return from other chores before a decision on place of birth could be reached. If he was not around, no one could make the decision. In rural Lao husbands and parents made decisions about care in the case of delivery complications. The study shows that 42.5% of women in Mufindi make decision on place of delivery and 57.5% do not make decision on place of delivery as shown on table 6 bellow,

Table 6: Decision making

Decided	Frequency	Valid Percent
Decided	34	42.5
Did not decide	46	57.5
Total	80	100.0

In Mufindi as in other places as findings shows from other places decision on place of delivery is made by other family and community members due to different reasons like heads of family ,provider, assisting ,living together, older and experienced and also the fact that in many families women are dependents to their husbands. The table below shows who makes decisions for place of delivery.

Table 7: Who make decision(n=80)

Who decided	Frequency	Percentage
Husband	16	20.0
Mother in law	17	21.2
My mother	6	7.5
Sister in law	6	7.5
Decided my self	35	43.8
Total	80	100.0

4.2.9 Transport

Lack of access to health facilities due to long distances between rural villages and health facilities, poor roads and high transport costs have been identified as a problem in many developing countries, including Mufindi, as study also found. A study in southern Lao about barriers to the use of Maternal Waiting Homes (MWH) also found that the cost of transport to the facility, the cost of drugs when there, and the loss of income were the main constraints. Physical distance and lack of transportation were also obstacles to delivering at health facilities. In the rural areas especially in Mufindi there is no public transport between the villages and the health facilities, so people have to rely on their own means of transport, such as motorbikes and small trucks, to get to health centers. One mother described how transportation difficulties prevented her from seeing to it that her daughter gave birth at the health facility as she, the mother, had hoped.

“there was not any transport and I did not have my own transport.” “My daughter was delivering for the first time, so I wanted her to deliver at the health facility however, I waited for a bus or pick-up for three hours”



Plate 1: A road in sawala village

In Mufindi roads and transport are not reliable especially during rain season, this prohibit people especially women to access medical help. and in some villages like in Mpanga and Luhunga villages there is no public transport unless you hire private transport which is very expensive in many villages in Mufindi District to health facilities costs between 2 000 to 60 000 Tsh for public or private transport.

4.2.10 Lack of personnel's

Human resources are inadequate to meet the needs of the health sector, thus making it difficult to deliver quality services, even in areas that are accessible. Severe lack of qualified staff at all levels in the public health sector, as was observed at all visited sites .

at Sawala dispensary there is only two personnel's who are midwives and at Nyololo dispensary there is only one midwife while at Luhunga and Mpanga there's no dispensaries .At all visited dispensaries there was no medical doctors. Discontinuity of reporting at work occurs regularly. Brain drain to foreign countries and parallel private health sector has been and is ongoing. The very scarce qualified staff prefers to stay and work in urban areas. The study found that in Mufindi 2.5% of women who delivered at home found no one at health facility and decide to seek for TBA's.

4.2.11 Desirable birthing practices

Pregnant women wanted their husbands and mothers to be close to them during labor to give psychological support, but were often also attended by a TBA, in addition to other relatives. Women and their families expressed great confidence in TBA's, their skills and their knowledge. TBAs supervised deliveries either at their own homes or at the woman's home. The predominant role of TBAs was to give traditional medicine to the woman in labor to relieve pain, treat abnormal discharge, and give her energy and strength to push the baby out. TBAs helped women during labor by advising them to walk around during early contractions, and by compressing the abdomen during later stages. One 26-year old woman described the TBA's role thus: The availability of family support was also mentioned by women, mothers and husbands. At home births, mothers and husbands could stay close to the women and provide psychological support as well as physical care, including soothing the woman in labor and making her feel warm. In hospitals, the husband and other family members are not permitted to enter the delivery room.

4.2.12 Poor services

Women and their families are often dissatisfied with the staff attitudes, procedures, and availability of supplies, among other things. A previous study found that not only the

choices of home delivery but also delays in seeking medical care when necessary are partly the result of previous negative experience with the health care system .Findings from this study shows that in Mufindi 72.5% of women agree there is quality services in hospital and 27.5% support that there's no quality services in hospital.

Table 8: Quality services in hospital (n= 80)

Quality services	Frequency	Valid Percent
Quality services	58	72.5
Poor services	22	27.5
Total	80	100.0

4.2.13 Presence of practicing TBA's

Of all women who were interviewed, about 90.5% agreed that TBA's exist in their villages and almost all women (97.2%) knew that TBA's conduct deliveries in their villages. Although their help is only limited to uncomplicated labors, women still like them probably because they are familiar, they are polite and they are recognize and flexible in payment. Furthermore, TBA's do not ask for medicine, new clothes, soap or items like gloves, cotton wool necessary during childbirth as often happens in health facilities. This finding indicates that TBA's will continue to practice despite their services carrying high risks of complications simply because they are easily accessible and friendly.

4.2.13 Previous positive experiences

Previous positive experience with home delivery was another common reason given for choosing to give birth at home. Most women had already delivered at least one child at home, and if this delivery had gone well there was no reason to change. Even if a woman herself had not delivered previously at home, the delivery experiences of Mothers in-law, mothers, aunts and grandmothers all influenced the place of delivery.

4.2.14 Poor timing

Also as in previous studies in other countries, the study found that when there was a sudden onset of labor or labor that starts at night, getting to a health facility was at best inconvenient and impossible, making home births the de facto choice. Sometimes, labor started at night and the family did not want to travel at night; in other cases, families were afraid that labor could start while travelling a long distance to health facilities. In some cases there simply was not time to get to a hospital because of the quick progression of labor.

“Because the labor was easy and quick and was a short labor, I couldn’t get to the health facilities on time.” (Woman, 26)

4.2.15 Lack of privacy and confidentiality

Women and families in this study also complained about the lack of privacy at the hospital and discomfort with being examined by male staff. This attitude was also found in the study of Maternal Waiting Homes, leading the authors to suggest that only female staff should carry out vaginal examinations and that privacy of women and their families should be ensured. Informants also reported that they disliked the lack of privacy and confidentiality at the hospital. The presence of many health staff during delivery coupled with women’s shyness at being naked during delivery made home deliveries appealing.

4.2.16 HIV Tests

The study found that in Mufindi 13.5% of women who gave birth at home others they fear and didn’t want the test for HIV due to different reasons.

4.2.17 Presence of male birth attendants

Another aspect of hospital services that women did not like was that the birth attendant could be a man. Their husbands, interestingly, could accept this, but most of the women felt shy and embarrassed by having a male attendant.

4.2.18 Beliefs in traditions and customs

Of all the respondents, nearly 55% in Mufindi had taboos or traditional practices related to pregnancy and childbirth. These findings are in agreement with other previous studies done in Zambia (2003) and other African countries which describes clearly that, over 60% of rural women have strong adherence to traditional practices, customs and taboos. Some of these practices like drinking herbs and inserting stuff in the birth canal. To some women in the African community, it is a taboo to be delivered by a young unmarried girl (Nurse Midwife), so they opt to deliver at home where older traditional birth attendants would attend to them. This finding shows that ignorance is still a problem of most of pregnant women and that emphasis should be directed towards community based maternal health education.

Table 9: Traditions and customs that prohibit women to deliver at hospital

Traditions	Frequency	Percentage
Prohibit	15	18.8
Not prohibiting	65	81.2
Total	80	100.0

4.3 Attitude of women toward home delivery

Ease, convenience, cheap, more privacy and nearness to relatives were the most cited reasons for home delivery. Women noted that with home deliveries they did not need to

move, other family members and neighbours also pay visits to women giving birth, and giving birth at a health facility makes this impossible, as one woman pointed out

“It is impossible to drag my family to visit me at the hospital as I have 3 children and my relatives as well....” (Woman, 30)

Costs and transport, many respondents pointed out giving birth at home is also cheaper. Giving birth at home costs little beyond the obligatory payment to the TBA, while giving birth at a health facility involves paying for the delivery itself, any needed medicines, the hospital room, and transport to the health facility, and food.

“I could not afford the hospital delivery due to the high cost of a hospital delivery compared to a home delivery. For the hospital delivery, I had to pay for the transport and medicine, while for home delivery, I did not pay anything except the gift for TBA’s who assisted my delivery” 33 year woman.

Table 10: Attitude of women towards Home delivery (n=80)

No	Statements	Score (%)		
		(1)	(2)	(3)
1.	Delivering at home is safer	61.9	10.3	27.8
2.	Hospital midwives are very professional and helping	70	3.3	26.7
3.	Traditional birth attendants treat their clients with respect and are more helpful	20.2	21.0	58.8
4.	Delivering at hospital is safe	21.4	11.2	67.4
5.	An experienced mother no need to deliver at hospital	57.9	22.1	20
6.	More privacy while delivering at home	27.4	1.4	71.4
7.	Presence of male birth attendants in hospitals makes me uncomfortable	28.5	6.5	65
8.	Hospital provides emergency service when delivery complications occurs	81.9	5.7	12.4
Average score		46.2	10.1	43.6

Key; 1= Disagree, 2= Uncertain, 3= Agree

4.4 Community awareness on fistula

The study findings show that in Mufindi the community has a lot misconceptions about fistula 90.3% of respondents agreed that use of metal forceps to pull out the baby can cause fistula, 94.6% agreed that full bladder during delivery can cause fistula, 98.4% agreed fistula means leaking urine, 85.5% agreed long nails of birth attendants can cause fistula. During the focus group discussion with community leaders and members, it was revealed that 80% have ‘heard about women leaking urine and or feces through the vagina’ and 32% were able to give the exact meaning of fistula. About 98.3% of the respondents were also able to name prolonged labor as a cause and traumatic causes accounted for nearly 10%.

Table 11: Knowledge on Fistula (n =50)

Statements	Agree percent	Disagree percent
se of metal forceps to pull out the baby can cause fistula	90.3	9.7
Prolonged and obstructed labour can cause fistula	98.3	1.7
Accident can cause fistula	20.6	79.4
Rape can cause fistula	37.6	62.4
Fistula means leaking urine	98.1	1.9
Full bladder during labour can cause fistula	94.6	5.4
Delay to delivery services can cause fistula	97.1	2.9
A person can do nothing to avoid fistula	11.2	88.8
Long nails of birth attendants cause fistula	85.9	14.1
Fistula is a sexual transmitted disease	4.0	96.0
Lack of knowledge and reproductive health in some reasons can cause Fistula	77.0	23.0
Caesarean section in some cases can cause Fistula	62.0	38.0

Table 12: Index of knowledge and their categorization

Score	Percent
5	37.0
6	20.0
7	10.0
8	7.0
9	5.0
10	7.0
11	6.0
12	7.0
Mean 6.5	
Categories of knowledge	
Low	37
Medium	42
High	20.

Score of 0-6 were considered as low knowledge, 7-9 as medium knowledge and 10-12 as high knowledge on fistula. The majority (57%) of respondents were below the mean, suggesting low knowledge on fistula (Table 11). The mean index of knowledge was 6.5 which categorized as high.

4.4.1 Home delivery and fistula

The study found that, out of all reported and one un reported cases of fistula in Mufindi District, 88.9% of fistula cases were home delivery while 11.1% of fistula cases in Mufindi were hospital delivery. Other factors that put women in risk of fistula in Mufindi District are as reported in Table 12.

Table 12: Home delivery factors and the risks for fistula

	B	SE	Wald	df	Sign.	Exp(B)
Step 1						
Age	-.373	.143	6.819	1	.009	.689
Marital stats	-.148	.345	.185	1	.667	.862
Education	-.528	.817	.417	1	.618	.590
No of child	.805	.338	5.686	1	.007	2.238
Government how much	-1.049	.843	1.551	1	.413	.350
Private how much	.000	.002	.045	1	.932	1.000
Traditions	1.236	1.473	.705	1	.001	3.443
Decide	-1.364	1.264	1.164	1	.281	.256
How far	1.134	.741	2.337	1	.006	3.107
Frequently reliable	.273	.478	.325	1	.769	1.313
Quality services	-1.597	1.121	2.029	1	.054	.203
Where delivered	-.509	.539	.889	1	.346	.601
Constant	16.196	7.720	4.401	1	.036	1.081E7

Results (Table 120) show that, Age of women was statistically significant at $p= 0.009$ for women to be at risk of fistula. Also age of women had negative sign ($B = - 373$) connoting that, the increase in age of women was also increasing the risks of women to fistula. Women in the age group 18-25 reported fistula also though very few as compared to those who were above 25 an including those above 40 years of age. Women in age group 18-25 most of them they are not married so they lack support from husbands especially financial support, some of them are abandoned by the men who pregnanted them and also abandoned by families and community which makes very difficult for them to deliver at hospital. Contrary to those in age above 25 and of 40 and above had higher position of experiencing fistula because of feeling experienced in terms of delivery as most of them had delivered more than once. Also many of them felt shy to be delivered by young midwives, and some women insider as a taboo to be delivered by young and unmarried woman. Also women of age category of 40 years and above consider themselves as

experienced mothers, have more than four children's they opt home delivery because of considering themselves to be experienced.

Moreover, those who are using local herbs and other customary procedure during delivery were statistically significant of risks of fistula at $p=0.01$. Beliefs on traditional medicines and other customary procedures during delivery put them in risks of fistula unlike to those who did not believe on local herbs and procedures. By relying on hers during delivery may put women on risks of fistula as if delivery complication occurs, herbs may not be sufficient to treat the patients. Also most of traditional birth attendants who are mostly using helps, are not well prepared for in case delivery complication occurs to their clients.

Results (Table 12) show that women with more than five children or delivered 5 times or more were more likely to report fistula than women few with children. The number of child is statistical significant to influence the risk of fistula to women at $p = 0.01$. This may be because those with more than five children or delivered five times and more were influenced by experiences from previous deliveries and they opt for home delivery which put them on risks of fistula.

Distance from health facilities was statistically significant at $p=0.006$ for a women to be at risk of fistula. Women from rural areas with long distances from health facilities were more likely to report fistula than those with short distance from health facilities. Distance from health facilities is observed to be an obstacle to utilize health services by rural women, because of long distance and poor roads, transport cost was reported also to be very high, to avoid costs of transport and disturbances women decides to deliver at home which put them on risks of fistula.

Table 12 results show that, level of education, frequent reliability of transport, marital status, costs of delivery in hospital and poor services in hospital during delivery were statistically not significant with $p > 0.05$ for women to be at risk of fistula in Mufindi District.

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CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Women who deliver at home have reasons which should not to be ignored. Of all home deliveries (29%) in Mufindi, about 57% were conducted by TBA's; 41% by mothers and in-laws and 2% by husbands. The main reasons given by more than half of the women who delivered at home were distance from health facilities, transport costs ,poor conditions of roads ,unreliable transport, poor , habit of home delivery due to previous deliveries, unsatisfactory health services, HIV test, poor timing, presence of TBA'S and age of mothers.

These findings are contrary to MDG 5 which insists that, all childbirth should be assisted by skilled attendants at 80% by 2005, 85% by 2010 and 90% by 2015, and higher than the results from the National survey (TDHS) which found that, 53% of all births take place at home. Of these, 31% are assisted by relatives, 19% by TBA`s and 3% without assistants.

Maternal Health Services in Mufindi District are provided mainly by government health facilities. About two thirds of women live more than 5km away from health facilities. Almost all women in Mufindi District know about Traditional Birth Attendants.29% of deliveries that take place at home are conducted by TBA's followed by mothers and a small proportion by husbands.Taboo and traditional practices exist among women in the District and cause women to diverge from the road to maternal health.

This study has shown that the majority of women continue to deliver outside the hospital setting without skilled births attendants. Such home deliveries take these women on the

road to maternal death. Therefore appropriate interventions have to be initiated to counteract these factors, which contribute to home delivery and its consequences in Mufindi District.

Obstetric fistula is a major reproductive health challenge. National RH programs should include strategies that would address these issues as a matter of priority.

Like other countries in the sub-Saharan region, prolonged labor was noted to be the major cause of fistula in Mufindi, indicating the need to strengthen strategies addressing the three delays in labor, with emphasis on the delay in decision making to seek medical attention and Delay in receiving care.

5.2 Recommendations

Community awareness needs to be raised on maternal health seeking behavior and families and community in general need to be prepared for means of transport or transport costs. However, efforts to sensitize men to reproductive health issues should begin long before they get to the age of marriage, and therefore it is very important to strengthen efforts to reach adolescent boys in order to influence their perceptions and behaviors with regard to reproductive health matters. This is particularly important in order to address potential cultural barriers to responsible and supportive behavior. For example, in many areas of Mufindi there is still a lingering belief that a woman's laziness and bad luck during labour is responsible for a difficult labor. This misconception often continues to negatively influence men's decision on transport.

Community-based health education should continue to focus on discouraging some of the non-beneficial traditional practices, and promote modern evidence based practices.

Practicing TBA's should be advised and encouraged to direct or counsel their clients (pregnant women) to attend nearby health facilities once they are consulted for help.

Health facility should be a functional unit for maternal health care equipped with skilled and motivated staff, essential drugs and supplies to provide basic and comprehensive obstetric care.

Introduce specific components related to adolescent sexual and reproductive health as adolescents carry the burden of the highest maternal morbidity and mortality, and are particularly vulnerable to developing Fistula.

Take every opportunity to integrate gender and human rights approaches to women's health, in order to improve fast access to health services for mothers and pregnant women.
Decreasing the involvement of male staff in deliveries where possible.

Since men are often responsible for decision-making and seeking funds for transport to the hospital, promoting the involvement of men (especially potential fathers) as well as religious and community leaders – is a crucial strategy to widening access to emergency obstetric care.

The study recommend for further research especially in areas not reported to have high number of fistula cases.

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APPENDICES

Appendix 1: A questionnaire for women/mothers

My name is Levina Lunyungu a Masters student from Sokoine University of Agriculture. I am currently conducting a study on relationship between home delivery and the risks of fistula in Mufindi district in Tanzania. You have been selected randomly to participate in this study .There is no correct or wrong answer in this study and participation is voluntary. The information generated by this study will only be used for purpose of the study not otherwise. I will not use your name in my report. Please feel free to answer the questions.

GENERAL INFORMATION

A1: Location

Region.....District.....

Division.....Ward.....

Village.....Scheme.....

Date of interview.....

Name of respondent.....

Contacts of the respondents.....

Name of the enumerator.....

A2: Individual information

1. Age of respondent in years.....

2. Marital status (Tick where appropriate)

i. Single ()

ii. Married ()

iii. Divorced ()

iv. Widow ()

v. Cohabited ()

vi. Separated ()

3. Education level (Tick where appropriate)

i. Informal education ()

ii. Primary ()

iii. Secondary school(1,2,3,4,5,6) ()

iv. College ()

v. Others(specify) ()

4. How many children's do you have?

5. Have you ever delivered at home? (a)Yes (b) No

If the above answer is yes, why at home?.....

6. Where did you deliver your children?

(a) At home ()

(b) At hospital ()

(c) On the way to hospital ()

(d) At traditional birth attendant ()

7.If delivered at health facility, which facility?

(a)Hospital (b) MCH (C)Health centre

8. Is it private or Government?

9. -If it is the Government facility was the service free or you contribute? and how much you contributed?

-If it is private facility how much did you contribute?

10. Is there traditions and customs in your community prohibit women to deliver at hospital? (a)Yes (b)No

11. Did you decide where to deliver? (a) Yes (b)No

If the answer above is yes, What factors droved you.....

If no who decided for you.....

Why did he /she decide for you.....

12. Do you stay near hospital?(a)Yes (b)No

If yes how far

i 0-5 Kilometres ()

ii 5-10 Kilometres ()

iii More than ten ()

13. Are transport means reliable? (a) Yes (b) No

If yes how frequently available?.....

14. Are transport means reliable throughout the year? (a)Yes (b) No

If no why.....

15. Which type of transport do you use to get to the health facility?

16. Is there privacy during delivering at hospital? (a)Yes (b) No

17. In hospital are there quality services? (a) Yes (b) No

18. What problems did you face during delivery?

Statement to measure attitude of women over home delivery

No		SA	A	N	D	SD
1	Delivering at home is safer					
2	Hospital midwives are very professional and helping					
3	Traditional birth Attendants treat their clients with respect and are more helpful					
4	Delivering at hospital is safe					
5	An experienced mother no need to deliver at hospital					
6	More privacy while delivering at home					
7	Presence of male birth attendants in hospitals makes me uncomfortable.					
8	Hospital provides emergency services when delivery complications occurs					

Where, SA= Strongly Agree, A = agree, N= neutral, D= Disagree and SD= strongly disagree

Appendix 2: Questionnaire for supporting groups(husbands, inlaws, uncles and aunts)

Particulars of respondents:

Section A. personal information

1. Age of the respondent: _____
2. Marital status: _____
3. Education level _____
4. What is your Occupation _____

Section B. Socio-economic status of respondent

1. What is the total annual income of respondent _____

Estimation from (a) Daily income _____

(b) Daily Expenditure _____

2. What type of asserts do you own _____

Section 3. Attitude towards delivery place and community awareness on fistula

1. Where would you like your wife/relative to deliver?

(a) At Home ()

(b) At hospital ()

(c) Other place (specify) _____

2. Did you make a decision for your wife or relative on the place to deliver?. Yes()
or No (),

If the answer above is Yes, Why did you decide on her
behalf _____

3. Is your traditions forcing women to deliver at home? Yes (), No ()

If the answer above is Yes, What specific is your custom or traditions stand on
women delivery _____

Section 4: community awareness on fistula

An index to measure community awareness.

No	Statement to measure awareness	SA	A	N	D	SD
1	Use of metal forceps to pull out the baby can cause Fistula					
2	Prolonged and obstructed labour can cause Fistula					
3	Accident can cause Fistula					
4	Rape can lead to Fistula					
5	Fistula means leaking urine					
6	Full bladder during labour causes Fistula					
7	Delay to delivery services can cause Fistula					
8	A person can do nothing to avoid Fistula					
9	Long nails of birth attendants cause Fistula					
10	Fistula is a sexual transmitted disease					
11	Lack of knowledge and reproductive health in some reasons can cause Fistula					
12	Caesarean section in some cases can cause Fistula					

Where, SA= Strongly Agree, A = agree, N= neutral, D= Disagree and SD= strongly disagree

Appendix 3: Interview Questionnaire for Traditional Birth Attendants.**Particulars of respondents:**

Name of the TBA/RMP: _____

Address of the TBA/RMP: _____

Age of the TBA/RMP: _____

Years of working experience: _____

Information on obstetric fistula

1. Sometimes after prolonged labour, mothers endure complications. Have you seen an Patient who leaks urine or faeces uncontrollably?
2. Has any patient with those symptoms approached you for treatment? If so, how you have managed that? Have you referred any woman with those symptoms? If so, where you have referred her? What you know of the referred site?
3. Had anybody come to see you after getting treatment from other places? If so, what were their reasons for coming to see you?
4. If you know somebody with these symptoms, what familial and social problems they are facing?
5. In your opinion, why does the leaking occur? How this can be avoided?

Appendix 4: Interview Questionnaire for Health Care Providers .

Name of the respondent: -----

Designation: -----

Name of the Hospital/Center: -----

General:

1. Are you aware of fistula?
2. What are your views about obstetric fistula problems in Mufindi
3. Why is it occurring?
4. Is obstetric fistula problem preventable?
5. If it is preventable can you suggest some ways for its prevention?
6. In your opinion which of the suggestions is the most effective one?
7. By strengthening prevention how much can we reduce the occurrence of obstetric fistula?
8. Do you take any preventive measure if you suspect that patient may develop obstetric fistula?
9. How can we raise awareness among women and community regarding the obstetric fistula problems?