

**FACTORS CONTRIBUTING TO THE DELAY IN SEEKING TREATMENT FOR
WOMEN WITH OBSTETRIC FISTULA IN ETHIOPIA**

by

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Submitted in accordance with the requirements for the degree of

MASTER OF PUBLIC HEALTH

at the

UNIVERSITY OF SOUTH AFRICA

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June 2012

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DECLARATION

I declare that **FACTORS CONTRIBUTING TO THE DELAY IN SEEKING TREATMENT FOR WOMEN WITH OBSTETRIC FISTULA IN ETHIOPIA** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

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JUNE, 2012

Acknowledgements

I want to thank the following persons for their respective contribution to this dissertation. Dr. Catherine Hamlin for her help and permission to continue my study in UNISA, Mr. Mark Bennett for his kind and massive support in all processes of this study, my supervisor Professor Tennyson Mgutshini for his guidance, support and encouragement, Professor Gordon Williams for directing me in selection of the research topic and reviewing my proposal paper and his encouragement in all processes of the research, Dr. Lynnette Kay for her unlimited support starting from the selection of the research topic, reviewing all my research works and ongoing support through all processes of the research, Sr. Annette Bennett for her support and encouragement in the process of this research, Sr. Jacqueline Bernhard for her encouragement and support, Mr. Habtamu Atnafu for his support during data entry, reviewing the data collection tool and unlimited support in data analysis and interpretation, Mrs. Amelewerk Mekonnen for her kind support during data entry, Mrs. Sandra Johannessen for editing the manuscript, Addis Ababa Fistula Hospital and the five outreach centres, All the data collectors for their willingness and taking their valuable time in participation of data collection and all the participants of this study. Last but not least, my loving wife and my two daughters for their immeasurable support during my study.

ABSTRACT

The purpose of this study was to identify factors that contribute to women delaying seeking treatment for obstetric fistula.

A stratified random sampling technique was used to select 384 study participants. A cross sectional analytical research design was used; data was collected by structured, closed ended questionnaires. Bivariate and multivariate logistic regression models were applied.

Results show a significant correlation between traditional treatment and delay in seeking treatment (P-Value = 0.012). The presence of parents has a significant correlation in reaching treatment centres (p-value = 0.013), those women who are speaking about their fistula have less chance of delay in seeking treatment (p-value = 0.008), having no income significantly associated with delay in seeking treatment (AOR = 0.28) and women living closer to the treatment centres have less chance of delay (p-value = 0.008). Therefore, there are a number of factors that significantly influence women from early seeking of treatment for their fistulae.

Key Concepts: obstetric fistula, delay in seeking treatment, culture, socioeconomic status, distance, illiteracy

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List of abbreviations

AAFH	Addis Ababa Fistula Hospital
AOR	Adjusted Odds Ratio
CI	Confidence Interval
DFDI	Department for International Development
ECA	Economic Commission for Africa
FMOH	Federal Ministry of Health
HFE	Hamlin Fistula Ethiopia
NGO	Non Governmental Organization
HSDP	Health Sector Development Plan
IEC	Information Education Communication
MDG	Millennium Development Goals
N	Number
OR	Odds Ratio
PASDEP	Plan for Accelerated Development to End Poverty
PHCU	Primary Health Care Unit
RVF	Recto Vagina Fistula
SD	Standard Deviation
SNNPR	Southern Nation and Nationalities People Region
SPSS	Statistical Package for Social Sciences
UNFPA	United Nation Fund for Population Activities
UNISA	University of South Africa
USD	United State Dollar
VVF	Vesico Vagina Fistula
W H O	World Health Organization

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CHAPTER 1

ORIENTATION TO THE STUDY

1.1 Introduction

Obstetric fistula is an injury that occurs during prolonged or obstructed labour, causing tissue damage to organs inside the pelvis and resulting in incontinence of urine, faeces or both (Addis Ababa Fistula Hospital 2006).

In Ethiopia 9,000 women develop fistula each year (The Fistula Foundation 2011). There were only 1477 fistulas repaired in the year 2010 in all treatment centres including the main hospital in Addis Ababa (Hamlin Fistula Ethiopia, 2010). Obstetric fistula makes the lives of many young women difficult in developing countries. It is widely known that there are physical problems and co-morbidities associated with fistula. Obstetric fistula accounts for eight percent of maternal deaths world wide with millions more women and girls living with shame, isolation and abject poverty because of the stigma linked to their condition (WHO 2006). In Ethiopia alone an estimated 46,000 of the total population of women suffer with untreated obstetric fistula (The Fistula Foundation 2011).

Notably, women affected with obstetric fistula have shown limited engagement with medical services (Kavai, Chepchirchir & Kayugira 2010). Left untreated obstetric fistula can lead to neurological conditions such as foot drop, development of contractures, disuse atrophy, genitourinary infections, and dermatitis (Muleta, Hamlin, Fantahun, and Kennedy & Tafesse 2008). The consequences of this coupled with social and economic problems often contribute to decline in health and well being that can result in early death.

The factors associated with limited participation in treatment services are widely debated and continue to be an area worthy of further exploration. The researcher also noted limited agreement in the research about the factors that limited engagement of women. Moreover, there is limited research in this area in Ethiopia.

This study will focus on identifying factors which contributed to the delay in seeking treatment amongst Ethiopian women with obstetric fistula who were being treated at the Addis Ababa Fistula Hospital and the five Hamlin Fistula Ethiopia regional outreach hospitals. Furthermore, delaying treatment has an impact on the prognosis and it may cost more money when compared with treatment for women who came earlier for treatment (Raassen, Verdansdonk & Vierhout 2008). Quantitative research methodology was employed on the study population who were admitted for treatment both at Addis Ababa Fistula Hospital and five outreach centres which are located in four regions of Ethiopia. Quantitative methodology was used to describe different factors and their frequencies.

1.2 THE RESEARCH PROBLEM

1.2.1 Background of the problem

The World Health Organization (WHO) estimates that there are at least 2,000,000 women living with obstetric fistula and an annual incidence of 50,000 to 100,000 cases in the world, although almost no population-based surveys on fistula have yet been undertaken and data remains scarce (WHO 2006). Estimates suggest that at least 3 million women in poor countries have unrepaired vesicovaginal fistulas, and that 30,000-130,000 new cases develop each year in Africa alone (Wall 2006).

In Ethiopia alone an estimated 0.25% of the total population of women suffer with untreated obstetric fistula and another 9,000 women develop fistula each year (The Fistula Foundation 2011). By this estimation 46,000 of the women in Ethiopia are affected. This clearly shows the severity of the problem, the status of women and the lack of accessible and quality maternal health care in the country.

Ethiopia is one of the least developed countries in the world (Travel and living abroad 2012). One of the many factors that contribute to Ethiopia's underdevelopment is that of health problems due to number of causes. Women's health is one of the major health issues in Ethiopia and obstetric fistula is a major contributor. Poverty, malnutrition, a poor access to health services and early marriage all play a role in the development of obstetric fistula in the rural settings of Ethiopia (The Fistula Foundation 2011).

Many women deliver their babies in isolated rural areas as 84% of Ethiopia's population live in rural communities with little or no medical support (Central Statistics Agency 2008). After many days of obstructed labour, the baby dies and the women are left with a fistula resulting in incontinence of urine and sometimes also faeces and other neurological problems. Due to their disabilities, the women are excluded from their communities.

Obstetric fistula affects women at the very height of their reproductive life, with the median age of untreated women in Ethiopia being 35 years at the time of interview, 15 years at first marriage and 18 years at first delivery (Muleta *et al* 2008).

Poor women are mostly the victims of obstetric fistula because they do not have prompt access to adequate emergency obstetric care (The Fistula Foundation 2011). The finding was supported by a study carried out in Nigeria which revealed large numbers of women with obstetric fistula were from a poor rural background (Wall, Karshima, and Kirschner & Arrowsmith 2004). Poor road networks and sparsely located hospitals contribute to the delay rural women face in reaching the health care facilities (Khisra & Nyamongo 2011: 97).

Exposure to religious and traditional treatment by women with fistula was high, with over 80 percent of women in the rural areas having visited religious institutions. This was related to travel time to and from the health service delivery and belief and cultures of the community towards modern treatment for obstetric fistula (Population Council & UNFPA, 2010).

1.2.2 Source of the problem

While precise prevalence statistics are unknown the most recent study Muleta *et al* (2008:44) estimated that in the world there are at least 2,000,000 women living with obstetric fistula and an annual incidence of 50,000 to 100,000 cases, most fistula patients are found in the sub-Saharan countries.

The Addis Ababa Fistula Hospital and its five outreach centres located in different regions have treated over 35,000 women in the last 35 years (The Fistula Foundation 2011). Every year, doctors at the hospital and outreach centres operate on less than 2500 fistula patients (Hamlin Fistula Ethiopia 2010).

Most fistula sufferers are young women; many still live with their condition for upwards of 25 years (Muleta *et al* 2008). It has been observed over the last 35 years that most women coming to seek treatment have had the problem for many years. The Addis Ababa Fistula Hospital and its outreach centres are receiving patients from different regions of Ethiopia. As part of their initial interview each patient is asked how long she has had a fistula.

Unpublished Addis Ababa Fistula Hospital statistics of 2011 revealed the range of delay from labour to treatment is 2 months to 40 or more years. Median time of delay is 2 years and 7 months (Hamlin Fistula Ethiopia 2011)

Delay in seeking treatment is defined as: if a woman has incontinence of urine and/or faeces and does not seek medical help for more than 3 months then this is considered as a delay to seek medical help (WHO 2006).

Several researchers have confirmed that some of the morbidities related to delay in seeking treatment are neurological damage in the lower limbs, such as foot drop, development of contractures, disuse atrophy, genitourinary infections, renal failure, and these dermatitis; co-morbidities and damage around the pelvis area make surgical repair extremely difficult (Wall 2006).

The Hamlin Fistula Ethiopia has been engaged for more than 35 years in the treatment of women with obstetric fistula and in the past seven years in various activities to minimise the incidence of fistula and increase awareness on early seeking of medical care. This has resulted in larger numbers of women with obstetric fistula seeking treatment. Some of the women lived for more than 30 to 40 years with the problem; some were hidden in monasteries where their life style was completely changed. Despite a lot of effort to bring women early to the treatment centres and hospitals, still many women continue to live with the problem. Eventually the source of the problem is

the fact that delayed treatment has become too common and that this delayed pattern of seeking help has a detrimental health impact. Wall (2006) identified that when a woman presents with the problem in the first three months after injury, prompt initiation of conservative treatment can allow spontaneous closure of fistula, particularly if it is small size. Therefore this raised the question: why women with obstetric fistula didn't come for treatment as early as possible?

1.2.3 Statement of the problem

Despite the Addis Ababa Fistula Hospital and its five outreach centres dedication to treat women with obstetric fistula and massive community awareness activities for prompting treatment, there were only 1477 new fistula cases repaired in the year 2010, only 16.4% of new patients (Hamlin Fistula Ethiopia, 2010). Clearly many women are not seeking treatment as soon as they develop a fistula. The reasons for the delay in seeking treatment are not well known. Therefore, this study investigated factors which could play a role in women delaying seeking medical help.

In most situations a period of two to three months from labour to admission to hospital is considered normal. Usually fistula surgeons prefer to wait for two to three months after the fistula occurred for surgery (WHO 2006). For the purpose of this study, delay in seeking treatment is defined as; a woman who has incontinence of urine and or faeces and does not seeks medical help within 3 months, then this is considered to be a delay in seeking medical help.

1.3 AIM AND PURPOSE OF THE STUDY

The aim of this study was to identify factors that contribute to women delaying seeking treatment for obstetric fistula, in order to inform key stakeholders about the necessary measures to facilitate women seeking treatment for fistula immediately. Particularly the prevention department of Hamlin Fistula Ethiopia develops educational programmes to make women aware of obstetric fistula and the necessity to have it treated immediately.

1.3.1 Research objective

Specific objectives

- To identify factors which make women delay seeking treatment for obstetric fistula in different regions of Ethiopia (Addis Ababa, Tigray, Amhara, SNNPR, Harari and Oromiya) .
- To determine the length of delay to seek biomedical treatment in health facilities
- To determine the proportion of patients who had delayed seeking treatment for their condition

1.4 SIGNIFICANCE OF THE STUDY

This research is expected to add to the existing knowledge about the problem of fistula in Ethiopia by focusing on identifying the major contributing factors as to why women do not seek medical help promptly after developing a fistula.

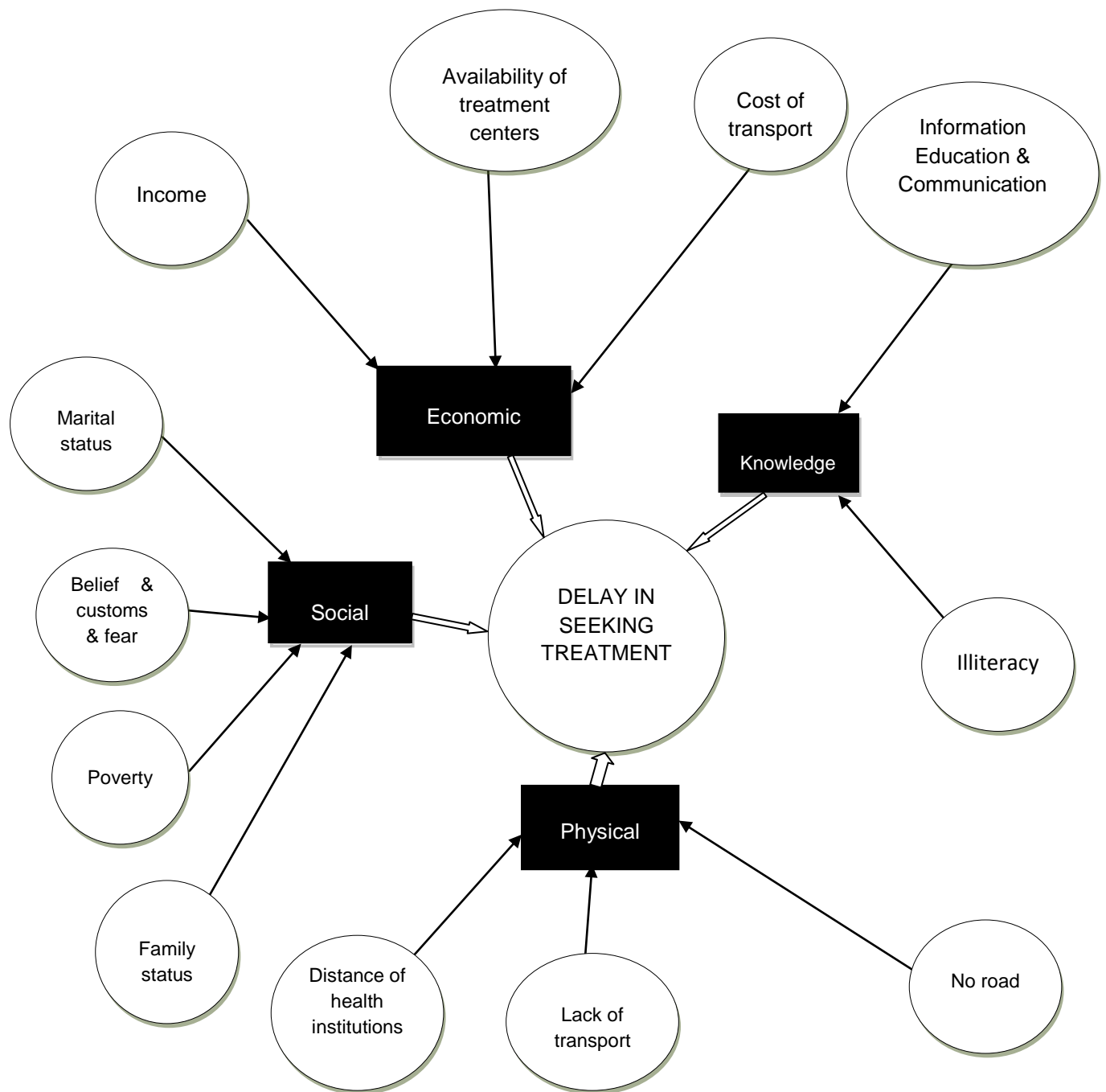
Currently there are very few of the potential patients using the service; only 16.4% of new patients came for treatment in the year 2010 from the total of 9000 new cases (Hamlin Fistula Ethiopia, 2010). Therefore, this study allows for a clearer understanding of reasons for not coming to the treatment and the findings of this study will propose corrective strategies for policy makers and service providers to assist in the identification of hidden obstetric fistula victims and to bring behavioural changes in rural communities of Ethiopia towards obstetric fistula. The findings also will be used to develop strategies that would encourage women with obstetric fistula and their families to access obstetric fistula repair services promptly. The findings will also be used to improve and strengthen the packaging and delivery of programmes, activities and messages on obstetric fistula to sharpen and enhance the level of awareness about obstetric fistula.

1.5 THEORETICAL FOUNDATIONS OF THE STUDY

There are various health seeking behaviours and health utilisation frameworks that could be useful in analysing factors affecting health seeking behaviour.

The Thaddeus and Maine three delay models have clearly identified several causes of delays, including socioeconomic and cultural problems, knowledge about reproductive health risk factors, gaps in health service delivery, and transportation and mobility problems (Thaddeus & Maine 1994). Using this model, the possible factors have been represented in the following conceptual diagram.

This diagram illustrates which factors may contribute to delay in seeking treatment of women with obstetric fistula.



Adapted from (Thaddeus & Maine 1994:1091)

Figure 1.1 Conceptual framework

In this conceptual framework the major causes for delay in the seeking of treatment are categorised into four categories. The study is designed with background knowledge that educational, socioeconomic, physical and geographical factors determine the early treatment seeking of women with obstetric fistula.

The first cause for delay in seeking treatment may be due to a lack of knowledge in recognising the signs of complications during childbirth. Due to high illiteracy rates and a lack of information, education and communication there may be a failure to perceive the severity of the condition.

The second factor in the diagram is economic; most fistula patients are poor women who are living in rural settings. Most rural women do not own any property in their own name and are not free to decide to sell property. It is reasonable to assume women with obstetric fistula have no money to go to the treatment centre and they can't afford the cost of the transportation. Therefore economic factors may contribute to a delay in women seeking treatment.

Another major factor which could hinder women with obstetric fistula in seeking treatment is isolation; women may become outcasts due to the bad smell and wetness from urinary or faecal incontinence. Fear of stigmatisation, lack of support to take the women to the treatment centre and low status of women in a community force women to live with the problem. Moreover, cultural medicines may be the first priority rather than seeking modern treatment.

The last major factor which may contribute to delay in seeking treatment is the difficulty in reaching a treatment hospital. This may be due to mountains, valleys and rivers blocking the women from treatment centres. Moreover, cost of the transport and drivers who are not willing to take women with fistula because of the smell of urine and/or faeces make it difficult for women to access treatment centres.

Therefore, this conceptual framework diagram helps the researcher to focus on major factors that may contribute to the delay in seeking treatment. By using this model to analyse the issues related to delay in seeking treatment for obstetric fistula. Moreover, it allows the researcher to knit together observations, facts into an orderly scheme and to develop data collection tools.

1.6 Conclusions

Hamlin Fistula Ethiopia launched a fistula prevention strategy, through a sustained outreach programme from each fistula outreach hospital with the specific aim of detailing what obstetric fistula is and the availability of free fistula repair. From that time the staff at each fistula hospital began to see an increase in the number of women with obstetric fistula seeking treatment. The influx of old fistula cases raised the questions such as why did this woman choose to come today? Why not earlier? However, despite the Addis Ababa Fistula Hospital and its five outreach centres dedication to treat women with obstetric fistula and massive community awareness activities for prompting treatment, there were only 1477 new fistula cases repaired in the year 2010, only 16.4% of new patients. This information clearly indicates still many women are not seeking treatment as soon as they develop a fistula and there are a lot hidden fistula patients.

The researcher has identified that there is a large number of women who delay in seeking treatment for obstetric fistula. This clinical observation coupled with the increase in facilities offering free fistula repair raised a research question as to why women were not coming immediately. Why were they coming for treatment after many years? Therefore, the researcher raised a question what factors are contributing to the delay in seeking treatment for women with obstetric fistula in Ethiopia?

There is a need to review the available literature to identify what is known about factors contributing to the delay in seeking treatment for women with obstetric fistula and the gaps that exist. Thus the researcher has found it is important to conduct a literature review.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Literature review is a critical summary of research on a topic of interest, often prepared to put a research in context (Polit & Beck 2008). It is conducted to generate a picture of what is known about a particular situation and the knowledge gaps that exist in it (Burns & Grove 2005). In this section of the dissertation the researcher has reviewed all the possible sources to investigate what knowledge and practice exist in relation to factors contributing to the delay in seeking treatment for women with obstetric fistula in Ethiopia and around the world.

The contents of this literature review were accessed from books, journals, web pages and websites (Goggles scholars, Hinari, pub med, and electronic journals, published journals and articles and unpublished journals and articles). The researcher used the following Key terms; delay seeking treatment, obstetric fistula, socioeconomic factors, health seeking behaviour and other terms used to search literature related to this study. The researcher reviewed more than 40 pieces of literature to write this section of the research.

The most current editions are consulted and referred to in the research. All literature older than five years was excluded from being a source of the literature review since the dynamic nature of medical science.

For the purpose of clear understanding of this chapter, the researcher presented this section in two major categories. The first part will give overview of health service delivery system in Ethiopia and burden of obstetric fistula and the second part will review literature that has identified issues related to the uptake of services. The literature review section is outlined as: knowledge of obstetric fistula and its impact in early treatment seeking, illiteracy and health seeking behaviour, beliefs, customs and status of women, geographical and transport related barriers and poverty in early treatment seeking behaviours.

2.2 HEALTH SERVICE DELIVERY SYSTEM IN ETHIOPIA

Ethiopia is a Federal Democratic Republic composed of 9 national regional states and two administrative states, the regions are further subdivided to 68 zones, 804 districts (Addis Ababa Fistula Hospital 2006). The land area of Ethiopia is estimated at about 1.1 million square kilometres and the current population of Ethiopia is approximately 84 million which is the second largest population in sub Saharan Africa, of which more than 80% live in rural areas (UNFPA 2011).

Ethiopia implemented a three tier health service delivery system characterised by a primary Health Care Unit (PHCU), comprising five satellite health posts, one health centre and primary hospital to serve 5000, 25000 and 100,000 people respectively; General hospitals with population coverage of 1 million people; and specialised hospitals which are expected to serve 5 million people (Muleta 2008).

The Ethiopian government has sought to reform the health service system into a cost effective and efficient system for the past several years, accordingly, a twenty year health development implementation strategy, known as Health Sector Development Program (HSDP) with a series of five year investment programs was launched in 1998 which is aligned with the wider frame works of plan for Accelerated Development to End Poverty (PASDEP) and Millennium Development Goals (Ministry of Health 2009).

Despite the relatively better primary health service coverage available, health service utilisation rate is very low (0.32) in Ethiopia. Hence, the country has one of the lowest antenatal care (52.1%), postnatal care (19%) and institutional delivery care (16.4%) utilisation in the world (Tebekaw 2010)

2.2.1. Maternal health services in Ethiopia

The government of Ethiopia is strongly committed to achieving the Millennium Development Goal 5 to improve maternal health, with a target of reducing maternal mortality ratio by three quarters over the period 1990-2015 (Ministry of Health 2010).

The Health Extension Programme, accelerated expansion of health centres, provision of Basic Emergency Obstetric Care and Comprehensive Emergency Obstetric Care in health facilities and provision of safe blood and adequate pharmaceuticals are the major strategies that have been designed to meet this target (Ministry of health 2010). These strategies have been implemented and there has been a significant decline in maternal mortality ratio from 871 deaths per 100,000 live births in 2000 to 470 deaths per 100,000 live births in 2010 (Ministry of health 2010). However, a rate of 470 per 100,000 is still high and primary health care provision is hampered by a lack of functioning health care facilities, particularly in rural and isolated communities (UNFPA 2011).

There has been significant progress in achieving the Millennium Development Goals (MDGs), with Ethiopia on track to meet most MDGs; good progress has been made towards reducing child mortality. Rapidly increasing usage of contraceptive methods, enabling families to plan and space their children (Travel and living abroad 2012). A report from UNFPA (2011) has revealed an increased antenatal coverage to 28%, the contraceptive prevalence rate is 15%, unmet need for family planning is 34% and proportion of births attended by skilled health personnel is 6%. The skilled midwives ratio per 1000 live births is 0.4, births complications per day is 1397 and of this 1146 occur in rural parts of the country and the life time risk of maternal death is 1 in 40 (UNFPA 2011).

The median age at first marriage in Ethiopia is 16 years, and 31% of women are married by age 15. About 12% of the total fertility rate in Ethiopia derives from births to women aged between 15 and 19 years (Muleta *et al* 2008)

In rural parts of Ethiopia most deliveries take place in the home. Population Council and UNFPA (2010) identified in a study carried out in western part of Ethiopia that 85% of

girls aged between 15-24 years and 89% of women aged between 25-49 years had home deliveries. Significant numbers of first births were attended by one's mother, mother in-law or other relatives (56%) and followed by traditional birth attendants, Only a few births were attended by health professionals (11% of girls and 6% of women) (Population Council & UNFPA 2010).

2.2.2 Burden of obstetric fistula in Ethiopia

Obstetric fistula remains a major public health problem for many women in Ethiopia and other developing countries around the world. The incidence rate of obstetric fistula in countries with high mortality rate could be as high as 2 to 3 cases per 100 women (Sunil & Sagna 2009). According to recent report, it is estimated that approximately 2 million women suffer from obstetric fistula around the world, and between 26,000 and 40,000 live in Ethiopia (Muleta et al 2008). It is estimated that 9,000 of new cases occur every year in Ethiopia (The Fistula foundation 2011).

A study carried out by Sunil & Sagna (2009) identified approximately 4 percent of the women in Ethiopia aged 15-49 reported having obstetric fistula. Among women who reported obstetric fistula, approximately one third stated that they developed this condition before the age of 24 and; the majority (51%) had no formal education (Sunil & Sagna 2009). Over two thirds of cases were reported in rural areas.

Despite the high incidence of fistulas in Ethiopia many women do not seek medical help promptly; findings suggest that delay in the decision to seek care may be caused by different factors. Lack of understanding of complications, the low status of women, socio-cultural barriers and physical barriers such as mountains, rivers and lack of transport added to the delay in reaching care (Kijugu 2009).

2.3 FACTORS CONTRIBUTING TO THE DELAY IN SEEKING TREATMENT

The following review of literature focuses on the differing evidence of factors that impact treatment seeking behaviour. Generally this literature review covers health seeking behaviour in terms of knowledge, education, belief, culture, women's status in the community, geographical and transport related barriers and the impact of poverty.

2.3.1 Knowledge

Two studies, Gundani & Gandanga (2011) & Kawai et al (2010) have investigated the extent of knowledge of adolescent women of pregnancy related complications. Both studies were cross sectional descriptive studies and carried out in hospitals. The latter study was carried out on larger sample size (n=137) compared with the other (N=66) and the study subjects were selected by systematic sampling technique. In both of the above studies it was found that most adolescent women have little or no knowledge of obstetric fistula. These findings can be related to a high illiteracy rate common in rural communities. A lack of knowledge can be expanded to include a lack of community awareness, health service providers, ignorance about fistulas and community perception that fistulae are incurable. Many fistula patients seem not to understand the causative factors for obstetric fistula and often attribute the fistula to a curse or witchcraft. Both studies were carried out in sub-Saharan Africa countries and this study is also to be conducted in the same region, therefore the findings of these studies help to make a comparison with this study. The studies were facility based cross sectional studies, carried out on pregnant women and the sample sizes were not extensive therefore we can't generalize these findings. Particularly a study by Gundani & Gandanga (2011) (n=66), the sample size was very small and it only focused on adolescent girls. Therefore, the findings of this study had limitations being generalized.

A triangulation study by Kawai et al (2010) & Tanzania Women's Dignity project and Engender Health (2006) (n=61) on the effect of knowledge on the cause of obstetric fistula and treatment options along with traditional beliefs and customs found that poor knowledge of the cause of fistula hindered women from seeking early treatment.

Notably a study by Tanzania Women's Dignity project and Engender Health (2006) carried out in Tanzania (n=61), a triangulation study which included fistula victims, their family members and community, have found women, their families and community members had different views about the causes of fistula. Fewer than half of the women reported that a fistula is caused by a delivery delay; others attributed the fistula to hospital procedures or to the provider and other perceived bewitchment to be cause of fistula. Moreover this study concluded urgent action was needed focusing on awakening the community to the importance of Birth Preparedness and complication awareness and accessing quality maternal and reproductive health care. Although this study used a triangulation method which is essential as one part of quality criteria, the sample size for quantitative study was very small. Additionally, both studies focused on women's knowledge of obstetric fistula not the factors which cause a delay in seeking treatment.

Further studies by Tinuola and Okau (2009), Kawai et al (2010) & Tanzania Women's Dignity project and Engender Health (2006) have investigated whether women received health information on obstetric fistula during pregnancy and the role of health care providers in passing information to their clients. The studies were cross sectional descriptive studies and all of the studies were carried on in rural settings. The study found that 88% of the participants had not heard about Vesico Vaginal Fistula from any source and three quarters of participants had not received any health education about Vesico Vaginal Fistula in the antenatal clinic. All the studies concluded that there is a strong need for health education most especially on reproductive health issues. The education should be implemented more in the rural areas where the knowledge about fistula is low among women of reproductive age. The latter study, Tanzania Women's Dignity project and Engender Health (2006), despite its sample size was (n=61) it was found to be significant because of a combination of findings through the triangulated method. One significant finding in this study was that the majority of women who had a fistula had lived with it for more than two years. One reasons that was identified as a cause of delay in seeking care was a lack of knowledge about the availability of treatment. The findings of this study will be used as a comparison with the findings of the current study. All studies except the later studies are descriptive studies and all the

studies were carried out on pregnant mothers; moreover the sample size in the first two studies was very small. Therefore, all these findings might limit the generalisability of the first two studies.

The work of Addis Ababa Fistula Hospital, Ethiopia Road Authority and World Bank Ethiopia (2010) an unpublished survey carried out in 2010 in four rural districts of Ethiopia (n=4520), have investigated knowledge about danger signs during pregnancy, labour, delivery and post partum found only 48% of the women had knowledge on one to two danger signs. Although majority of women from the survey areas recognized the fatal nature of the signs, the cause of fistula and identified seeking care from a health facility as the right possible course of action, there was little practical chance of translating knowledge or perception into deeds. Although the study was carried out on a large sample (n=4520) and the study identified good awareness of the cause and the right course of treatment by the study community. The failure to address issues such as why women with a reasonable knowledge about fistula continue to delay seeking care makes their investigation left with gaps still to be addressed by other research. Therefore, the researcher of this study identified the larger sample size and a triangulation methodology used by the researchers of this study give a heavier weight for generalisability for this study. However, there are unanswered questions that are left, for example the factors for not coming to the treatment centres are not addressed. Although this study is used as a good source for reviewing literature still there is a need of this research is appropriate to answer those questions which are not addressed by other researchers.

All the studies are similar in the following points; most of the studies were focused on rural communities, they used facility based descriptive studies, and pregnant women were their participants. Most of the studies were focusing as investigating knowledge of pregnant women on labour and delivery complications. Thus the studies identified, most women of reproductive age group have limited knowledge of complications related to pregnancy. Thus, all the studies identified women and their communities have either

little knowledge or no knowledge at all about obstetric fistula and what type of treatment to seek for obstetric fistula.

2.3.2 Impact of Illiteracy and Health service seeking behavior

Many studies, including research by Gundani & Gandanga (2011) (n=66), Mohammed (2008) (n=52) and Muleta et al (2008) (n=52) have investigated whether or not the level of education has been seen to increase an individual's ability to benefit from health information. All studies except that done by Muleta et al (2008) were quantitative studies carried out in different hospitals. The latter study by Muleta et al (2008) was a triangulated design (n=52) and found that more than 75% of the participants were illiterate. All the above studies found a lack of knowledge as a contributory factor in adolescents' understanding of pregnancy related complications. Generally all the studies found illiteracy as a factor which determines the perception of what type kind of medical help is needed and they summarise that women should be informed about obstetric fistula at the time of their prenatal visits including its prevention. Moreover, the studies concluded the importance of education and the inclusion of the issue of fistula in curricula of schools and universities. All studies used small sample size for quantitative methodology. Moreover, the studies by Gundani & Gandanga (2011) (n=66), Mohammed (2008) (n=52) used a very small sample size. Particularly the later study used non probability convenience sampling technique to select the 52 participants therefore it was found that the findings of these two studies have a major limitation of generalisability of the findings.

A quantitative study by Tebekaw (2010) has investigated the association of obstetric fistula and education status of women. The study used Ethiopian Demographic Health Survey 2005 data to determine a sample size (n= 3217). The findings from this study are especially significant as it meets essential qualities criteria such as nationwide probabilistic samples, larger sample size, highly standardised data collection procedures and multivariate analysis which all favour the internal and external validity of the study. The research concluded that there was a relationship between educational status and obstetric fistula, regardless of socio-economic characteristics like region, age, religion, and place of residence. The study found that women with secondary or

higher education are less affected by obstetric fistula than the relatively less educated women. Therefore the level of education and prevalence of obstetric fistula are negatively associated. Although this study has internal and external validity it was focused on prevalence and there is no direct mention of delay in seeking treatment. Therefore, the larger sample size and using different analysis methods gave high value to generalize the findings and a good source to add to the body of knowledge of important evidence.

The studies included in this part of literature review investigated the impact of illiteracy on health seeking behaviour. All the studies conclude the less the woman is educated the higher the chance of getting a fistula and little chance of understanding of the problem. Moreover, illiteracy deters women from seeking modern medical treatments.

2.3.3 Beliefs, customs and status of women

Culture and traditions play a major role in the lower utilisation of maternal health services. Two studies by Kijugu (2009) and Melkamu (2008) investigated the association of culture and tradition and modern health seeking behaviour. Particularly the latter study was a triangulated study (n=2064) investigating the problem of health seeking behaviour and utilisation of health care services. The research was carried out both in rural and urban areas of four major regions of Ethiopia. This research found that women prefer home based care because they were able to maintain the tradition that they have been accustomed to for generations. A similar finding was found by a study Kijugu (2009) revealing low status of women in the society, cultural and beliefs are factors contributing to women failing to access health services.

Although these studies, particularly Melkamu (2008) used a triangulation method with larger sample size, this increased the credibility and the findings to be generalised. Despite both studies delivering important findings, the studies were carried out on pregnant mothers and they didn't address women with obstetric fistula. Moreover, the study by Kijugu used secondary data and it was not possible to identify the sample size. The researcher has not mentioned how the data was extracted and the number of

recordings reviewed. Therefore, the research by Kijugu lacks generalisability since the sample size is not known and the researcher used secondary data. Therefore, the researcher believes conducting this study is appropriate to address the gap that is left unanswered in relation to women with obstetric fistula.

Fear could be a factor because it is likely that fistula patients are not comfortable exposing their ailment to the community for fear of further discrimination. A qualitative study was conducted by Khisa & Nyamongo (2011) on factors contributing to obstetric fistula formation in rural Kenya. The researchers examined the perspectives of the healthcare providers on the factors that contribute to obstetric fistulae formation in West Pokot, Kenya. Thematic analysis based on grounded theory approach was used. This research revealed the gender power balance in favour of men, put women at a disadvantage and affected their ability to take care of their own reproductive health. Moreover this study identified cultural practices, such as birth rituals; contributing to a delay in seeking skilled obstetric care. The researchers also reported that social forces such as fear of hospital health care providers performing different procedures, which are contrary to the local traditions, keep many women from visiting the health institutions. A study using triangulation methodology by Kawai et al (2010) (n=61) identified that many women suffer from vesico vaginal fistula without consulting a doctor about the problem because they are shy and reluctant to complain through embarrassment and stigma. However, the former study was purely qualitative and the study participants were health workers therefore it is difficult to generalize the findings in to other contexts. Despite the use of small sample size for quantitative part the latter study used mixed methodologies which increase its generalisability. Despite limitations both of these studies have identified the impact of culture and traditions on modern health care seeking behaviour in rural communities of Africa, therefore, concluding that cultural and religious beliefs about obstetric fistula may compound this fear.

Many studies, including Women's Dignity Project and Engender Health (2006) (n=61) a cross sectional descriptive study carried out in rural Tanzania have investigated the decision making power of women to seek modern medical help. The results revealed

that most decisions are made by a women's husband or family members. Delays in accessing needed obstetric care are further compounded by community misconception about the causes of childbirth complications. In some societies, cultural norms and practices can influence the recognition of complications and/or risk factors during pregnancy, birth and post partum periods, thereby inhibiting women from seeking health care. A cross sectional Descriptive study carried out by Population Council and UNFPA (2010:20) (n=704) in rural Ethiopia investigated the association of prenatal care and healthcare seeking behaviour in rural Ethiopia. This research identified that those women who did not receive prenatal care, believed that there were no problems during pregnancy (60% of girls and 57% of women). Therefore, women with no or minimal prenatal care had a higher incidence of not visiting or coming to the treatment centres. Even when the service is available, negative attitudes from health care professionals or community perceptions thereof, can discourage women from seeking care. Moreover, the lack of female service providers or someone who speaks the local language and appreciates local cultural norms limited women seeking care (UNFPA 2011). The former study used a small sample size, therefore it has less chance to be generalised whereas the latter study used a larger sample size which gives the study a higher value to generalise the findings in the other similar settings. Both studies are relevant sources of reference for similar studies.

A number of other studies also show how socio cultural norms are skewed in favour of men and made women vulnerable to maternal morbidity and mortality. A triangulation study by Addis Ababa Fistula Hospital *et al* (2010) (n=4520) identified evidence from a qualitative study and pointed to the fact that women are forced to pass through a series of cultural and traditional rituals during pregnancy and labour, and these rituals contributed to a delay in leaving the home when care was needed resulting in the development of a fistula. If it is all taken, it is mostly too late. This study also found those women and their families especially those who lacked skilled care during delivery may not even know that a treatment exists for fistula. Additionally, this study found large spousal age differences are also common in Ethiopia and this is believed to further limit a married woman's autonomy and decision making. Due to the fact of a larger sample

size, use of mixed methodologies and multistage cluster sampling technique, the findings of this study could be generalised and utilised in similar settings.

Level of a woman's education and other socioeconomic factors play a role in not seeking early treatment for obstetric fistula. A study by Population Council & UNFPA (2010) (n=749) using cross sectional descriptive methodology carried out in rural Ethiopia has investigated, the association of girls education and health and education and rate of early marriage. This descriptive research found girls and women in Ethiopia are at a distinct disadvantage compared with boys and men on a range of issues such as education and health. Moreover, the research pointed out that Ethiopia is ranked 129th out of 136 countries on the gender related development index and concluded that girls with no education had the highest rates of marriage, 72% of girls with no education had never been married. Therefore, it is possible to argue that the low status of woman in general, and particularly in young women, plays a fundamental part in the development of fistulas and in delay in seeking treatment. Education and health seeking behaviour have a close relationship and uneducated girls have a high chance of early marriage. Therefore, education level exposes them to economic dependency and an increased risk of different health problems including fistula. Moreover, it has long been recognised that women in particular are subject to poor quality of care in reproductive health services across the developing world. The sample size used in this study was appropriate size for the research design. Therefore, the larger sample size allows the findings of in this research to be generalised in other similar settings.

The studies included in this section of literature review have identified that different cultural and belief have a negative impact on women's health. Different cultural practices and beliefs have been found to be the major contributory factors which hinder women from modern medical treatment. Some of the practices are: gender disparity, women being forced to follow home based cares and, women being forced to pass different cultural and beliefs practices before seeking any modern medical care. All studies agreed that women are subject to poor quality of care; this is due to low status and cultural beliefs.

2.3.4 Geographical and transport related barriers in seeking treatment

A triangulation study by Muleta (2008) (n=170) investigated the relationship of obstetric fistula and transport access for emergency obstetric care service in Ethiopia. This case control study involved fistula patients (cases) and pregnant women (controls) who were following their antenatal checks in two regional hospitals. The study found fistula patients' village were significantly further from the referral hospitals studied and from any other health institutions compared to laboring mothers. Moreover, the means of transportation used by fistula patients and laboring mothers to access health institutions were different; most of fistula patients walked or were carried on a stretcher. In addition, fistula patients lived far from all-weather roads and hence had great difficulty to access transportation compared to laboring mothers. This research also identified estimated monthly income of fistula patient was significantly less than labouring mother. Muleta (2008) further explained, referrals are often delayed and patients often arrive at the hospital late in labour. A midwife from the maternity unit in Mekele in northern part of Ethiopia stated, "Delay on arrival is observed in most of women with complicated labor and mostly it is because of unavailability of means of transport". The study summarised, fistula patients were significantly impoverished compared to the control group of pregnant women in many aspects. The researcher used a mixed method which is one essential criterion to examine different factors which are associated with the study topic. Moreover, the study was a comparative study which enhances its creditability. However, the sample size for quantitative study was not adequate since the estimation for sample size was made by assumption without having any enough evidence, this might limit on its generalisability. Generally, this research could be used as an excellent source as literature review.

A qualitative study by Khisa et al (2011) used a thematic analysis based on grounded theory. The researcher examined the perspectives of the health care providers on the factors that contribute to obstetric fistulae formation in rural west Pokot, Kenya. The study found poor road networks and spare hospitals also contributes to the delay women face in reaching the healthcare facilities to get maternal health services. The

researcher summarised community level initiatives aimed at improving the health of women in rural resource and infrastructure poor areas should be encouraged. This study was a purely qualitative study and the participants of the study were health workers working in rural settings; due to these facts this study has limitations to generalise the findings to be used in other settings. However, the study could be used as source of evidence for other similar studies.

A triangulated study by Addis Ababa Fistula Hospital *et al* (2010) (n=4520) carried out in two regions of Ethiopia, investigated provision of emergency access to the health services. The study found that geographical barriers such as mountainous terrain or poor road conditions also delay access to maternal health care. A Focus Group Discussants said “they faced difficulties with regards to roads and most of the roads are very muddy and difficult to walk on during rainy season. Problems of rivers over flowing and lack of bridges on most of the rivers were some of the problems to access health facilities”. Moreover, the participant of this study stated they travelled on foot carrying the pregnant mother on a stretcher until they reached to the main road or reached the health facility. Most participants stated that they spend a lot of money on transport and that it is one of the mains reasons why people in their community and particularly women with labour and labour complications do not go to health facilities to seek medical help. Therefore, the researcher found this study demonstrated the highest level of quality due to the study utilised a triangulation method which is important to observe the findings from different angles. Additionally the inclusion of adequate sample size gives more weight for this study to be generalised in the other similar settings.

Further studies by Kijugu (2009) and Muleta (2008) (n=170), investigated the association between access of transport and health treatment facilities visit. Both studies, found that long distances to health facilities and the costs involved while travelling to reach care contribute to delay in accessing health care centres. The high costs of reaching facilities are due to poor road infrastructure and lack of transport networks (Kijugu 2009). The distance between medical facilities that provide treatment for fistulas and the rural communities where the women live is another factor that could

contribute to delayed treatment. Even if women know about the service, they may not have the financial resources to access them. Additionally their families may not be supportive and so women may have to travel alone for treatment, a difficult thing to do in Ethiopian culture especially for women who are incontinent. When the services exist they are often too far away or too expensive. The work of the Federal Ministry of Health (2008) and Economic Commission for Africa (2009) revealed that most clients in labour and delivery needed to travel a median distance of 45 kilometers from a health center to the nearest facility with surgical services. The unavailability of public transportation or prohibitive cost of transport means that many women have to walk or improvise a way to reach health care. Both studies recommended, improving accessibility in the rural areas is beneficial to all people, but will have particular impact on women. It is therefore essential that women are involved in all phases of rural transport and access planning, implementation and maintenance. The studies included in this section of literature have methodological deficiencies; Kijugu (2009) and Economic Commission for Africa (2009) used secondary data and the number data reviewed was not stated. Muleta, used a triangulation method; this might give credibility for the study but the sample size for quantitative study was very small and there is no enough evidence that was stated the way how the sample size was determined. Therefore, all the studies could be used as source of evidence but to generalise the findings in these studies in other similar settings is questionable.

All the studies included in this review were carried out in different African regions; this made the finding more reliable due to similarities in setting. Finally all the reviewed studies in this section revealed long distances to health facilities, lack of and cost of transport contributory factors in delay seeking medical help. Lack of support and fear of travelling alone are additional factors identified by these studies.

2.3.5 Socio- economic status

A descriptive, cross sectional community based study by (Mohammed 2008) (n=52) investigated contributory factors of vesicovaginal fistula among fistula patients. The study identified more than two thirds of women (80.8%) have low socio-economic status, further the study explained, the victims were mostly young women, primiparous,

poor, illiterate, and not receiving regular antenatal care. The participants had limited capacity to decide on their health care due to poverty. A qualitative study by Khisa et al (2011) carried out in rural areas of Kenya, revealed poverty and lack of economic empowerment prevent women from seeking and accessing medical help when they want to do so. Women are dependent on their husbands and they have no land or any other resources to make money. The low socioeconomic status of women exposed the participants to early marriage, high illiteracy and low attendance of antenatal care. However, both studies have methodological limitations which hamper the credibility and the findings to be generalised. Mohammed (2008) used small sample size and the sampling technique was convenience sampling technique and small sample size exposed the study to lack to be generalised. Additionally, the study was exposed to selection bias and the latter study by Khisa et al (2011) is purely qualitative and the participants were health workers. Despite the mentioned limitations both studies revealed a root cause for delay in seeking medical help is poverty and particularly reducing the chance of getting medical help when there is a need.

Further studies by Women's Dignity project and Engender Health (2006,): Khisa & Nyamongo (2011) and Muleta (2008) (n=170), investigated the association of income and treatment seeking behaviour of women who were victims of obstetric fistula in different countries of Africa. The studies identified that obstetric fistula affects mainly poor women and girls who cannot pay for a skilled birth attendant at a health facility. Even if patients knew treatment was available they could not afford to get to the hospitals that provide repair. Also most women with obstetric fistula have not set aside any money for some emergencies during pregnancy and delivery or for transport. The latter study, a triangulated case control study which was carried out in two different regions of Ethiopia revealed, fistula patients were found to have significantly lower monthly income than non fistula patients from the same region and comparable age group. About 43% of fistula patients are getting less 11.6USD per month which is about 1/3rd of a dollar a day. Although, the studies identified critical findings and used different methodologies, there is limitation on generalisability due to both studies used small sample size.

A triangulation study by Addis Ababa (2006) (n=18000), to investigate the health, social, psychological and related problems encountered by untreated and treated fistula patients in the community. The study revealed those patients who were identified as undertreated mentioned poverty as one of the root causes for not seeking medical treatment. A patient explained why she was not treated by saying "I couldn't visit health institutions. Earlier my husband had taken me to the nearby health center, but we couldn't make progress because of our poverty. My husband died 3 years ago and I didn't get any treatment since then". The study concluded poverty and access to high level care as the major constraints for treating fistula. Even if, this study used a large sample size and a triangulation methodology it focused mainly to estimate the prevalence of obstetric fistula in Ethiopia. This study has high credibility and generalisability due to its larger sample size (18000) and the researchers used a triangulation method to enhance the findings of this research to be highly credible and generalisable.

The studies included in this section of literature review revealed that victims of obstetric fistula patients were young, illiterate and poor women with significantly less economic empowerment. The studies also expressed, having no income or low income affected the health seeking behavior of women and difficulty to put money for any complications that might happen during pregnancy, labour and post delivery. Finally all the studies identified poverty as the root cause for delay to seek treatment.

2.4 Conclusion

In this literature review the causes and the magnitude of obstetric fistula in the world and in Ethiopia have been reviewed. The causes of obstetric fistula can be classified into physical and social causes. The physical causes can be further classified into lack of access to maternity care, lack of knowledge about or facilities for fistula repair. The social factors which contribute to the development of obstetric fistula are poverty, early marriage and child birth, inadequate family planning and birth spacing.

This literature review has identified that there are a number of factors which contribute to the delay in seeking medical help by women with obstetric fistula. The contributory

factors include a lack of knowledge of fistula treatment and false beliefs that obstetric fistula is incurable. Moreover, studies carried out in neighboring African countries revealed that a lack of knowledge about fistula treatment facilities is responsible for the major share in delay in seeking treatment. Other contributory factors for a delay in seeking include; are illiteracy, traditional beliefs, customs and status of women in the community.

The prevalence of obstetric fistula in Ethiopia is one of the highest in Africa. In Ethiopia, several studies on obstetric fistula have been published in relation to obstetric fistula but there is no study which particularly focuses on factors which delay women to seek treatment as early as possible. The researcher identified that there is no literature limited information in relation to this issue and therefore, the purpose of this study is to investigate all the possible factors which the prevalence of obstetric fistula is one of the highest regions in Africa.

CHAPTER 3

RESEARCH DESIGN AND METHOD

3.1 Introduction

This chapter of the research study focuses on methodology and materials of the study. This chapter discusses the selection of the study population, the sampling technique and sample size determination. This chapter also elaborates on the data collection strategy, including the maintenance of the internal and external validity together with a description of the data entry and data analysis methods.

3.2 Research design

3.2.1 Research paradigm

A quantitative research is used for investigation of phenomena that lend themselves to precise measurements and quantification (Polit & Beck 2008). A quantitative study based on a cross-sectional survey was conducted to describe and explore the possible factors that contribute to delay in seeking treatment for obstetric fistula. The researcher regarded the quantitative, methodological paradigm to be the most suitable in order to enumerate the various factors identified which contribute to a delay in seeking treatment for women suffering with obstetric fistula. Quantifying these valuable data will enable stakeholders to make strategic decisions in programmes that aim to raise awareness of fistula repair, and initiatives that focus on identifying women with untreated fistula conditions.

3.2.2 Research design

Polit & Beck (2008) defined research design as the overall plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research process. The research design involves a plan, structure, and strategy of the study. These three research design concepts guide a researcher in writing questions, conducting the project and in analysing and evaluating the data (Hober & Lobiondo-Wood 2006).

In this study, the researcher implemented a quantitative cross sectional analytical research design to identify the factors and examine which are associated with a delay in seeking medical treatment for obstetric fistula. This research method was selected because it examines the relationship between delay in seeking treatment and different associated factors (Bonita, Beaglehole & Kjellström 2006). Since this research was carried out in different regions of the country, it can be used to compare differing characteristics across varied population groups. The researcher believed that this methodology would facilitate a large amount of data to be collected in a timely and cost efficient manner, enabling quality research where time and funds were scarce.

Through this design, the researcher describes what exists within the community; the frequency of the various factors that cause women to delay seeking treatment for their fistula condition (Burns & Grove 2005, Babbie 2008) and its relationship with the outcome factor was identified. Therefore, the findings generate new knowledge in this area and based on the findings, service providers and policy makers may review or design new strategies to locate hidden fistula victims, and encourage sufferers to seek treatment as early as possible.

3.3 Research methods

3.3.1 Sampling

3.3.1.1 Study setting and population

A study population is an aggregate of elements sharing some common set of criteria. (Burns & Grove 2001). The study was conducted in the Addis Ababa Fistula Hospital and its five outreach hospitals located in Tigray, Amhara, Oromiya, Harari, and the Southern Nation and Nationalities Regions. The Addis Ababa Fistula Hospital is located in the capital city of the country receiving patients from different regions. Bahirdar Hamlin Fistula Centre is located 565kms north-west of Addis Ababa, Mekele Hamlin Fistula Centre is 770kms north of Addis Ababa, Harar Hamlin Fistula is located 525kms south-east of Addis Ababa, Metu Hamlin Fistula Centre is 600kms west of Addis Ababa and Yirgalem Hamlin Fistula Centre is 330kms south of Addis Ababa.

The study included all patients with obstetric fistula who were admitted into these six hospitals at the time of data collection. The inclusion criteria included women who had been diagnosed with obstetric fistula and admitted to six Hamlin Hospitals, who were above 18 years of age and willing to participate and able to give consent according to 1960 Civil code of Federal Democratic Republic of Ethiopia.

3.3.1.2 Sample size

The required sample size of the study population was determined by using the formula single population proportion

$$n = Z (\alpha/2)^2 \times P (1-P) / d^2$$

Where “n” is the required sample size, “Z” is standard score corresponding to 95% confidence interval and “P” is the proportion of delay in seeking treatment of women with obstetric fistula. Since no study had been carried out on this issue particularly, the researcher took 50% as proportion of being delayed in order to get a large sample size for quantitative study. “d” is the margin of error, that is, 5%.

$$n = (1,96)^2 \times 0.5(1-0.5) / (0.05)^2$$

n= 384 accordingly, the required sample size was 384.

3.3.1.3 Sampling

Stratified random sampling is used in situations in which the researcher knows some of the variables in the populations that are critical to achieving representativeness (Burns & Grove 2005). Therefore, stratified random sampling technique was used. This method of sampling was used as the study was conducted in the specialised fistula hospitals located in Addis Ababa and the five outreach hospitals located in five administrative regions of Ethiopia (Amhara, Tigray, Oromiya, Harari and Southern Nations and Nationalities Regions). The populations in all four regions were heterogeneous in terms of culture, religion and ethnicity. Women of different backgrounds and locations were involved in this study, since it was the desire of the researcher to show the magnitude of the problem nationwide. The researcher chose to sample from all six treatment centers

and thus found a stratified sampling technique was the most appropriate technique to utilise.

To use this method, the researcher first divided all the sources of the study subjects into six strata; namely the five outreach hospitals (Harar Hamlin Fistula Center, Yirgalem Hamlin Fistula Center, Bahirdar Hamlin Fistula Center, Mekelle Hamlin Fistula Center and Metu Hamlin Fistula Center) and Addis Ababa Fistula Hospital. The population of each of those strata is different from the other stratum in religion, belief, culture, socioeconomic characteristics and their health seeking behavior. This ensured formation of homogeneous population groups in each stratum of the country before sampling (Babbie: 2008). Based on the patient numbers at each site, the desired sample number was selected from the six strata. The researcher used the most recent and updated list of patient admissions in the Addis Ababa Fistula Hospital and the six outreach centres as a sampling frame. After stratification was conducted, a simple random sampling technique was used to select participants on the determined day of data collection at each facility.

The wards and hostels in the Addis Ababa Fistula Hospital compound accommodate up to 120 patients while each outreach hospital accommodates up to 40 patients. Usually all the treatment centres accept and admit all the patients with diagnosis of obstetric fistula regardless of the duration of the injury. Moreover, the Hamlin Fistula Ethiopia is a non-profit charity organisation where all the treatment and rehabilitative care is given free of any charge in all 6 facilities which are located in Addis Ababa and four regions of the country (Hamlin Fistula Ethiopia 2010).

A disproportionate sample is a sample in which the researcher samples varying proportions of subjects from different population strata to ensure adequate representation from smaller strata (Polit & Beck 2008). A stratified, disproportionate, random sampling technique was used as the number of patients in each fistula treatment centers was unknown at the time of data collection. The researcher found that each center had a different contribution resulting from the variation in patient numbers admitted to each facility during each phase of data collection.

The inclusion criteria included; women who had been diagnosed with obstetric fistula and who had been admitted to a Hamlin Hospital, who were above 18 years of age and who were willing to participate and able to give consent by themselves (Federal Democratic Republic of Ethiopia 1960). The researcher ensured that participating patients were not critically ill and were able to conduct the interview comfortably. Those patients who were in the operating room, waiting to go the operation room on the data collection date, patients who had recently undergone surgery, those who were below 18 years and anyone who was not willing to participate were excluded from the study.

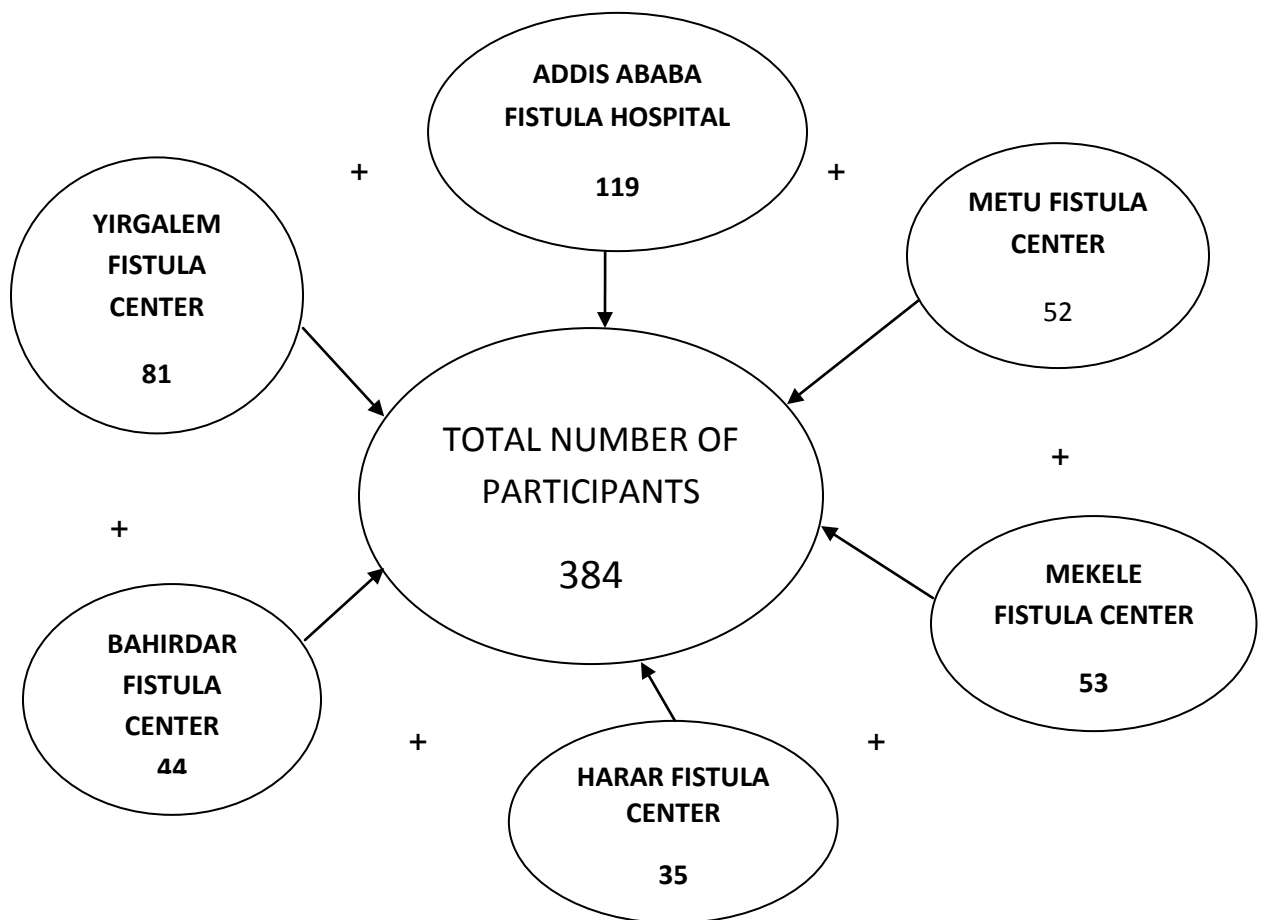


Figure 3.1 Distribution of participants by treatment facilities

3.3.1.4 Ethical issues related to sampling

The inclusion and exclusion criteria which were set before sampling were maintained. Those women who met the inclusion criteria (obstetric fistula patients who were above 18 years old, could give signed consent by themselves, were willing to participate, were diagnosed having obstetric fistula, not critically sick and able to conduct the interview) formed part of the sampling procedure. Whereas those patients who didn't meet the inclusion criteria (patients who were in the operation room, waiting to go to the operation room, those patients who were recently returned from the operation room, those who were below 18 years old and those not willing to participate) were excluded from the sampling procedure. Particularly, those patients waiting for operation and returned from the operation theatre were excluded due to the fact that they had received narcotic drugs as pre and or post operation procedures. Therefore, they were not fully conscious and alert to respond to the questions.

Through strict application of both the inclusion and the exclusion criteria, the researcher maintained professional and moral integrity while conducting this research. The list forming the sampling frame or any list of participants of the study was not disclosed to anyone. Moreover, all sampling procedures were implemented after the researcher was granted an ethical approval from the University of South Africa (see annexure A) and Ethics Committee of Addis Ababa Fistula Hospital (see annexure B).

3.3.2 Data collection

3.3.2.1 Data collection approach and method

The questionnaire was administered to 384 participants, who were in the six treatment centers during the data collection period. The questionnaires were completed in the language spoken by the women with the assistance of interpreters who were all female.

The data was collected in three phases, one month apart, in order to obtain the desired sample size. It was planned that all data was to be collected within a three month period. However practically, data collection took four months from October, 2011 to the end of January, 2012. This increase of time spent collecting data was due to a reduction in women with fistula seeking treatment in all the Hamlin Fistula Centers in this period.

The planned data collection time coincided with the season where farmers are highly engaged in harvesting, and with the occurrence of several religious celebrations. Therefore, during this season, people in farming communities do not want to leave their village. Any patients who were included in a previous phase of data collection were excluded.

The data collection was based on a closed ended structured questionnaire. These questions offered the respondents the opportunity of selecting one or more response choices from a number provided. This ensured the same questions were covered for each participant. These fixed alternative questions offer respondents response options from which they must choose the one that most closely matches the appropriate answer Polit & Beck (2008). Most participants were from rural areas of the country where there are high rates of illiteracy and these women might have had difficulty in expressing themselves well verbally. Additionally, the data collection translators were not educated which might have further complicated clarification of the questionnaires. Thus, the researcher believed that closed ended questionnaires were the most suitable for this study.

3.3.2.2 Development and testing of the data collection instrument

The questions were prepared in both Amharic and English. The questions were prepared originally in English and then transcribed into Amharic to smooth the data collection process for data collectors. It was an added advantage that four of the five members of the Ethics Committee of Addis Ababa Fistula Hospital were native Amharic speakers in that, they read both the Amharic and English versions and compared for discrepancies. Based on the comments of the Ethical Committee, minor errors were corrected. Moreover, pre-testing was completed in order to check for ambiguous and unclear items in the questionnaire. Participants of pre-testing were selected from those patients who were admitted in AAFH and met the inclusion criteria. Pretesting was carried out on 20 patients. The researcher also participated in pre-testing the data collection instrument as it provided a good opportunity to practice data collection and to test the data collection tools. Based on the findings of pre- testing, minor corrections

were made before the final data collection began. All patients who participated in pre-testing were not included in the actual data collection.

3.3.2.3 Characteristics of data collection instrument

The data collection instrument was an anonymous closed ended questionnaire. The questionnaire was developed after review of relevant literature. Questions that addressed the objectives of the study were gathered and adopted from previous similar studies and other relevant materials. (See Annexure E)

This closed ended data collection tool contained dichotomous questions, which requires respondents to make a choice between two response alternatives, and multiple choice questions which offer more than two response alternatives.

The questionnaires included questions related to a women's experience of health seeking behaviour for obstetric fistula, socio economic status and demographic characteristics; knowledge of pregnancy and pregnancy complications, stigma, discrimination and physical barriers to seeking treatment. Marital status, income, type of treatment for fistula, distance, and parental status were included in the inferential analysis model.

3.3.2.4 Data collection process

Data collection was conducted in each hospital compound and in the out-patient department. Data was collected by 18 senior nurses and midwives, all of whom were female. Ten data collectors were from Addis Ababa Fistula Hospital and the remaining eight were from five outreach centers. Most data collectors were able to speak more than one language. This was advantageous in the process of data collection since there was language diversity among the research respondents.

All the data collectors received a one day intensive training in data collection, when they received orientation about the study, the researcher's intentions and the sensitivity of the research topic in terms of participants, and the outcome for Hamlin Fistula Ethiopia and other stake holders. Moreover, they received a copy of the questionnaires to read in order to understand each questions well before the data collection started. Since these

nurses and midwives are the employees of the Hamlin Fistula Ethiopia organisation, they have good knowledge and understanding of the impact of obstetric fistula in Ethiopia. This helped the data collectors to handle sensitive issues which were raised during data collection. Moreover, the medical director of Addis Ababa Fistula Hospital had instructed the data collectors to fill the formats carefully while the head nurses of the outreach centers and the main hospital provided motivation and encouragement to the data collectors.

The data collection was closely monitored by the principal researcher by facilitating the availing of time to the data collectors, questionnaires, collecting filled data collection format on time and checking for their completeness and consistency. The principal researcher made frequent telephone calls to the data collectors in the regions to discuss any challenges that they may have faced. The data collectors also completed an attendance sheet which revealed when and how many interviews took place (Annexure D).

The data collection took more than three months; because there were fewer patients than expected at the main hospital and outreach treatment centers. The researcher identified 40 questionnaires. These questionnaires were deemed not to be included in the data entry process until further investigation took place. All of the above 40 incomplete questionnaires did not include any unanswered internal questions. However, on the consent receiving format of 27 questionnaires, the name of the data collectors were not fully written and in 13 questionnaires, the data collectors had not put their signature. The incomplete questionnaires were returned to the data collectors by sealed post for completion. The researcher has kept photo copies of all the incomplete questionnaires before sending them back to data collectors, to maintain their consistency and as a back-up should any documents be lost in transit. All the deemed questionnaires were admitted to the data entry after crosschecks was made with copied documents. This extended the completion of the data collection by a week until all posted envelopes containing questionnaires were received by the researcher.

The length of time taken to collect the data was a challenge. All the data collectors were collecting the data during their free time which contributed to an increase in the

anticipated duration of the data collection phases. However, although this increased the duration of the data collection, it did give enough time for data collectors to fill the formats without rushing. There were no major problems encountered during the data collection in all treatment centers. The original data forms needed to be stored as well as the information data base (Burns and Grove 2005). Therefore, following data collection, all completed questionnaires were returned to the researcher and stored in sealed envelopes in a locked filing cabinet.

3.3.2.5 Ethical considerations related to data collection

Ethical approval was granted for this project from University of South Africa and from the Ethics Committee of Addis Ababa Fistula Hospital. The objectives, methodology, benefits and hazards of the study were explained to all study participants and consent was obtained (signed or thumb print) after having explained who the researcher was and the purpose of the research. Patients were informed of their right to not participate in the study prior to data collection and this was accepted by the researcher. It was made very clear that this research had no relevance to the treatment they were going to receive from the hospital and outreach treatment centers.

The main focus of the world medical association's Declaration of Helsinki (World Health Organisation 2000) is the protection of the research participants, whose welfare must take priority over the interests of the wider scientific community and the public (Frith & Draper 2004). The primary ethical considerations were understood by the researcher to be related to each participant's experience of stigmatisation. The experience of stigmatisation was expected by the researcher to inhibit the participants' ability to speak freely. The other factor which was considered as a potential difficulty for data collection was the strong religious background in the culture, which was thought, may also inhibit the participants' freedom to speak honestly against traditional and religious treatments. Moreover, the researcher anticipated the participants may lack confidence to speak due to the fear that information they give may compromise their treatment.

It is generally accepted that all people receiving health care have the right to be safe (Johanstone 2009). Therefore, every care was taken to adhere to all the mechanisms

put in place to protect the participants from any harm. All interviews were conducted in a private place. Participants were given information regarding the project and allowed time to consider their involvement. The process of the consent form being translated to the participants and their agreement to take part in the study was obtained (signed or thumb print) as evidence of consent. Participants were informed that the study had no religious focus, and followers of different religions were included in the study. Confidentiality was maintained at the highest level. Data collectors assured participants that all their responses would be used for the purpose of the study only and all responses de-identified. As noted previously, all the documents have been collected by the principal researcher and stored securely to ensure confidentiality.

3.3.3 Data analysis

Data was analysed using descriptive statistics because it allows the researcher to organise the data in such a way to give meaning, facilitate insight and be able to examine a phenomenon from a variety of angles in order to understand more clearly what is being seen (Burns & Grove 2005). The researcher also used inferential statistics to see the association between the dependent and independent variables. Chi-square test statistics were used to test hypothesis about the proportion of cases that fall into different categories (Polit & Beck 2008).

Descriptive statistics such as counts, percentage and averages were used in both dependent and independent variables. The characteristics of the study subjects were summarised as the count, average, percentage, mean and standard deviation for continuous variables and as proportion for categorical variables.

The researcher used Crude Odds Ratio and Adjusted Odds Ratio to test the association between the outcome and independent variable. Crude Odds ratio and Adjusted Odds Ratio were estimated using SPSS version 17.0 software (SPSS Inc, Chicago, IL, USA).

The inclusion criteria to the adjusted odds ratio were made on those variables with p-value less than 0.2 in the crude odds ratio. This is because some variables that look insignificant in the crude odds ratio may come to be important factors in the adjusted odds ratio. Multivariate logistic regression modelling was undertaken to see the net

effect of predictor variables over the dependent one. At this stage p-value 0.05 had been used as a level of significance to describe variables in this study.

3.4 Internal and external validity of the study

According to De Vos (2006) validity refers to the extent to which an empirical measure accurately reflects the concept it is intended to measure, whereas reliability refers to the quality of measurement method that suggests that the same data would have been collected each time in repeated observations of the same phenomenon (Babbie 2008). The researcher ensured the external validity by taking an adequate representative sample size and by using a probability sampling approach where each study subject had an equal chance to be selected in the study. Moreover, the researcher had taken the following steps to ensure reliability of these research instruments: the purpose of the study was explained to the respondents in order to obtain their cooperation and participation in the study, pre testing was carried out and necessary adjustments made to the data collection tools and questions were made clear and no medical terms were used to enable respondents to understand what the researcher needed.

A pre-testing of the data collection instrument was carried out on 20 patients who were admitted in Addis Ababa Fistula Hospital. The questionnaires were pretested using the same procedure and with a similar target group. Pre-testing results revealed the data collection instruments to be appropriate and actual collection was manageable by the data collector. However, it also revealed issues of data collectors' safety and precaution needing to be taken during the actual data collection. The respondents involved in pre-testing did not participate in the actual study.

3.5 Conclusion

This chapter of the research discussed the research design used to conduct the investigation of the research topic. The researcher used cross sectional survey to describe and explore possible factors.

The study was conducted in Addis Ababa Fistula Hospital and its five outreach centers which are located in five regions of Ethiopia. The study sought to include all patients over the age of 18 years who met the inclusion criteria. Stratified random sampling technique was used. Following stratification of the source of the study subject, a simple random sampling technique was used to select the desired sample size. The desired sample size of the study population was determined by using the formula for single population proportion and based on this; the required sample size was calculated to be 384.

In order to obtain the desired sample size, data was collected in three phases one month apart. A closed, structured questionnaire was administered to the participants. The questionnaire focused on socio demographic characteristics, knowledge of pregnancy and pregnancy complications, stigma and discrimination and physical barriers to seeking treatment. Data was collected by 18 female senior nurses and midwives who were working in the Addis Ababa Fistula Hospital and the five outreach centers.

All the necessary steps were undertaken in the process of data collection to meet the ethical considerations related to data collection. Participants were informed of the objective, the methodology, the benefits and the hazards of the study and consent was obtained. Moreover, participants were informed that they could withdraw from the study at any point if they found it inconvenient or uncomfortable to continue.

Data was analyzed using descriptive and inferential statistics to identify factors which influence women's health treatment seeking behaviour for their problem. Those covariates which were significant at p- value less than 0.2 were included in a multivariable logistic regression model. External validity was assured by taking adequate sample size using a probability sampling technique. Internal validity was assured by pre-testing a data collection tool.

CHAPTER 4

RESEARCH RESULTS

4.1 INTRODUCTION

This section of the dissertation focuses on the analysis, presentation and description of the research findings. It discusses the data management and analysis, research results, overview of research finding and summarises the major findings of the research.

4.2 RESEARCH RESULT

4.2.1 SOCIO DEMOGRAPHIC CHARACTERISTICS

Table 4.1: socio demographic characteristics of women with obstetric fistula

Socio Demographic characteristics	Frequency	Percentage	Chi-square	P-value
Place of residence				
Rural	323	84.1	0.786	0.375
Urban	61	15.9		
Age distribution of participants				
18-22	119	31	24.519	0.019
23-27	84	21.9		
28-32	76	19.8		
33-37	43	11.2		
38-42	24	6.2		
43-47	12	3.1		
48-52	10	2.6		
Above 52	16	4.2		

The study identified the majority of cases were reported in rural areas (84.1 percent) of the country; 15.9 percent were urban resident. Among women who reported obstetric fistula in this study, approximately one third (31 percent) were between the ages of 18-22, another 21.9 percent were between the ages of 23-27. The bivariate analysis

revealed that there is significant association between age group and the delay in seeking treatment (p-value 0.019). Christianity is the most popular religion followed by 65 percent of all participants (see table 4.1).

The mean age of all the participants of this study was 29 years. The mean age of those patients who arrived early was 25.7 years while the mean age for the women who delayed their arrival the mean age was 30.1 years. In this study, the most common contributory socio demographic factor for delays in seeking medical help was; poverty accounts (47 percent) (see table 4.1).

Table 4.2: Distribution of marital status among women with obstetric fistula

Socio Demographic characteristics	Frequency	Percentage	Chi-square	P-value
Marital Status				
Married	242	63	24.841	0.001
Divorced	88	22.9		
Widowed	23	6		
Separated	20	5.2		
Single	11	2.9		

The majority of the participants were living in marital union (63 percent), 22.9 percent of the participants were divorced, six percent were widowed and the remaining 5.2 percent were separated. The Bivariate analysis revealed that marital status is a significant factor for the delay of seeking treatment at p-value 0.001(see table 4.2).

Table 4.3: Distribution of Educational status and income among women with obstetric fistula

Socio Demographic characteristics	Frequency	Percentage	Chi-square	P-value
Educational status				
No read and write	290	75.5		
Read and write	35	9.1		
Primary	38	9.9		
Junior	8	2.1		
Secondary	10	2.6		
College and above	3	0.8		
Income				
No income	65	16.9	16.2	0.001
I don't know	211	54.9		
Less than 1 USD/day	69	18		
More than 1 USD/day	39	10.2		

The majority of the participants (75.5 percent) were illiterate, 9.9 percent had primary level education, 9.1 could only read and write and very few (2.1 percent) were of junior educational level. This study showed that more than 54.9 percent of the participant didn't know their family income. The other 16.9 percent didn't have any income and the remaining 18 percent of the participants' income was below 1 USD per day (see table 4.3)

4.2.1.1 DELAY IN SEEKING TREATMENT

Table: 4.4 Distribution of women in treatment seeking behaviour

Treatment seeking status	Frequency	Percentage	Mean length of stay with fistula
Delayed	288	75	5.3 years
Not delayed	96	25	0.2 year

The majority of the women in this study that is 288 (75 percent) arrived after three months of developing the problem (see table 4.4).

The mean time of delay for all participants was 64.6 months (SD 91.7) which is five years and four months. This is far longer than the delay indicated in an unpublished study carried out by Addis Ababa Fistula Hospital in the year 2011 which showed the median length of delay was 2 years and 7 months (see table 4.4).

The time of delay from region to region was computed with the finding similar in all regions. However, the length of delay in Tigray region was found to be longer than the other regions; 70.9 months or nearly 6 years. On the other hand, patients treated in Harar centre showed the shortest delay in length, 41.6 months (3.5 years) compared with the other regions.

4.2.1.2 Knowledge of labour and delivery complications.

Table 4.5: knowledge of pregnancy, labour and complications among women with obstetric fistula

Knowledge investigated	Frequency	Percentage	Chi-square	P-value
Did you have antenatal follow up?				
Yes I have	162	42.2	0.441	0.001
No I haven't	222	57.8		
Did you hear about women's health?				
Yes, I heard	112	29.2	0.941	0.332
No, I didn't hear	272	70.8		
Did you hear about the danger signs and symptoms during pregnancy, labour and postnatal period?				
Yes, I heard	86	22.4	0.941	0.332
No, I didn't hear	298	77.6		
Did you hear about obstetric fistula				
Yes, I heard	81	21.1	0.020	0.888
No, I didn't hear	303	78.9		
Did you know if obstetric fistula is curable				
Yes, I knew	132	34.9	2.759	0.097
No, I didn't know	250	65.1		
Did you know if others have the problems of you				
Yes, I knew	125	32.5	2.882	0.090
No, I didn't know	259	67.5		

In terms of antenatal care practice among obstetric fistula women, over half of these women (57.8 percent) received no prenatal care for their pregnancy (see table 4.5). The bivariate logistic regression revealed that there is significant association between prenatal care and delay in seeking treatment with p-value 0.001 (OR 0.441, 95% CI 0.275, 0.705) (see table 4.5). Most women (70.8 percent) hadn't heard any message

about reproductive health. Knowledge about the danger signs of pregnancy was very poor among the respondents. 77.6 percent of the women had no knowledge of the danger signs and symptoms during pregnancy, labour and delivery (see table 4.5).

Among those who had knowledge of danger signs and symptoms, vaginal bleeding was the most common reported knowledge of a danger sign during pregnancy (68 percent) followed by raised blood pressure (18 percent) (see table 4.5). More than three-quarters of the participants of this study delivered their babies at home (76.3 percent) (n=293) while the other 20 percent (n=77) of the participants delivered in health centres and hospitals (see table 4.5).

Most women in this study had no knowledge of obstetric fistula which could follow after labour and delivery (78.9 percent). The majority of women with obstetric fistula had not known fistula was a curable injury (65.1 percent). More than half of the fistula patients did not talk with other people about their fistula (56.5 percent). Most patients (67.4 percent) had not known the problem they had also existed in other women (see table 4.5).

More than one third of the patients (34.4 percent) had believed there was no treatment for obstetric fistula and nearly one third of women (32 percent) had perceived that the treatment for fistula was traditional treatment. The other one third of the women (33.6percent) had believed modern medical treatment was the right way to cure obstetric fistula (see table 4.5).

More than half (59.6 percent) of the fistula patients had received the information about availability of surgical treatment and where to go for treatment of obstetric fistula from health workers who were working in their village clinics. The other 25.3 percent heard from cured fistula patients. The mass media and Hamlin Fistula advertisements (IEC materials) had very minimal contribution in raising awareness about the availability of treatment (5.5 percent 3.9 percent respectively).

4.2.1.3 Social and cultural factors which contribute for delaying to seek treatment

Most participants of this study (74.2 percent) had living parents. The presence of parents had a significant influence on the early seeking of treatment for obstetric fistula. More than half (55.5 percent) of the participants were living with their husbands and the other 36 percent were dependent on their parents and/or alone without any income. Delay in seeking treatment was associated with whom the patients were living with (p value 0.001) (see table 4.2); those patients who were living with their husbands arrived at the treatment centres and hospital as early as possible.

Women who participated in this study, their family and community members had different views about the causes of fistula. Around one third (31.3 percent) of the study participants believed that fistula is caused by a curse and this belief significantly affected the behaviour to seek treatment and caused the women to stay at home (p value 0.043).

Most fistula patients (63.8 percent) found it difficult to share their problems with other people. This further has hidden the existing problem and aggravated the delay in seeking treatment (p value 0.013). The odds ratio 0.549 (95% CI 0.343, 0.879) has shown that women who shared their problem had a better chance of attending health institutions and seeking medical help for their problem compared with those who didn't share their problem with others.

Most women (65.1 percent) required the permission of others to seek treatment. The majority (54.9 percent) of the women got permission from their husband to come to the hospitals for medical treatment. The majority of the husbands (67.4 percent) of the patients were willing to send their wives to the treatment centres as early as possible. This has significant impact for early attendance at treatment centres, identifying abnormal conditions in their body and health seeking behaviour of women (p value 0.039, 95% CI 0.339, 0.973).

The majority of the women (68 percent) with fistula isolated themselves from other community members, remaining in their homes as much as possible and not attending

public or social gathering such as market, celebrations, funerals and meetings due to their fistula. 39.3 percent of the study participants responded that they had had bad experiences of discrimination by others due to their fistula. The majority of women with obstetric fistula indicated they suffered gossiping and insults (64.8 percent), while other women (26.8 percent) were isolated from any form of social gatherings by the community due to their fistula.

One of the major factors which contributed to the isolation of women with obstetric fistula was the bad smell of urine and/or faeces (88.5 percent) (see table 4.4). Many participants (60.9 percent) were unable to speak about their fistula to their community because of fear of isolation and discrimination. The women hide their problem, trying not to lose their social status in the community and afraid of hatred if they spoke about their problem (74.7 percent). Another important contributory factor for delay was fear of exposing the problem and fear of discrimination by others which was reported by (21.8 percent) of the participants.

4.2.1.4 Physical and geographical factors which delay seeking treatment

One hundred seventy (44.3 percent) of the respondents took less than half a day to reach the treatment centres. The other respondents (29.4 percent) took one day to reach the treatment centre and the remaining (26.3percent) participants took more than one day to reach the treatment centre. Compared with women who took more than two days to reach the treatment centres women who took less than half a day to reach the treatment centres were more likely not to delay (OR17.5, 95% CI 2.344, 130.662).

The study revealed half of the women (51.6 percent) with fistula took above three hours to reach the main road to get transport. Most women (86.7 percent) used vehicles to reach the treatment centres. The majority of the women (45.8 percent) were transported to the treatment hospitals by different Non Governmental organisations (NGO) and by local government authorities vehicles free of any payment.

For more than half (51.8 percent) of the fistula patients, in this study the main constraint which contributed to their late coming to the treatment was the lack of a treatment

centre closer to their village or town (see table 4.6). The other contributory factors were distance of the treatment hospitals (29.3 percent) and lack of transport (10.7 percent) to reach the treatment centres (see table 4.6).

4.2.1.5 Socio-economic status

Approximately 35 percent of the respondents said they didn't have any income. Moreover, 55 percent of the participants didn't know their family income. This shows most women who participated in this study didn't have good knowledge or understanding of their family income or they were not the main source of income for their family. The major socio-economic factor which contributed for late coming of women to the treatment centres was poverty (46.9 percent). Moreover, the lack of help and support from the family (31.4 percent) was an additional factor for delay coming.

The Bivariate analysis revealed that family income had a strong influence for delay of seeking treatment (p value 0.002). Considering family income of more than one USD per day as a reference category, the chance of women with no income not coming to the health institution was OR 0.188 95% CI 0.073, 0.482 and for those women who responded they didn't know their family income, the chance of not coming to the health institutions was OR 0.334, 95% CI 0.165, 0.679. This shows that poverty is a significant covariate affecting women's health service seeking practice for their health problem.

More than half (51.7 percent) of the women had no income and were completely dependent for their day-to-day life on their husband and parents. Approximately 52.3 percent of the participants of this study mentioned lack of income was their major contributing factor for not coming early to seek treatment. More than one fifth (22.5 percent) of this study's participants responded that they were unable to take a decision for their health about where and when to go to seek treatment (see table 4.6).

Table 4.6: factors contributing for delay in seeking treatment women with obstetric fistula

Contributory factors	Frequency	Percentage	Chi-square	P-value
Social and economic factors				
No income	175	45.6		
No support/help	26	6.7		
Fear	30	7.9		
Unable to decide	86	22.5		
Other factors	67	17.3		
Factors which make patients isolate themselves				
Not to be hated by the community	215	55.9	4.212	0.122
To hide my problem	80	21		
Not to lose social respect	72	18.8		
Other	17	4.4		
Natural or manmade barriers				
Not treatment centre	199	51.8	17.945	0.022
Distance of treatment centre	113	29.3		
Lack of transport	41	10.7		
Other	8	2.1		
Major contributory factors to being isolated by the community				
Bad smell	340	88.5	2.010	0.570
Fear of contamination	12	3.1		
Seen as sinful	9	2.3		
Fear of fistula transmission	3	0.8		
Others	20	5.3		

4.2.2 MULTIVARIATE LOGISTIC REGRESSION RESULT

A multivariate logistic regression was developed on those covariates which were significant at p- value less than 0.2 and were included in multivariable logistic regression model. This is because some variables which were insignificant in the Bivariate model could be important factor in the multivariable model.

Three-quarters of the study's participant parents were alive. The presence of parents had a significant influence on women not to delay in seeking treatment for their obstetric fistula problem. Parental status has been found to be associated with early treatment seeking behaviour. In this study, women whose parents were not alive had a lower chance of not to delay compared with women whose parents were alive with AOR = 0.303 (95% CI 0.128, 0.715). Therefore with patients whose parents were dead the chance of coming for treatment was little or they did not come at all.

The other influential covariate with significant association on the delay in seeking treatment was marital status. Considering widowed as a reference category and keeping all other factors constant, the adjusted odds ratio for married women was 7.646 interpreted as, the likelihood of not delaying for married women is 7.646 times that of the reference category widowed women.

The chance of not delaying for single women is 11.607 times more likely than that of the reference category. This may be further explained; those women who were single had a greater chance making decisions about their health compared with married women whose decision making is not completely in their hands.

Distance of health institutions is also significant with p- value = 0.022 (see table 4.6); in considering women who took above two days to reach the health institution as a reference category. When we compare women who took half a day to reach the health centre with the reference category, their chance of seeking treatment was very high AOR = 17.945 (95% CI 2.227, 144.6). This showed that the chance of not to delay for women in this category was 18 times more than women who took two and more days to reach the treatment centers. Similarly, when we compare women who took one day to

reach the health institution with the reference category, the chance of coming for care at treatment centers was found to be 19 times more than that of the reference category (AOR = 19.912 (95% CI 2.421, 163.808). Finally, when we compare women who took from 1 to 2 days to reach the health center with the reference category, their chance of coming to the treatment center was reduced by 50 percent from the other two groups (AOR = 9.854, 95% CI 1.104, 87.97). Women who travelled the shortest distance had a higher chance of attending and coming early to the treatment centres where as women that were travelling long distances had little chance to seek treatment as early as possible. Therefore, the chance of coming early to the treatment centers was inversely related to the length of times taken to reach the health institution.

Participants in this study explained it was not possible to speak about their fistulae in the community where they were living. It is a significant covariate for the response variable with p-value = 0.004. The chance of not to delay to seek treatment for the problem they have in women who responded 'No' to the question "DID YOU SPEAK ABOUT YOUR PROBLEM TO THE PEOPLE IN YOUR COMMUNITY?" had an AOR = 0.43 (95% CI 0.242, 0.765) compared with women who responded 'Yes' for the same question. That is, women who lived in a society which allows women to openly speak about their problem had a better chance to go to the health institution without delay for treatment than women who were living in a society which did not allow the women to talk about the problem they had.

The descriptive statistical analysis identified that more than one third of the patients (34.4 percent) believed there was no treatment for obstetric fistula and nearly one third of women (32 percent) perceived that the treatment for fistula was a traditional medicine treatment. The other one third of the women (33.6 percent) believed modern medical treatment was the right way to be cured from obstetric fistula. This is an important predictor variable with p-value = 0.010.

When we compare those women who had no treatment with women who had modern medical treatment prior to going to the fistula treatment centre, the adjusted odds ratio is

1.045 and p-value 0.896. This shows that there was no significant difference in the delay to seek treatment between the two groups. However, when we compare those women who used totally traditional treatment with those with women who preferred to use modern medical treatment, there is a significant association with the delay in seeking treatment. The adjusted odds ratio 0.392 (95% CI 0.196, 0.781) shows those women who were following traditional treatment presented late for treatment when compared with the other two groups who were following modern medical treatment and those who had no form of treatment at all.

4.3 Conclusion

The analysis of this study showed significant association between socio demographic characteristics particularly age, marital status, income, and parental status, and the delay in seeking treatment for obstetric fistula. Obstetric fistula is more common in rural areas and among less educated women.

The average length of delay for all participants was 64.6 months (5 years and 4 months). Patients from Tigray region and who were treated in this regional treatment centre showed the greatest length of delay from all treatment centres, that is 70.9 months or nearly six years. Patients treated in the Harar centre showed the smallest delay in length of 41.6 months (3.5 years) (see table 4.4).

Poor prenatal care attendance and maternal care practice behaviour contributed to the delay in seeking medical help. Only very few women were aware of danger signs during pregnancy, labour and post delivery. Nearly four-fifths of the participants of this study had not heard about obstetric fistula at any time. Moreover, very poor information dissemination in the community aggravated the problem. These factors all significantly contributed to the delay in seeking treatment for their fistulae. Additionally, poor knowledge of the causes of obstetric fistula strongly associated with the delay in seeking treatment.

Poverty, lack of support and or help from the family, fear of exposing the problem they had and fear of discrimination by others due to the fistulae were the major socio-economic contributory factors for late seeking of medical help.

This study identified many of the fistula patients didn't know of the availability of surgical treatment and where to go with their fistulae. The contributions of mass media and Hamlin Fistula advertisements in identification and awareness in the community about treatment were found to be non significant. Therefore, this finding is a warning bell to revise the existing Information Education and Communication materials.

This study revealed the major physical contributory factors for delay were the lack of a treatment centre, distance to a treatment centre and lack of transport to reach the treatment centre. This may have been further aggravated by the bad smell of urine and or faeces which caused the women to hide themselves. Many participants of this study were transported by NGOs vehicles free of any payment. Access to these NGO'S is a problem and unless they have access they can not travel.

Most participants of this study suffered some form of psychological trauma due to their fistulae. Due to these psychological traumas, more than two thirds of the participants isolated themselves from any public gatherings. Fistula patients were insulted and gossiped about by their community. Moreover, this study revealed most people couldn't speak about their problem openly both in the rural and urban communities. This response indicates more work is required to encourage health seeking behaviour. In a community where women openly spoke about their fistulae there was less chance of delay.

The multivariate logistic regression analysis revealed the presence of parents has a significant association with the early seeking of treatment for obstetric fistula. Marital status was found to be a significant factor for early seeking of treatment. Those women who were single had a better chance of not delaying when compared with the married women.

Distance to the health institution was found to be a significant contributory factor for delay. Those patients who took more than one day to reach the treatment centre had a high chance for late coming to the treatment centre.

All the participants were categorised into three categories as to their perception about treatment of obstetric fistula. One third believed there was no treatment, another third believed there was traditional treatment and the remaining third believed modern medical treatment was the right way to cure a fistula. Those patients who had traditional treatment had a greater chance of delay than those who had no treatment at all.

Approximately three-quarters (74.2 percent) of the fistula patients' parents are alive. The presence of parents had a significant influence on the early seeking of treatment for obstetric fistula. More than half (55.5 percent) were living with their husbands and the other 36 percent live dependent on their parents and/or alone without any income. Delay in to seeking treatment was associated with whom the patients were living with (p value 0.001). Those patients who were living with their husbands arrived at the treatment centres and hospital as early as possible. This study identified husbands were willing to live with their fistula victim wife and to send their wives to the treatment centres.

CHAPTER 5

DISCUSSION OF STUDY RESULTS/FINDINGS

5.1 Introduction

This section of the dissertation focuses on discussing the research findings and results presented in Chapter 4. Findings discussed include socio demographic characteristics, knowledge of labour and complications, social and cultural, physical and geographical factors for delay seeking treatment and socio-economic status of the women.

5.2 Socio demographic factors contribute to delay in seeking treatment

The high illiteracy rate identified in this study supports the fact that educational status influences the early seeking of any medical alignments. This study has found a high illiteracy rate among the participants and this was reflected in the high number of women who delayed to seek treatment for their obstetric fistula. Therefore, education is an important tool during critical decision making as to whether to seek any help and where to go to seek treatment. Women who are educated are more likely to access a modern health unit than women who didn't attend any school. Other studies that have been conducted in Ethiopia and other parts of Africa have shown that illiterate women are more likely to develop obstetric fistula and its subsequent complications compared with educated women (Muleta et al 2008, Mohammed 2008 & WHO 2006). A study by Tebekaw (2010) (n=3217) revealed the relationship between educational status and obstetric fistula; women with secondary or higher education are less affected by obstetric fistula than the relatively less educated women.

The other influential covariate with significant association in the delay in seeking treatment is marital status. Considering widowed as a reference category and keeping all other factors constant, the adjusted odds ratio 7.646 could be interpreted as, the likelihood of not delaying for married women is 7.646 times that of the reference category widowed women. The chance of not delaying for single women is 11.607 times more likely than that of the reference category widowed women. This may be further explained in that those women who were single had a greater chance in making decisions about their health compared with married women whose decision making is

not completely in their hands. Moreover, those parents whose single daughter is living with them, may contribute to, and encourage their daughter to the early seeking of treatment. A study carried out in the rural part of Ethiopia revealed the low status of women in general and particularly of young women, plays a fundamental part in the development of a fistula and in delay in seeking treatment for the problem. Large spousal age differences are also common in Ethiopia and limit married girls' autonomy and decision making (Addis Ababa Fistula Hospital *et al* 2010).

5.3 Knowledge of labour and delivery complications

One of the aims of prenatal checks during pregnancy is to orient a woman and her family to the danger signs and symptoms (including obstetric fistula) related to pregnancy, labour and post delivery (Fraser & Copper 2007). Although in this study the antenatal attendance rate was higher than the national figure which is 28 percent (UNFPA 2011), the knowledge among all participants regarding pregnancy and labour seemed very poor. This means there is limited knowledge and awareness of obstetric danger signs. Therefore, poor attendance at prenatal checks, high illiteracy rate, lack of understanding of complications, the low status of women, and other socio-cultural barriers add to the delay in reaching care.

It is clear from the data that low awareness of danger signs and symptoms during pregnancy and labour prevents timely seeking of medical help. In this study most women (70.8 percent) hadn't heard any message about reproductive health (see table 4.5). Knowledge about the danger signs of pregnancy was very poor among the respondents. 77.6 percent of the women had no knowledge of the danger signs and symptoms during pregnancy, labour and delivery. A similar result was also found in other studies carried out in Ethiopia, Zimbabwe and Kenya by Sunil & Sagna (2009), (Gundani & Gandanga (2011) and Karvai and *et al* (2010) respectively. All these studies revealed most of the pregnant mothers who participated in the above mentioned studies had no knowledge of the complications related to pregnancy and many fistula patients seem not to understand the causative factors, often attributing the fistula to a curse or witchcraft.

In this study, more than three-quarters of the participants delivered their babies at home. Although, the number of deliveries attended by a skilled birth attendant in this study is high (13.7 percent) compared with the national figure of 6% (UNFPA 2011:73) and seemed encouraging, the large proportion of women in this study still delivered at home. This has contributed to a low awareness of obstetric fistula and could play a major role in the delay to seek treatment, particularly for those women who had no prenatal checks and delivered at home. Therefore, this finding indicates that most women had less access to clear information on the danger signs during pregnancy and labour, including leakage of urine or, and faeces; post delivery. This contributed to their delay in seeking medical help for their obstetric fistulae. This is supported by the research carried out in Zimbabwe which suggested education has been seen to increase an individual's ability to benefit from health information (Gundani & Gandanga: 2011:17).

Antenatal checks and delivering by skilled birth attendants are an excellent opportunity to impart knowledge and prepare the women for any abnormality that might happen in the future. However, women in this study had no knowledge of obstetric fistula which follows after labour and delivery (78.9 percent). The majority of women with obstetric fistula didn't know if fistula was a curable injury (65.1 percent). More than half of the fistula patients were not talking with other people about their fistula (56.5 percent). Most patients (67.4 percent) didn't know the problem they had also existed in other women. These factors are attributed to a lack of prenatal checks and the high prevalence of home delivery. If these women had been cared for at the health institution level, they would have been informed about obstetric fistula. These findings identified the dissemination of health information in the rural community is minimal and it is highly recommended that both Hamlin Fistula Ethiopia and other governmental and non governmental organisations work to pass health information to the rural communities more effectively. This finding agrees with a study by Tinuola and Okau (2009:43) which identified that there is a need for health education and most especially, on reproductive health issues. The education should be implemented more in the rural areas where knowledge about fistula is low among women of reproductive age. Building a high level

of awareness of obstetric danger signs and symptoms can help break cultures that oppose timely access to treatment centres (Kijugu 2009). This has been revealed by findings from a study in southern Tanzania where among women who delivered in health facilities, a high proportion were acutely aware of danger signs and therefore came to facilities on time (Kijugu 2009).

Findings suggest that cultures involve certain harmful beliefs, traditions and social norms that can lead to delay in seeking treatment (Kajigu 2009). From all the participants of this study, only 33.6 percent of the women believed modern medical treatment was the right way to cure obstetric fistula. There are many contributory factors for these findings including beliefs of the community about the injury, that is, the association of fistula with curse and sin, and the lack of knowledge in the community about fistula. All these factors play a significant role. Moreover, health workers give less emphasis on health education to raise awareness of the rural community. A study carried out in Tanzania by Women's Dignity Project and Engender Health, (2006:22) identified women, their families and community members had different views about the causes of fistula. Therefore, based on the finding of this research and previously carried out research, women and their families don't receive proper counselling and information about health problems related to pregnancy, labour and delivery. Moreover, the health workers who are working in the rural settings are more engaged in prevention of communicable diseases rather than cases like obstetric fistula.

Hamlin Fistula Ethiopia and other non governmental organisation have developed and implemented different strategies to identify hidden fistula patients and disseminate health messages on treatment of obstetric fistula. However, many patients still go to traditional healers and those who arrive for the modern treatment, arrive late to seek that treatment. In addition to the high illiteracy rate, the rural community does not have enough knowledge about the treatment of obstetric fistula. This may raise the question for the service provider and those organisations that have had community awareness activities to revise their information, education and communication materials for effectiveness, and to re-design other strategies to increase the community awareness.

The mass media and Hamlin Fistula advertisements (IEC materials) had very minimal contribution in raising awareness about the availability of treatment (5.5 percent 3.9 percent) respectively. These findings indicate that there were minimal contributions by printed material in the identification of hidden fistula patients. Moreover, the materials didn't address the rural communities in this study who were 75.5 percent illiterate.

The research has found that most of the community awareness resulted from interventions of health workers. Hence, by educating and motivating health workers to be engaged more in community awareness, a greater impact on identification of hidden fistula patients may result. Although community awareness had a good outcome from this study's finding, it still needs more improvement. Other strategies such as treated fistula patients' association, community based fistula committee, youth and women's associations and the likes need to be included to reach the unreached rural community and to use to the maximum, the available resources effectively to locate hidden fistula victims in the community.

5.4 Social and cultural factors which contribute for delaying to seek treatment

Women, their families and community members had different views about the causes of fistula. Around one third (31.3 percent) of the study participants believed that fistula is caused by curse and this belief significantly affected the behaviour to seek treatment and caused the women to stay at home. A similar result was also found in a study carried out in Africa (Karvai et al 2010). Culture and tradition play a major role in the lower utilisation of maternal health services. Cultural taboos and beliefs are mainly influenced by insufficient knowledge and awareness (Kijugu 2009).

In the study group, most fistula patients (63.8 percent) found it difficult to share their problems with other people. Due to cultural reasons matters associated with pregnancy and labour are not to be discussed and should not be talked of openly. Therefore, this cultural influence has further hidden the existing problem and aggravated the delay in seeking treatment. Although their number was very few, those women who shared their problem had a better chance of attending health institutions and seeking medical help

for their problem compared with those who didn't share their problem with others, odds ratio 0.549 (95% CI 0.343, 0.879).

Even though women who timely identified their problem and had positive health care seeking behaviour, lack of power to seek care could prevent them from gaining timely access to fistula treatment centres. This study identified most women (65.1 percent) required the permission of others to seek treatment.

Women were forced to obtain permission from their husbands, the majority (54.9 percent) of the women received permission from their husband to come to the hospitals for medical treatment. Breaking these rules regarding permission has serious social consequences such as domestic violence and marriage breakup. Moreover, women fail to make decisions because most women have no source of income. Some women in this study reported that they failed to access treatment because of the fear of going alone and lack of support. Therefore, having money may not help a woman in quick decision making if she believes in the traditional husband leadership priority.

This study has found traditional and religious treatments were significantly cited by the participants as the right method to be cured from an obstetric fistula. Women who were using traditional and religious treatments were wasting their time and money. According to the finding it is better not to have any form of treatment rather than using traditional treatment, because the chance of delay to those women using traditional treatment was AOR 0.392 (95% CI 0.196, 0.781). These poor women were not only losing their time and paying a lot of money to traditional healers but also may be further enhancing their delay. This finding gives a good insight for the prevention department of Hamlin Fistula Ethiopia of the main hospital and outreach centres, to give emphasis in addressing the priests and those traditional healers in their community awareness project. A similar result was observed in the study by the population Council and UNFPA (2011). Religious services were the most utilised methods by the rural communities to seek cure for their ill health, with 87% of women having attended a church or mosque in the previous years to get cure from medical or surgical problems.

Shame and embarrassment seemed to be significant strong emotions that prevented those participants in this study who were delayed, to seek timely treatment. In this study the majority of the women (68 percent) with fistula isolated themselves from other community members, remaining in their homes as much as possible, not attending public or social gathering such as market, celebrations, funerals and meetings due to their fistula. More than one third of the participants responded that they had had bad experiences of discrimination by others due to their fistula. Most women suffered gossiping and insults.

Additionally, many participants have found it difficult to talk about their fistula to their community because of fear of isolation and discrimination. The women don't want to lose their social status in the community and are afraid of hatred if they speak about their problem. Therefore, fear could be a factor in delaying treatment because it is likely that fistula patients are not comfortable exposing their ailment to the community for fear of further discrimination. Cultural and religious beliefs about obstetric fistula may compound this fear. The findings imply that pregnancy and delivery complications are topics that are almost forbidden from being talked about.

5.5 Physical and geographical factors which delay seeking treatment

Distance and limited availability of fistula treatment facilities and poor road infrastructure were substantial barriers preventing those women who delayed in seeking early medical help for their fistula. The research implies that women especially who took less than half a day to reach the treatment centres want to seek treatment as early as possible compared to those who are travelling two to three days to reach the treatment facilities. This finding agrees with other studies carried out in Africa. Kijugu (2009) found that long distances to health facilities and the costs involved while travelling to reach care contribute to delay in accessing health care centres.

The unavailability of public transportation or prohibitive cost of transport means that many women have to walk or improvise a way to reach health care. Therefore, all these factors contribute to women staying at home despite any complications they might have

during pregnancy, labor and delivery. For instance, the length of delay in this study in Tigray region was found to be longer than the other regions; it was 70.9 months or nearly 6 years. This may be explained by the fact the region is part of the high land of Ethiopia with inaccessibility of transport and geographical barriers such as mountainous terrain and valleys. A study by Muleta (2008) carried out in the northern part of the country found that referrals are often delayed and patients often arrive at the hospital late. A midwife from the maternity unit in Mekele (the administrative town of Tigray region) in the northern part of Ethiopia stated, "Delay on arrival is observed in most of the women with complicated labor and mostly it is because of unavailability of means of transport" (Muleta 2008). The high costs of reaching facilities are due to poor road infrastructure and lack of transport networks (Kijugu 2009). A study by the Federal Ministry of Health of Ethiopia (2008) revealed that most clients in labour and delivery needed to travel a median distance of 45 kilometers from a health center to the nearest facility with surgical services.

5.6 Socio-economic status

This research has found poverty has been the major socio- economic factor which contributed for late coming of nearly half of the participants of this study (46.9 percent) (see table 4.4). Moreover, it is not only money but also the lack of help and support from the family which has been the second factor (31.4 percent) for delay coming. An unpublished survey carried out in 2010 (n=4520) in rural districts of Ethiopia, showed that although an overwhelming majority of women from survey areas recognized the fatal nature of the signs, the cause of fistula and identified seeking care from health facility as the right possible course of action, there was little practical chance of translating knowledge or perception into deeds (Addis Ababa Fistula Hospital, Ethiopia Road Authority and World Bank Ethiopia 2010). Therefore, having knowledge of fistula and its treatment are not enough to make women go to the treatment centres as early as possible. Finance and support from the families are also crucial in seeking treatment.

This study has found approximately 35 percent of the respondents didn't have any income. This has exposed the women in this study, to be totally dependent on their husband's or parents' income. Therefore, most rural women don't have good knowledge of their family income due to the fact they are not the main source of income or due to their illiteracy and gender disparity. Women are dependent on their husband and they have no ownership of land or any other resources that make money (Khisa & Nyamongo 2011).

Participants of this study responded that they were unable to take a decision for their health about where and when to go to seek treatment. A study carried out in Sudan also revealed one of the root causes for delay in seeking medical help is poverty. Poverty plays a major role particularly as it reduces the chance of getting medical help when there is a need (Mohammed 2008).

The findings of this study have similarities with other studies carried out on fistula in African countries (Kavai et al 2010, Mohammed 2008, Muleta et al 2008). Therefore, it is possible to generalise that the income of the family is strongly associated with delay in seeking treatment. Poverty is a significant covariate affecting women's health service seeking practice for their health problems.

5.7 CONCLUSIONS

This chapter presented discussion of the study findings in relation to other different literature. The subheadings used under this chapter were introduction, discussion on socio demographic characteristics, knowledge of labour and complications, social and cultural, physical and geographical factors for delay seeking treatment and socio economic status of the women.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter summarises and identifies key factors for delay in seeking treatment for obstetric fistula and gives workable recommendations for improvement in treatment seeking behaviour. Moreover, it will forward recommendations to improve existing fistula identification and identify new insights that may be addressed.

In Ethiopia, several studies on obstetric fistula have been published but a study to identify factors which contribute to delay in seeking treatment for women with obstetric fistula does not exist. In this study, effort has been made to identify the major contributory factors for delay in seeking treatment. In other previous studies, different factors had been suggested in different research areas which were focused completely on other agendas.

6.2 RESEARCH OBJECTIVE, DESIGN AND METHOD

The main objective of this study was to identify factors which make women with obstetric fistula delay in seeking treatment. A quantitative cross sectional analytical research design was used, through this design, what exists was described, the frequency determined and the relationship with the outcome factor was identified. The study was conducted in Addis Ababa Fistula Hospital and the five outreach hospitals located in Tigray, Amhara, Oromiya, Harari, and Southern Nation and Nationalities Regions.

6.3 SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS

Up to 75 percent of the studied population sought treatment at least three months after the development of fistula. The mean delay of 64.6 months represents a significant challenge to the early treatment of fistula. Importantly, the current study was able to offer some causal insight into the reasons behind these patterns.

The delay to seek treatment appears to have a significant relationship with place of residence. Rural women are more affected by obstetric fistula and delaying to seek treatment. There are a number of factors. This is due to poor access of road and infrastructure, and geographical barriers such as mountains, valleys and rivers which block the women from travelling to treatment centres.

Lack of transport, distance and absence of treatment centres appear to be significant contributory factors for delay to seek treatment. Women who travelled the shortest distance had a high chance of attending and coming early to the treatment centres, where as women who were travelling long distances had little chance to seek treatment as early as possible. Additionally, cost of the transport and drivers who were not willing to take women with fistula because of the smell of urine, and / or faeces made it difficult for women to access treatment centres. Generally, the chance of not to delay was inversely related with the length of time taken to reach the health institution.

Knowledge is a key factor for an individual to identify the existing problem and what type of treatment to seek. Knowledge of labour and delivery complications was very poor among the study population. This appears to have contributed to most women believing fistula is incurable while others considered other forms of traditional or cultural treatments. Due to these facts, women have favoured traditional and cultural treatments, which have contributed to women enduring the problem for a long time. Women have spent their little money on witchcraft and traditional healers which has made them poorer. Even when they know treatment is available, they may not have enough money to pay for transport and other expenses.

Different social and cultural practices have contributed to delay in seeking treatment. This study revealed there is a strong association between the presence and absence of parents on treatment seeking behaviour. Analysis of this study revealed women whose parents were not alive had a higher chance of delay compared with women whose parents were alive. Women, their family and community members had different views about the causes of fistula. Different perceptions about the cause of fistula have a

significant relationship with treatment seeking behaviour. There are a number of factors related to this, such as fear, exposing ailments, discrimination and stigmatisation.

A greater number of the study population revealed that they faced different psychological traumas due to their fistulae. Due to these psychological traumas, more than two thirds of the participants isolated themselves from any public gatherings. Fistula patients were insulted and gossiped about by their community.

Poverty is the root cause of fistula and plays the major role in hindering women from seeking treatment. Poverty, lack of help and support from the family and fear of exposing the problem and fear of the resulting discrimination by others were the major socio- economic factors which contributed to the late coming of women to the treatment centres.

6.4 Conclusions

The factors for delay to seek treatment are related to high illiteracy rates and a lack of information. Particularly, negative perceptions of the cause of obstetric fistula and the value given for traditional and cultural treatment by the community appear to have limited women from seeking modern treatment. Additionally, low socioeconomic status and absence of, and existing poor infrastructure contributed by large for delay to seek treatment.

Another major factor which delayed women with obstetric fistula in seeking treatment was isolation. Women became outcasts due to the bad smell and wetness from urinary or faecal incontinence. Fear of stigmatisation, lack of support to take the women to the treatment centre and the low status of women in a community force women to live with the problem. Moreover, cultural medicines were a first priority for treatment rather than seeking modern treatment. The researcher believes most factors could be controlled if proper strategies were designed and implemented. The researcher recommends further study to be under taken using mixed methodologies at the community level. As the current study was a facility based study, the problem might be better explained if a study was carried out at the community level with inclusion of different community groups.

6.5 RECOMMENDATIONS

The following are possible intervention areas to help minimise delay in seeking treatment for obstetric fistula.

KNOWLEDGE OF LABOUR AND DELIVERY COMPLICATIONS FACTORS

- The health education given to all pregnant women and women of reproductive age group should be more focused on the knowledge of the danger signs during pregnancy and labour including leakage of urine or, and faeces post delivery.
- Develop a good information delivery mechanism to increase awareness of the general rural community about this tragic injury, including the causes of fistula and availability of treatment. Moreover, give emphasis in teaching priests and traditional healers who are significantly contributing to the delay to seek treatment.
- Teach the rural community that, bringing women to the treatment centre is not only the responsibility of the parents but also the responsibility of every one living in the community.
- Develop other strategies to teach the rural community, utilising cured fistula association, women's health club and community based fistula committee to teach the rural community.
- Review the content and delivery of IEC materials which are currently in use by prevention officers. Redesign and further develop currently used billboards, posters, flyers and mass media programmes taking into account most fistula patients are from rural communities and are illiterate.
- Use the existing health delivery system particularly in strengthening working with HEWs and the Development Army who are working at the grass root level. Plan house to house surveys to locate hidden patients.
- Develop effective and collaborative partnerships with other authorities who are engaged in identification of fistula patients so as to use the available resources wisely.

SOCIAL AND CULTURAL FACTORS WHICH CONTRIBUTE FOR DELAYING TO SEEK TREATMENT

- Encourage males to be part of women's health, particularly teach the rural men as to the importance of women's health.
- Teach the rural community as to the importance of openly discussing any ailments, therefore helping people to seek medical help as early as possible.
- Raising awareness of the community through disclosing problems.
- Teach the rural communities about obstetric fistula; why women develop leakage of urine, and the impact of discrimination and isolation on women with this problem.

FOR PHYSICAL AND GEOGRAPHICAL FACTORS TO DELAY SEEKING TREATMENT

- Open additional treatment centres in selected areas, therefore helping to avoid one of the significant factors in the delay to seek treatment.
- Strengthen the relationship with other governmental and NGOs in fistula patient identification and in transporting these patients to the treatment centres.
- Work with local road and transportation authorities to find workable solutions to transport fistula patients and encourage vehicle owners to play their role.

FOR SOCIO-ECONOMIC STATUS

- Improve the socioeconomic conditions by raising the income of the individuals and families through simple community based initiatives.
- Organise a small business which will be run by cured fistula patient association in the rural community to help women with obstetric fistula to seek treatment as early as possible.

RECOMMENDATION FOR FURTHER STUDIES

- Implement a similar study at the community level using mixed methods of research.

6.6 CONTRIBUTION OF THE STUDY

This study has contributed in identification of the major contributory factors for delay in seeking treatment for obstetric fistula. Additionally, it has helped to identify the strengths and weakness of the currently, in use prevention, as well as fistula patient identification strategies used by Hamlin Fistula Ethiopia.

6.7 LIMITATIONS OF THE STUDY

The main limitation of this study was the fact it only consisted of a quantitative research paradigm. It would have been good if it was complemented by a qualitative paradigm to explore feelings which could not be explained by quantitative analysis. Due to the nature of the problem which is a source of social stigma, it was difficult to elicit 100% participation. Also the fact that the primary researcher is male and participants are female also introduced a level of difficulty in data collection. Socio economic status of the participant was not explored in depth. Finally, this was a small scale study to fulfil a Master's degree study requirements so it had limitations in scope, size and analysis. Moreover, the researcher has both financial and time limitations in carrying out the research on a larger scale, even though a larger study would yield a better understanding of the problem.

6.8 CONCLUDING REMARKS

This study identified the criticalness of the problem by revealing the average duration of delay was by far significantly longer than the delay indicated by the Addis Ababa Fistula Hospital study. There are a number of factors which exposed women to delay treatment. Therefore based on the findings of this research and recommendations forwarded, the researcher believes there is a possibility to make a difference to the delay to seek treatment.

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ANNEXURE C: LETTER SEEKING CONSENT FROM RESPONDENTS

**UNIVERSITY OF SOUTH AFRICA
DEPARTMENT OF HEALTH STUDIES
RESEARCH CONSENT FORM**

Number _____

Region _____

Name of facility _____

My name is _____ I am data collector for the study that is conducted by a Masters student from UNISA. The purpose of this study is to identify factors that contribute to delaying seeking treatment for obstetric fistula.

I will ask you questions about your experience of seeking treatment for fistula and questions about the factors contributing to late seeking of treatment for your obstetric fistula.

I assure you that your name and other personal information will not be documented in the questionnaires and the information you provide to us will be kept confidential and will not be used for anything other than research purpose. Participating in this study does not affect your treatment and doesn't expose you to any risk or harm. You may withdraw from the study at any point without affecting your treatment.

I the undersigned am informed of the purposes of the study and give my consent to participate in this study.

Signature or thumb print of participant

Name: _____ Date _____

I thank you for your willingness to participate in the study.

Data collector name _____

Signature _____ Date _____

Contact detail of Supervisor

Name: Solomon Abebe

Hamlin College of Midwives

Telephone 0911 151916/ 0116 546890

Email : 43542204@mylife.unisa.ac.za / abebe.s@hamlinfistula.org / mansolam@yahoo.com

ANNEXURE D: DATA COLLECTOR ATTENDANCE SHEET

DATA COLLECTOR ATTENDANCE SHEET

NAME OF RESEARCHER SOLOMON ABEBE

Date of data collection	Name of data collector	Number of patients interviewed	Institution	Signature	Remarks

Total patient interviewed _____

Approved by _____

Signature _____

Annexure E: QUESTIONNAIRES

Section 1: Questions related to demographic characteristics

No	Questions	Coding Classification	
1	How old are you?	<ol style="list-style-type: none">1. 18-222. 23-273. 28-324. 33-375. 38-426. 43-477. 48-528. Other specify _____	
2	What is your religion?	<ol style="list-style-type: none">1. Orthodox Christian2. Muslim3. Protestant4. Catholic5. Other (specify) -----	
3	What is your current Marital Status?	<ol style="list-style-type: none">1. Married2. Unmarried3. Separated4. Divorced5. Widowed6. Others (specify) -----	

4	To which ethnic group do you belong?	<ol style="list-style-type: none"> 1. Amhara 2. Oromo 3. Tigrai 4. Sidama 5. Somali 6. Others (specify) _____ 	
5	What is your current educational status?	<ol style="list-style-type: none"> 1. Cannot read and write 2. Read and write 3. Primary (1-4) 4. Junior (4-8) 5. Secondary (9-12) 6. College plus 	
6	How long have you had the fistula? (Duration of fistula--time since labour)	<ol style="list-style-type: none"> 1. < 1 year (specify: months) 2. 1 year 3. 2 years 4. 3 years 5. 4 years 6. 5 years 7. Other specify _____ 	

Section 2: Questions related to Knowledge about pregnancy and complications of pregnancy

No	Questions	Coding Classification	Skip
1	Did you have antenatal follow up during your pregnancy?	1. Yes 2. No	
2	How many Antenatal visits did you have during your pregnancy?	1. One 2. Two 3. Three 4. Four 5. 4 plus	
3	Have you heard any health messages about women's health in your village?	1. Yes 2. No	
4	What means of communication do you use to listen to health messages?	1. Radio 2. Television 3. News paper 4. Telephone 5. Other specify -----	
5	Have you heard about the complications that could happen during pregnancy?	1. Yes 2. No	
6	If the answer for question 5 is 'yes' which of the following ones do you know about?	1. Severe headache 2. Blurred vision 3. Raised blood pressure	

		<ul style="list-style-type: none"> 4. Vaginal bleeding 5. Foul smelling discharge from the vagina 6. Fever 7. Other specify_____ 	
7	Where did you give birth (Place of delivery)	<ul style="list-style-type: none"> 1. Home 2. Health post 3. Health centre 4. Hospital 5. Bush 6. Other specify ----- 	
8	Have you heard about obstetric fistula?	<ul style="list-style-type: none"> 1. Yes 2. No 	
9	Before you came here did you know that obstetric fistula is treatable/ curable?	<ul style="list-style-type: none"> 1. Yes 2. No 	
10	As a fistula patient did you reveal your problem to others?	<ul style="list-style-type: none"> 1. Yes 2. No 	
11	Do you know anyone who has the same problem like you have?	<ul style="list-style-type: none"> 1. Yes 2. No 	
12	What are the common treatments in your village for a woman with obstetric fistula?	<ul style="list-style-type: none"> 1. Holy water 2. Traditional medicine 3. priests 	

		<ul style="list-style-type: none"> 4. witchcraft 5. No treatment 6. Medical treatment 7. Other specify _____ 	
13	Who told you about treatment of fistula?	<ul style="list-style-type: none"> 1. Health worker/ facility 2. Cured fistula patient 3. Mass media 4. Friends 5. Neighbours 6. Posters of Hamlin Fistula Ethiopia 7. Others (specify) _____ 	

Section 3: Questions related to social and economic characteristics

No	Questions	Coding Classification	Skip
1	Are your parents alive?	1. Yes 2. No	
2	Who are you living with?	1. Husband 2. Parents 3. Alone 4. Other specify	
3	Does your community believe obstetric fistula is a curse?	1. Yes 2. No	
4	In your village/ community is it simple to tell someone you have an obstetric fistula problem?	1. Yes 2. No 3. I don't know	
5	Did you need permission from others to come to treatment?	1. Yes 2. No	
6	Who gave you permission to come to the treatment centre?	1. Husband 2. Your parents 3. Mother in law 4. Other specify	

7	What social factors prevented you from coming for early treatment?	<ol style="list-style-type: none"> 1. Fear of exposing your problem 2. Discrimination 3. Lack of support 4. Stigmatization 5. Poverty 	
8	Was your husband helpful in bringing you to the treatment centres as early as possible?	<ol style="list-style-type: none"> 1. Yes 2. No 	
9	What is your current occupation?	<ol style="list-style-type: none"> 1. Jobless 2. Daily Labourer 3. Government employee 4. Merchant 5. Farmer 6. House wife 7. Student 8. Others (Specify)_____ 	
10	What is your average household income per month?	<ol style="list-style-type: none"> 1. Less than 10USD (180 Eth Birr) 2. 10-20USD (180-360 Eth Birr) 3. 30-40USD (540-720 Eth Birr) 4. 50USD (900 Eth Birr) 5. No income at all 6. I do not know 	

11	Which of the following is the main reason for late treatment seeking?	<ol style="list-style-type: none">1. No income2. Being dependent on others3. No one to accompany you4. Fear of exposing your problem5. Unable to decide what care you need6. Other specify	
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Section 4: Stigma and Discrimination items

NO.	Questionnaire	Coding classification	Skip
1	Did you isolate yourself?	1. Yes 2. No	
2	Did you experience discrimination because of the fistula?	1. Yes 2. No	
3	If the answer for question 2 is 'yes' which of the following forms of discrimination did you experience?	1. Isolation from social gatherings 2. Gossiping about you 3. Insulting you 4. Forced to live alone 5. Other specify _____	
4	Were people in your community willing to live together with you after you developed the fistula?	1. Yes 2. No	
	If the answer for question 4 is 'No' what was their reason?	1. urine or faeces smell 2. fear of contamination by urine or faeces 3. people believe fistula is transmitted from person to person 4. you may be seen as a sinful person	

		5. other _____	Specify
5	Did you speak about your problem to the people in your community?	1. Yes 2. No	
6	If the answer for question 5 is 'No' why didn't you speak about your problem?	1. I didn't want to expose my problem 2. People hate me 3. I was scared of losing my social status in the community 4. Other specify	

Section 5: Questions related to physical barriers

No	Questions	Coding classification	Skip
1	Where is your usual residence?	1. Urban 2. Rural	
2	How many days did you travel to reach the treatment centre, by bus and on foot?	1. ½ day 2. 1 day 3. 1-2 days 4. >2 days	
3	How many hours did it take for you to reach to the main road from your home?	1. ½ hour 2. 1hour 3. 2 hours 4. >3 hours	
4	Who told you the information about fistula treatment?	1. Health worker/ facility 2. Mass media 3. Friends 4. Neighbours' 5. Posters of Hamlin Fistula Ethiopia 6. Others (specify) _____	
5	How did you travel to the treatment centre?	1. On foot 2. By bus 3. Airplane 4. Animal	

		<ul style="list-style-type: none"> 5. Carried by human being 6. Other specify_____ 	
6	How much did you pay to reach the treatment centre?	<ul style="list-style-type: none"> 1. 50 USD (900Eth Birr) 2. 40 USD (720 Eth Birr) 3. 20-30 USD (360-540 Eth Birr) 4. 10-20 USD (180-360 Eth Birr) 5. None <p>(1USD=18 Eth Birr)</p>	
7	From the following factors, which one is the main reason why you delayed seeking treatment?	<ul style="list-style-type: none"> 1. Distance of treatment centre 2. No road 3. No transport 4. No treatment centre 5. Other specify_____ 	

That is the end of our questionnaire. Thank you very much for taking time to answer these questions. We very much appreciate your help.