# PREDICTORS OF UTILIZATION OF SKILLED BIRTH ATTENDANTS AMONG WOMEN OF REPRODUCTIVE AGE IN TURKANA CENTRAL SUB-COUNTY, TURKANA COUNTY, KENYA

**BY**

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**REG.NO: Q141/CE/24542/2012**

**THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF PUBLIC HEALTH (MONITORING AND EVALUATION) IN THE SCHOOL OF PUBLIC HEALTH OF KENYATTA UNIVERSITY.**

**OCTOBER 2017**

## DECLARATION

This thesis is my original work and has not been presented for a degree or diploma in any other University or any other institution of higher learning.

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## DEDICATION

This thesis is dedicated to my wife Pauline and children Anita, Velma and Cyril for their immense support and encouragement during my entire study period.

**ACKNOWLEDGEMENT**

I would like to extend my appreciation to everyone who made my study feasible and achievement of my ideas and objectives a reality.

First and foremost to my supervisors Dr. I. Mwanzo and Dr. G. Otieno for their constant support, patience and mentorship throughout the entire process. I can never thank you enough.

Secondly, to my research assistants led by, Mrs. Judy Arot who worked tirelessly to ensure thorough data collection. To the county/sub county health management teams and the staff of Lodwar County referral hospital, St Patrick's Dispensary, Kerio Health Centre, Lolupe Dispensary, Turkana Central sub county health administration , the CHVs, TBAs, and the office of the sub county commissioner, thank you for supporting and welcoming me with open arms.

Lastly, many thanks to the women of Turkana Central Sub county who put aside their valuable time in order to participate in the research and for sharing their most intimate moments with such enthusiasm. Thanks also due to all other people who contributed in one way or another. May God bless you all.

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## DEFINITION OF TERMS

**Utilization-** The ability to consume services and incorporates economics, geographic location, abundance of health services, physical and social resources.

**Determinants of Health-** These are a range of personal, social, economic and environmental factors which determine the health status of individuals or populations.

**Health System-** The health structure or organizations whose primary purpose and activities is to promote, restore or maintain health (WHO, 2007).

**Skilled Birth Attendant-** The term "skilled health worker" refers to "an accredited health professional - such as a midwife, doctor or nurse - who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns" (WHO, 2004).

## ABBREVIATIONS AND ACRONYMS

AIDS: Acquired Immuno Deficiency Syndrome

ANC: Ante Natal Care

AWP: Annual Work plan

CEDAW: Convention on the Elimination of All forms of Discrimination against Women

CHVs: Community Health Volunteers

DHIS: District Health Information System

HIV: Human Immunodeficiency Virus

ICF: International Classification of Functioning, Disability and Health

ICPD: International Conference on Population and Development

KDHS: Kenya Demographic and Health Survey

KNBS: Kenya National Bureau of Statistics

MDG: Millennium Development Goals

MMR: Maternal Mortality Rate

MNCH: Maternal Neonatal and Child Health

MOH: Ministry of Health

MOMs: Ministry of Medical Services

MPS: Making Pregnancy Safer

NGO: Non Governmental Organization

SB: Skilled Birth

SBA: Skilled Birth Attendant

SMI: Safe Motherhood Initiative

UNFPA: United Nation Fund for Population Activities

UNICEF: United Nations Children Fund

WHO: World Health Organization

WRA: Women of Reproductive Age

**ABSTRACT**

Skilled Birth Attendance is one of the most important interventions in reducing maternal mortality. The proportion of births assisted by skilled attendants in Kenya is 62% while in Turkana Central Sub County is 22%. Maternal mortality in Kenya is estimated to be 495 per 100,000 live births. This worrying trend of maternal mortality is thought to be as a result of unskilled attendants at birth. This study sought to determine the factors that influence utilization of skilled birth attendants among women of reproductive age in Turkana central sub county, Turkana county. The objectives of the study were to: determine the demographic, social economic and socio cultural factors that influence utilization of skilled birth attendants among women of child bearing age; to establish health system factors influencing the utilization of skilled birth attendants among women of child bearing age in Turkana central sub county, and to determine the knowledge, attitudes and practices of women of child bearing Age on utilization of skilled birth attendants in Turkana Central sub county. The study employed a descriptive cross-sectional study utilizing quantitative and qualitative approaches targeting women of reproductive age. A total of 266 women of reproductive age were interviewed. Interviewer administered questionnaire and focused group discussion were also administered. Informed consent was obtained from the respondents and privacy and confidentiality was assured. Quantitative data was analysed using SPSS version 20.0 and presented in figures, tables, frequencies and graphs, while qualitative data was organized and analyzed thematically. The results showed antenatal attendants rates of 45.3% while proportion of deliveries attended by skilled attendant was 41.4%. The main predictors of utilization of skilled birth attendants are FP practice OR=0.488 (10.286 – 0.831), p=0.008 and attended ANC OR=3.047 (1.6 – 5.8801), p=0.001. Others were what respondent does for a living OR=11.284 (1.894 – 67.230), p=0.008, and means of transport to health facility OR = 6.84 (21.075 – 27.168), p<0.001. The study recommends that women of child bearing age should be empowered with knowledge, higher social and economic status to be able to make informed decision concerning their own health and pregnancy outcomes in order for them to access timely skilled care at delivery. Health system barriers such as transport and communication, poor referral systems, limited infrastructure and social cultural beliefs need to be addressed by all stakeholders to improve access and utilization of skilled birth attendants by deploying more skilled attendants in rural areas and hard to reach areas to scale up utilization of skilled delivery. There is also need to intensify health promotion to address negative socio cultural beliefs and taboos. The interventions will help scale up utilization of SBAs and hence improved pregnancy outcomes.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the study

Worldwide, half a million women die every year as a result of complications arising from pregnancy and childbirth. For every woman who dies from obstetric complications, approximately 20 survive but become impaired with some form of injury or disability (Ashford L., 2014).

Ensuring Skilled Birth Attendance (SBA) is one of the most important interventions to reduce maternal mortality (WHO, 2014). Millennium Development Goal (MDG) five focused on improving maternal health, with target 5 aimed to reducing the maternal mortality ratio by three quarters in 2015, while MDG four aimed at reducing child mortality by two thirds by the year 2015. However, this is one MDG where the progress of many countries in the region had been slow and variable (WHO, 2012).

Various international initiatives like the Safe Motherhood Initiative (SMI) in Nairobi (1987), UN International Conference on Population and Development (ICPD) in Cairo (1994) have been launched to try and improve outcomes of pregnancy (WHO, 2012). However, there has been little progress in reducing maternal mortality, particularly in sub-Saharan Africa.

The UN Millennium Development Goal five thus remained elusive. More recently, the attention of funding partners has been focused on the HIV and AIDS epidemic, which has undoubtedly been at the cost of maternal health programs. One key strategy adopted by the international community and itself was a target of MDG five, was to increase the

proportion of births assisted by skilled birth attendants. The evidence of Skilled Birth Attendants (SBAs) in reducing maternal mortality is overwhelming (WHO, 2009). It is obvious to many practitioners that professionalization of delivery care is a key to reducing maternal mortality (Graham et al., 2001). There has been tremendous improvement in MDG as shown from recent estimates for MMR which indicates that the MMR in Kenya is currently at 400 per 100,000 live births (WHO, 2014) while the KDHS reported MMR to be 590 in 1998, 414 in 2003 and 488 in 2008/2009 and 495 in 2014(KNBS ICF Macro, 2014).

Recent reports indicate that Turkana County has the third highest mortality ratio in Kenya with MMR of 1594 per 100,000 live births behind Wajir and Mandera Counties (NCPD, 2013). The KDHS shows an increase in maternal mortality from 2003 to 2014 despite several initiatives being adopted. With only 62% of deliveries assisted by a skilled attendant in Kenya, the true number of maternal deaths is significantly higher (KNBS ICF Macro, 2014).

According to KDHS 2014, only 62 % of all deliveries occurred in health facilities in Kenya (KNBS ICF Macro, 2014), while in Turkana County, only 22.8 % of skilled deliveries occurred in health facilities (KDHS, 2014). The situation was the same in Turkana Central Sub County at 22 %. The National Reproductive Health Policy 2009-2015 (2009) outlines priority actions for maternal and neonatal health, which includes increasing access to SBA for poor and 'hard to reach' women. Although many facilities have improved the quality of care available, many women are still not using the facilities for childbirth and prefer to

deliver in their own homes (MOH, 2010). This calls for an approach that can address the issue of skilled birth attendance.

### 1.2 Statement of the problem

Data from Kenya Demographic Health Survey has indicated that in the five year period (2008/09 – 2014), proportions of births attended by skilled birth attendants have slightly increased. Maternal Mortality Ratio (MMR) has also slightly increased, while Infant Mortality Rate (IMR) and Neonatal Mortality Rate (NMR) have decreased (KDHS, 2014). Skilled birth attendance has increased from 44% to 62%. Maternal mortality ratio has increased from 414 to 495 per 100,000 live births over the five year period. Similarly, Infant Mortality Rate from 33 to 22 per 1,000 births in the same period (KDHS, 2014).

A strategy essential to reducing the high maternal mortality rate is to ensure that all (100%) births are attended to by skilled birth attendants. Most women attended ANC services in this case 51.5% in Turkana central sub county; however when it comes to delivery by SBAs, the proportion declined in most circumstances. The proportion of births assisted by skilled birth attendants in Turkana central sub county was 22% (DHIS, 2015). This was far much lower than the national average which was at 62% (KDHS 2014). Even though the births at home declined from 56% in 2008-09 survey to 38% in 2014 survey, this rate of decline was still not sufficient to meet the MDG 5 in 2015.

The utilization of SBAs may be determined by various socio-economic and cultural factors, which need to be studied in depth to find out the real scenario in Turkana central sub county. Whether these factors influenced the utilization of skilled birth attendants among

women of reproductive age in Turkana central sub county will be the subject of this study. This study therefore sought to determine the level of utilization as well as the factors that influenced the utilization of skilled birth attendants among women of reproductive age in Turkana central sub county.

**1.3 Justification of the study**

The worsening of key demographic and health indicators (MMR and skilled birth attendance) calls for immediate action to provision of reproductive health information, services and uptake of these services. There is therefore a need to enhance utilization of skilled birth attendants especially in rural and urban slum areas where socio-cultural and economic factors hinder utilization of services. It is also necessary to improve the capacity of the facilities to provide quality services to mothers. Thus national safe motherhood programs in Kenya are now focusing on increasing the number of skilled birth attendants.

With so little change in the proportion of women choosing to deliver in health facilities even when these facilities are accessible, the health system needs to improve its responsiveness to client needs (MOH, 2007). The study area was purposively selected since it is one of the areas with high maternal mortality rates and is characterized with socio cultural and health system challenges among other issues the government recently introduced free maternity policy to ensure pregnant mothers deliver and access services by SBAs. Despite this support, utilization of SBAs is quite low (22%). This study will help address possible barriers to SBAs in the study area hence improve pregnancy outcomes and

satisfaction with the birthing experience among Women of Reproductive Age (WRA) who will utilize the SBAs. It will also assist in national planning and setting policies which can be generalized to the whole county and country. This will strengthen utilization of SBAs to achieve MDGs four and five.

**1.4 Research Questions**

This study sought to answer the following questions:

1. What are the demographic, social economic and cultural factors that determine utilization of skilled birth attendants among women of child bearing age in Turkana central sub county?
2. What are the health system factors that influence the utilization of skilled birth attendants among women of child bearing age in Turkana central sub county?
3. What are the knowledge, Attitude and Practices that influence utilization of skilled birth attendants among women of child bearing age in Turkana central sub county?

**1.5 Null Hypotheses**

The study was guided by the following null hypothesis

1. Demographic, social economic, and socio cultural factors do not determine utilization of skilled birth attendants among women of reproductive age in Turkana central sub county?

2. Health system factors do not influence the utilization of skilled birth attendants among women of reproductive age in Turkana central sub county?
3. Knowledge, Attitude and practices of Women of reproductive age in Turkana central sub county do not affect utilization of skilled birth attendants.

## 1.6 Objectives

### 1.6.1 Broad Objective

The broad objective of the study was to establish the predictors of utilization of skilled birth attendants among women of child bearing age in Turkana central sub county, Turkana county, Kenya.

### 1.6.2 Specific Objectives

The specific objectives for this study were:

1. To determine the demographic, social economic and socio cultural factors that influence utilization of skilled birth attendants among women of child bearing age in Turkana Central sub county.
2. To establish health system factors influencing accessibility of maternal, neonatal and child health services in Turkana central sub county.
3. To determine the knowledge, attitudes and practices of women of child bearing age on utilization of skilled birth attendants in Turkana central sub county.

### 1.7 Significance and Anticipated Output

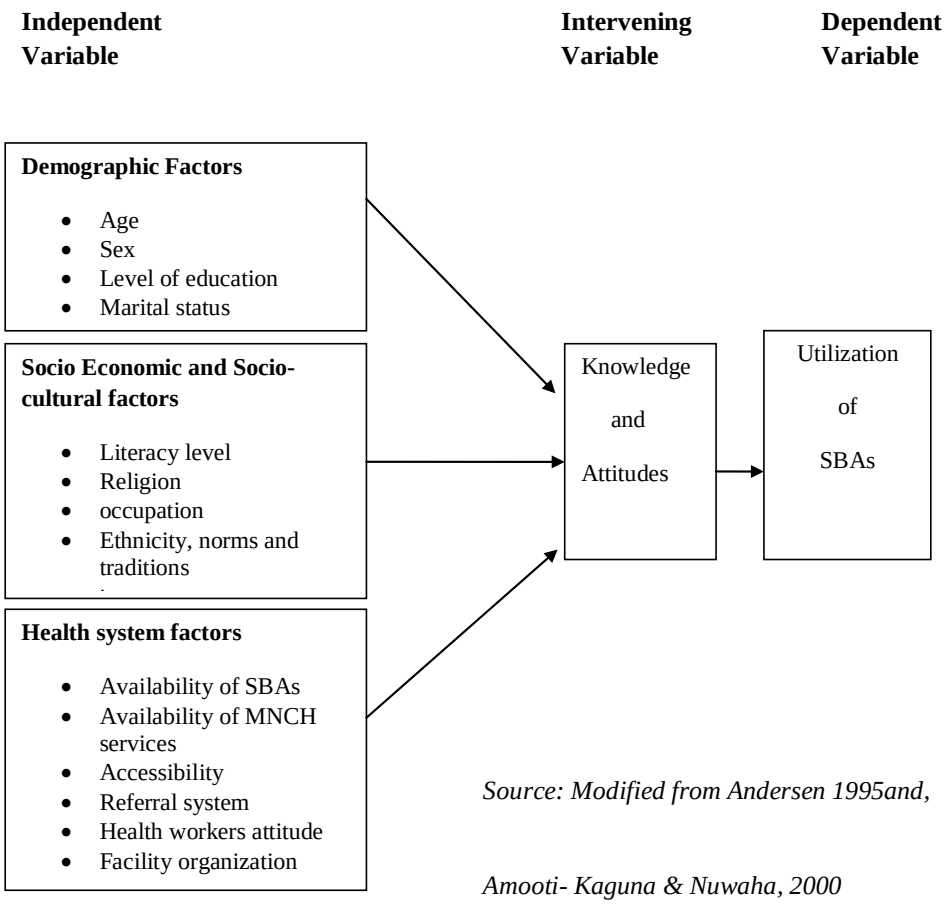
The primary beneficiaries of the study will be the women of child bearing age not utilizing skilled birth attendants in Turkana Central Sub County. This will lead to improved pregnancy, delivery and postpartum outcomes, hence healthy baby, healthy mother and satisfaction with the child bearing process. Secondary beneficiaries will include immediate relatives and community members who often bear both direct and indirect cost associated with maternal and perinatal morbidity and mortality. It would also help program managers, policy makers, and the county and national governments to develop effective ways of addressing ways of ensuring women of child bearing age deliver under skilled care. The study findings should serve as tool for any possible intervention aimed at improving the utilization of maternity care services.

### 1.8 Limitations

The study was carried out in Turkana central sub county which is in an urban-rural setting and hence there was a possibility that it lacked comparison with purely rural setting. This limited the generalization of the study to both urban and rural populations as the study required first-hand information from the respondents. The accuracy of the information was also depended on the recall of services offered in their most recent pregnancy.

### 1.9 Conceptual Framework

This study will be based on a conceptual framework that demonstrated the relationships amongst variables as shown in Figure 1.1.




*Source: Modified from Andersen 1995and, Amooti- Kaguna & Nuwaha, 2000*

**Figure 1.1 Framework on factors influencing utilization of skilled birth attendants.**

The determinants of utilization could be grouped under demographic characteristics, socio-cultural practices and characteristics of health care system including accessibility, acceptability, availability and cost of care. Demographic factors such as age, sex, level of education and marital status represent biological urges of the likelihood that people will need health services. Men and women suffer from different types of diseases at different ages. Women of mature age tend to make own decisions seeking healthcare services than young ones (Andersen, 1995).

Low education levels for example are linked with poor health, more stress and lower self-confidence. Social, demographic and economic factors such literacy levels, religious beliefs, norms and traditions and occupation/income are expected to influence behavior through behavioural determinants (Amooti-Kaguna&Nuwaha, 2000). Higher income and social status are linked to better health. The greater the gap between the richest and poorest people, the greater the differences in health. People in employment are Likely to be healthier, particularly those who have more control over their working conditions.

Availability of SBAs in the facilities means constant availability of services such referral services and good staff attitudes, values and knowledge that people have about health care services might influence their subsequent perception of need and use of these services. Access and use of services that prevent and treat disease influences health for example health personnel and facilities must be available and people must have the means and know how to get to those services and use them (Andersen, 1995).

# CHAPTER TWO: LITERATURE REVIEW

## 2.1 Introduction

The literature review is discussed in three main sections aligned in study objectives. Comparative analysis was done to confirm findings from related studies by use of desk review.

Section one introduces general overview of skilled birth attendance and the importance of delivering by skilled attendants. It discusses the magnitude of skilled birth attendance on a global, Africa and Kenyan perspectives.

In section two, a review of existing literature on determinants of utilization of skilled birth attendance is discussed. The section highlights demographic, economic, socio-cultural and health system factors that influence utilization. This provided evidence base, comparison and interpretation of findings for this study.

The last section summarizes the literature review and identifies the gaps.

## 2.2 Overview of Skilled Birth Attendance

### 2.2.1 Global perspective of Skilled Birth Attendance

Each year about 529,000 women worldwide die as a result of complications arising from pregnancy and childbirth. Most of these maternal deaths are caused

by haemorrhage, obstructed labour, sepsis, unsafe abortion and eclampsia (pregnancy-induced hypertension). Indirect causes like malaria and HIV also contribute to maternal deaths (UNFPA, 2010). For every woman who dies, an estimated 15 to 30 women suffer from chronic illnesses or injuries as a result of their pregnancies (Graham and Ronsmans, 2006). Slightly more than half of the maternal deaths (270,000) occurred in the sub-Saharan Africa region alone, followed by South Asia (188,000). Thus sub-Saharan Africa and South Asia accounted for 86% of global maternal deaths (WHO/UNICEF/UNFPA, World Bank, 2013).

Skilled attendance at all births is considered to be the single most critical intervention for ensuring safe motherhood, because it hastens the timely delivery of emergency obstetric and newborn care when life-threatening complications arise. Skilled attendance denotes not only the presence of midwives and others with midwifery skills (MOMs) but also the enabling environment they need in order to be able to perform capably (WHO, 2004).

According to WHO (2014), up to 15% of all births are complicated by a potentially fatal condition. Although many of these complications are unpredictable, almost all are treatable. Skilled attendants are trained to recognize problems early, when the situation can still be controlled, to intervene and manage the complication, or to stabilize the condition and refer the patient to a higher level of care, if needed. Skilled attendance is also vital to protecting the

health of newborns, yet in the developing world, only about 58% of all deliveries are reported as attended by SBAs (WHO, 2014).

Various international initiatives like the Safe Motherhood Initiative in Nairobi (1987), UN International Conference on Population and Development (ICPD) in Cairo (1994) and Millennium Declaration (MDGs) 2000 have been launched to mitigate this situation (WHO, 2004). However, there has been little progress in reducing maternal mortality, particularly in sub-Saharan Africa. One key strategy adopted by the international community, and itself a target of MDG five, is to increase the proportion of births assisted by health professionals (doctors, nurse-midwives and nurses with midwifery skills).

The evidence of skilled attendance reducing maternal mortality is overwhelming (WHO/UNICEF/UNFPA/World Bank, 2013). Poor maternal health has serious implications for survival of the newborn as well (Lawn *et al*., 2005). Skilled care at birth also reduces infant mortality (UNFPA, 2004). In one study that reported on child outcomes for mothers who died in labour, all the newborn babies died within one year of birth (Greenwood *et al*., 1987; cited in Lawn *et al*., 2005). The risk of death for children below 5 years is doubled if their mothers die in childbirth, and at least 20% of the burden of disease among children under the age of five is attributable to conditions associated with poor maternal and reproductive health, nutrition, and the quality of obstetric and newborn care (WHO/UNFPA/UNICEF/World Bank, 2013).

The Convention on the Elimination of all forms of Discrimination against Women (CEDAW) and the international policy agenda that emerged from the Cairo ICPD recognized that the persistently high maternal mortality ratios in the region were as a result of lack of financial support, weak health systems, with weak referral systems and unavailability of quality skilled care; weak national human resource development; inadequate community involvement and harmful socio-cultural beliefs and practices (United Nations, 2007). In this context, the WHO adopted the Making Pregnancy Safer (MPS) initiative to support countries in strengthening their health systems to improve their response to emergency obstetric care (United Nations, 2005).

Various models have been developed to address the different levels of healthcare necessary for the reproductive cycles of a woman's life including the ante and post-partum stages. One of the most widely applied models used in maternal health programming today is the three delays model which promotes the presence of a skilled birth attendant who is liked to a functioning health system (WHO/UNFPA/UNICEF/World Bank, 2013). The three delays model developed in the 1990s and was adapted in various country contexts through a series of operational research studies led by Columbia University, to strengthen the coverage and quality of maternal health services at community and health facility levels. Based on the three-delay framework, as developed and implemented by the Prevention of Maternal Mortality network, states three major factors that contribute to maternal death including: delay in recognizing complications and deciding to seek care, delay in reaching a treatment facility, and delay in receiving adequate care and treatment at the facility.

This model can be further elaborated to explore the factors that contribute to the delays at each of the three stages (WHO/UNFPA/UNICEF/World Bank, 2013). Examples of major gaps and systemic weaknesses that exacerbate already high rates of maternal morbidity and mortality include: Shortage of and thus inadequate access to skilled care, Poor health infrastructure at all levels (including supplies, equipment), Lack of transportation for emergency referral, Low quality of Obstetric care. The elements of Birth preparedness have been promoted by WHO, UNFPA and other international agencies as part of maternal health strategies. With the shift from TBA training and risk screening towards access to skilled attendance, including emergency obstetric care as a means of decreasing maternal mortality this approach has been adopted widely by NGOs and government services (WHO/UNFPA/UNICEF/World Bank, 2013).

### 2.2.2 Sub- Saharan African perspective on Skilled Birth Attendance

In sub-saharan Africa, where nearly half of the world's maternal deaths occur, only 46% of deliveries are assisted by SBAs. In Southern Asia, the proportion is even lower (WHO, 2014). Enormous disparities remain within and between countries: impoverished and rural women are far less likely than their urban or wealthier counterparts to utilize SBAs. Disparities in the support available to women during pregnancy and childbirth are evident both among and within countries.

According to surveys conducted 1996-2005 in 57 developing countries, 81% of urban women deliver with the help of SBAs, versus only 49% of their rural

counterparts. Similarly, 84% of women who have completed secondary or higher education are more likely to be attended by SBAs. In rural areas, health clinics and hospitals are often spread out over vast distances with rudimentary transportation systems. In 2008, UNFPA partnered with the international confederation of midwives to address the pressing need for SBAs in developing countries (WHO, 2008).

### 2.2.3 Kenyan Situation

With only 62% of deliveries assisted by a health professional, and poor reporting on maternal deaths, the true number of maternal deaths is significantly higher. Progress towards achievement of MDG five and now the SDGs has stagnated and it is now a priority of the Ministry of Health (KDHS, 2014).

The Global agenda for maternal health (ICPD, Road Map and SMI) provide important evidence-based frameworks for improving policy and strategy at the national level. Hence, the revised Reproductive Health (RH) Policy (2007) and the second National Health Sector Strategic Plan (NHSSP II) 2005-2010, reflect global priorities for improving maternal health. Further, with so little change in the proportion of women delivering in health facilities even when accessible, the health system needs to improve on its responsiveness to client needs (MOH, 2010).

Key challenges to maternal and neonatal health include inadequate access by women to reproductive health information and to SBAs especially the rural poor, demand for and utilization of reproductive health services (MOH, 2015).

As per health sector performance report (July 2005-June 2006), Annual Work plan (AWP) 3, there are low percentages of deliveries conducted by SBAs with Turkana central sub county at 22% while the National level was at 62%. These disparities raise a lot of concern in achieving MDGs four and five by the year 2015 and beyond. This might remain an impossible dream in the current situation (Rosenfield et *al*., 2006).

**2.3 Determinants of Utilization of Skilled Birth Attendants**

Access to skilled assistance and well equipped health facilities during labour and delivery have been found to evidently reduce maternal mortality and morbidity, and improve pregnancy outcome (Fenta, 2005). The most widely adopted process of delivery is skilled attendant and is closely related with maternal and perinatal deaths.

A number of factors which influence SBAs include socio-cultural factors (such as norms, traditions and religion), demographic characteristics (such as Age, sex, education level, and marital status), economic factors (such as income, occupation and religion) and health system factors (such as availability of SBAs, availability of MNCH services, Accessibility, referral system, health workers attitude).

### 2.3.1 Demographic Characteristics influencing utilization of SBAs

One important characteristic that affects the utilization of SBAs is the health seeking behavior is the mother's age at the time of birth (UNFPA, 2008).

Maternal age is associated with the type of assistance at delivery. Births to older women are more likely to occur with no assistance compared with births to younger women (KDHS, 2008/09). An educated woman serves as a source of information, cognitive skills and values; education exerts effect on health seeking behavior through higher level of health awareness and greater knowledge of available health services (Moore, et al., 2011). Moore, et al., (2011) in their study in Nigeria found that maternal education contributed significantly to increased utilization of health facility delivery services. This concurs with other studies (Babalola & Fatusi 2009, Garg et al., 2010, Haque 2009 and Rogan & Olvena 2004), that reported the same finding that the more a mother was educated the more likely she was to deliver through a skilled birth attendant.

Communication with the husband and other and other family members on health related issues will be enhanced through an educated woman. This helps women to develop greater confidence to make decisions regarding their health (Singh et al., 2012). Demand for delivery services is reduced due to low education levels of education. Skilled birth attendant is the only way in achieving significant reduction in maternal deaths during every delivery (NCAPD, 2005). Health seeking behavior on the other hand is strongly associated with the number of children born and parity. According to the KDHS 2008/09, the child's birth order was found to be associated with the type of assistance at delivery. Women with

higher birth order are more likely to deliver without the assistance of skilled birth attendants compared with those women with lower birth order.

Residence was a factor that influenced utilization of skilled birth delivery care and births in urban areas were more likely to be assisted by medical personnel than those births to mothers who reside in rural areas (KDHS 2008/09).

### 2.3.2 Socio economic Factors influencing utilization of SBAs

Economic factors influence the chances of women accessing skilled birth care and surviving the trimester of pregnancy and delivery of a healthy baby (Canavan, 2009). 23 While it is recognized that traditional birth attendants (TBAs) can and do provide emotional and social support to the mothers and can provide key health and education messages, most women rely on TBAs where they cannot afford the cost of professional services. Poverty is a key factor in limiting access to skilled birth attendants (DFID, 2005). Singh et al.,(2012) in their study found that economic status was an important significant determinant in the utilization of safe delivery. Adolescents from richer and richest wealth quantiles were more likely to use safe delivery compared to those from poorest wealth quantiles. This was also found to be the case in a study by Okonofua et al.,(2010), where lack of access to SBAs especially in Northern Nigeria was due to high rates of poverty. Pathak (2010) found that use of SBAs remained considerably lower among poor mothers relative to their non-poor counterparts. Mother's occupation played an important role in service utilization. Women who are working and earning money may be able to save and decide to spend their savings on a facility delivery under skilled care (Gabrysch and Campbell, 2009).

**2.4 Health system factors Characteristics influencing utilization of SBAs.**

The geographical location of services has a direct influence on skilled attendance for several reasons. The distance required to be travelled, availability of affordable transport and the condition of the roads influences the decision to attend a service at a health facility (Lunan et al., 2010). Ratsma and Malongo (2009) in their study found that approximately 74% of maternal deaths could be prevented if all women had access to services which would prevent or treat such complications associated with pregnancy and child birth. It is therefore clear that access to and provision of maternal health services are 24 key determinants of maternal health (Amnesty International, 2009). The further a patient lives from a health facility, the less likely they are able to utilize the services (Geubbels, 2006).

Moore et al .,(2002), in their study identified one of the barriers to use of skilled attendance as distance, physical proximity of facility or care source. This was widely stated as a motivator when considering use of skilled care. The ‘‘preferred’’ care source was often the closest care source.

In the African context, the principle impediments to accessibility are transport and cost. Narayan et al.,(2000), found that distance and travel was the most single obstacle to the utilization of delivery care services. There is evidence that access to skilled assistance can reduce maternal morbidity and mortality and improve pregnancy outcomes (Fenta, 2005). In the provision of skilled care, the importance of a functioning health system cannot be overemphasized in terms of need for an enabling environment. The outreach and the

organization of the health system are critical to the success of the strategy for the provision of skilled attendants. Health policies that support the work of the health care workers, the standards and protocols that define their work and the arrangements for ensuring that the required supplies of essential medicines and equipment are available are equally important (WHO, 2004).

A functioning health system also requires suitable buildings, enough staff, and the right mix of professional skills and satisfactory terms of employment. In addition, there needs to be in place a referral system and effective monitoring, supervision and training of staff. All 25 these factors need to be in place in order to ensure that there is a strategy in place for the provision of skilled attendance.

**2.5 Knowledge, Attitude and Practice**

Use of maternal health services is influenced by cultural beliefs, attitudes and practices of WCBA. There are several cultural barriers to women's use of health facilities. One of them is women's fear of male midwives attending to them. This makes most of them prefer to deliver at home. The presence of relatives, trust in TBAs, cultural reasons and lack of money are among reasons why the women shun health facilities.

Inadequate capacity, shortage of drugs and other supplies, lack of skilled personnel and preference for female midwives are among the reasons why WCBA do not use health facilities.

Despite several capability gaps with TBAs to manage complications, communities express more positive experiences with them than the formal health facilities. This result is consistent with the findings of Mesfin et.al. Who reported preference for TBAs as a result of trust. Home delivery is social, cultural and economical. It is social in terms of its capacity to lend itself to the performing of all the rituals and festivities (if the neonate and the women are healthy); easy access to meat and milk, or 'an honourable burial' – in case of death. It is cultural, because women always report health facility delivery as "not our tradition" while it is economical because it is less costly, less time-consuming and does not remove one from the domestic chore.

The husband makes most decisions on maternal health within because of traditional male dominance. Husbands and senior family members, such as in-laws, strongly influence women's use of health facilities. The most dominated are younger women with no formal education. Thus, it is important to target all influential family and community members, including religious leaders, in order to ensure that women have access to essential health services that can improve their health. This is particularly important because of evidence suggesting that there is a wide variation in attitudes towards and perceptions of the value of health services, not only between but within ethnic and religious constituencies.

Women and traditional healers define 'problems of pregnant mothers' as physiological and spiritual. According to Mesganaw and Getu, such classifications lead to a conclusion that modern health institutions are not helpful for certain disease conditions. The physiological

abnormalities such as bleeding, prolonged labour (if it does not respond to du'aa — prayer) and swelling of feet are understood to require attention of formal health service providers, while dizziness, puerperal psychosis, protrusion of tongue, prolonged labour and lack of appetite are mostly associated with jinni (evil spirit) and are to be dealt with by traditional healers and religious leaders.

There are three types of delay caused by low levels of skilled attendance, which contribute to high maternal deaths. The first delay regards deciding to seek care at the household level, caused by lack of information and inadequate knowledge about danger signals during pregnancy and labour; cultural/traditional practices that restrict women from seeking health care and lack of money. The second delay involves inability to access health facilities due to poor roads and communication networks and poor community support mechanisms. The third delay regards the length of time between arriving at the health facility and receiving care. This results from inadequate skilled attendants; poorly-motivated staff; inadequate equipment and supplies and a weak referral system

**2.6 Summary of Literature Review**

Maternal and child health care utilization is essential for further improvement of maternal and child health. In particular, skilled attendance at delivery is an important intervention for reducing maternal deaths. Lack of enabling environment, accessibility of services, demographic characteristics, socio-cultural practices and economic factors have been identified as some of the factors that hinder utilization of maternal health services.

Majority of studies have been based on maternal health services in general however there are no sufficient studies on utilization of skilled attendance at birth as well as factors that influence their utilization in Kenya in most regions in general and Turkana central division in Turkana county in particular. This study therefore, aimed to address this gap by attempting to explore the factors that were assumed to be barriers to the utilization of skilled attendance at birth.

# CHAPTER THREE: MATERIALS AND METHODS

## 3.1 Introduction

This chapter highlights the methodology that was used in the study. It presents the study design, the study area, the variables, the study population, the sampling technique including sample size determination. It also includes the construction of the research instruments, data collection techniques, pilot study and ethical considerations in the study.

## 3.2 Study Design

This was a descriptive cross-sectional study. The study design employed both quantitative approaches through the use of an interviewer – administered questionnaire and qualitative approaches through the use of key informant interview guides and Focused Group Discussions (FGDs).

## 3.3 Study Variables

The independent variables were demographic, Socio-economic and socio-cultural factors, health system factors influencing accessibility of maternal, neonatal and child health services. The dependent variable was utilization of skilled birth attendants.

## 3.4 Study Population

The study population comprised of women of Child bearing age 15 - 49 years who had delivered in the last one year in the Sub County (study area) and residing in the study area.

### 3.5 Study Area

The study area was Turkana Central Sub County in Turkana County, it lies between longitutudes $34^0$ 30' and $36^0$40' East and between latitudes $1^0$30' and $5^0$ 30' North. The sub county borders Loima sub county to the west, Turkana West and Turkana North sub counties to the North and Turkana South Sub County to the south. It covers an area of approximately 5,675.90 square kilometers and a population of 157,340 as per the census population projections of 2009 (GOK, 2009). The Sub County so far has 3 administrative divisions and 4 wards. The sub county has one constituency namely Turkana Central. Majority of the population reside in rural areas.

**Inclusion Criteria**

All women of reproductive age group 15–49 years residing in the sub county within the last six months, those who had delivered in the last one year preceding the study period and willing to participate in the study formed the study respondents. This ensured fresh recall ability of the recent utilization/knowhow and the experience with SBA.

**Exclusion Criteria**

All WRA group below 15 and above 49 years, those not delivered or those who had delivered more than one year preceding the study, men and children in the sub county, women who were terminally ill, non residents, all WRA and pregnant and

who had resided less than six months in the Sub County before the study period and those who had not consented to the study were also excluded.

### 3.6 Sampling Technique and Sample Size Determination

#### 3.6.1 Sampling Techniques

Multi-stage cluster sampling was used in this study (Mugenda and Mugenda, 1999). Three locations out of the eight from the three divisions in the sub county were selected through random sampling method. In each location selected, sub location was randomly selected using the same method as had been done in the locations followed by random sampling of five villages in each selected sub-location. A total of five hundred households from the list of all households in the selected villages were picked and a list prepared with assistance of village elders and community health volunteers. At household level, respondents meeting the inclusion criteria were selected but only one per household was interviewed till the desired sample size was achieved. The proportion of respondents in the village was depended on the population in the village. Purposive sampling was used to select key informants since they were informative and possess the required information.

The sub county was purposively selected because it has the highest population and number of health facilities (42 GOK, 5 private, 8 FBOs) in relation to the other

sub counties. The referral hospital in the County is also situated in the sub county.

### 3.6.2 Sample Size Determination

The total population size was greater than 10,000 thus the formula below was used to determine the sample size (Fisher *et al.*, 1991; cited in Kothari, 2004).

The formula n= (Z^2pq)/d^2 where:

n is the sample size Z is the corresponding value from the normal distribution for the desired confidence (in this case 95%) = 1.96

p is the proportion in the target population estimated to have a particular characteristic in this case 22% of deliveries were assisted by SBAs in Turkana Central Sub County, hence p will be 0.22

q = 1-p d is the degree of accuracy desired set at 0.05 level.

Therefore calculating the sample size using the formula above gives: n = {1.96^2(0.22) (1-0.22)}/0.05^2 n =269 respondents.

### 3.7 Pre-testing of Study Tools

Pre-testing of the research tools was conducted in Loima Sub County, which is an equivalent and neighbour of Turkana Central Sub County. It had similar population with socio cultural, geographical and health characteristics.

### 3.7.1 Construction of Research Instruments

Interviewer-administered questionnaires was formulated to collect demographic data, socio-economic and socio-cultural factors, health system factors influencing accessibility of MNCH services and challenges/barriers regarding utilization of SBAs. This was guided by the conceptual framework and the study objectives. Interview guide was used to collect information depending on each key informant. Knowledge Attitude and Practices (KAP), FGD and KII data collection was done through use of interview guide, key informant guides. The research instruments were prepared in English.

### 3.7.2 Validity

Validity of the research instruments was ensured through the use of well-structured questionnaires which were designed in relation to the conceptual framework and the research objectives. Data was checked for completeness and accuracy every day it was submitted, any blanks, misplacement of information and number of questionnaires per day were counterchecked. Questionnaires were numbered in a sequential order before and confirmed from the field.

### 3.7.3 Reliability

Various data quality measures were adopted in this study. First and foremost research questions were designed to ensure that consistent results were achieved. The fieldwork manual for the research team was prepared to ensure no stressful

moments in terms of number of interviewers per day and payment mode. Guidelines were prepared on how to ask certain questions and how to record the answers provided. Pretesting of the research tools was carried out to test reliability.

Secondly reliability was ensured through thorough selection of research assistants who were knowledgeable about the topic, the study area, who should have form four level of education, understand the local language and topography. They were trained on interview techniques and pre-testing of research tools and capturing any unique experiences reported

**3.8 Data Collection Techniques**

Data collection was carried out by research assistants using the structured interviewer-administered questionnaire counted and also in narrative form. The researcher employed the interview guide to collect information from the key informants pertaining uptake of services, human resource, home and hospital deliveries. FGDs were used to get the overall picture of SBAs utilization. Group interview had 8-10 participants each led by a moderator with an FGD interview guide. Qualitative data was recorded in narrative form.

**3.9 Data Analysis and Presentation**

Raw data was captured in the interviewer administered questionnaires. Data was sorted as per the objectives of the study and was coded after the field. It was entered into access data base and cleaned. Data analysis was performed using

Microsoft excel and Epi Info 20.0. The Chi square ($\chi^2$) test was used to assess differentials existing between various characteristics of antenatal care attendants in utilization of skilled birth attendants values of less than 0.05 were considered statistically significant.

Data was summarized using descriptive statistics such as frequencies and presented by use of frequency tables, bar charts and pie charts, tables, figures and narration. The qualitative data was described, summarized and interpreted for each key guide. Similar responses were coded. Data with similar information was summarized together under the same theme, cleaned and interpreted. It was then reported descriptively paying attention to the issues and matters mentioned by the majority of the informants.

**3.10 Ethical Considerations**

Ethical clearance was sought from Kenyatta University Graduate School, the Kenyatta University Ethics Committee (KUERC) and from the National Commission for Science, Technology and Innovation (NACOSTI). Written permission was also obtained from the County administration, Ministry of education and Ministry of Health through the County representatives. All community entry protocols were observed from the national and county administration to the respondents at the household level. The participants were explained about the study purpose, objectives, benefits and risks for informed consent.

Confidentiality was ensured by avoiding writing names on the research tools, instead they were coded. Informed consent was sought verbally and by signing the consent form. All data collected were analyzed and reported in formats that did not allow participant identification. The community's considerations in terms of cultural sensitivity, gender, religion and beliefs were considered. In addition, the community was given feedback on the research findings through organized forums with their leaders.

# CHAPTER FOUR: RESULTS

## 4.1 Introduction

This chapter presents the study results including demographic, social economic and socio cultural factors that influence utilization of skilled birth attendants among women of child bearing age; to establish health system factors influencing accessibility of maternal; neonatal and child health services; and to determine the knowledge, attitudes and practices of Women of Child Bearing Age on utilization of skilled birth attendants in Turkana Central sub county.

## 4.2. Demographic and socio-economic ccharacteristics of the respondents

### 4.2.1 Demographic characteristics of the respondents

Analysis with an aid of chi-square test was carried out in order to establish association between respondent's general characteristics and SBA. Majority of the respondents were married (56.2 %) while 9% were single those who were estranged/widowed and cohabiting were 14% respectively. Age was statistically significant to utilization of SBAs ($\chi^2$ = 19.486 (1) p= 0.007). Majority of the women (46.75%) had not completed primary level (up to class 3) while 47.1% had no formal education at all. Education was found to be statistically significant ($\chi^2$ = 11.803 (5) p=0.038). Other variables that were statistically significant included education background and respondents occupation

($\chi^2$= 11.803 (5) p=0.038 and $\chi^2$ = 13.101 (4) p=0.011) respectively. This is shown in table 4.1 below.

**Table 4.1 Demographic Characteristics influencing utilization of SBA**

| Variable | | Ever delivered at health facility | | | $\chi^2$, (df) |
|---|---|---|---|---|---|
| | | Yes (%) | No (%) | Total (%) | |
| **Age in years** | 10-14 yrs | 0 (0) | 3 (100) | 3 (100) | $\chi^2$ = 19.486(1) **p= 0.007** |
| | 15-19 yrs | 12 (42.9) | 16 (57.1) | 28 (100) | |
| | 20-24 yrs | 33 (47.8) | 36 (52.2) | 69 (100) | |
| | 25-29 yrs | 48 (52.2) | 44 (47.8) | 92 (100) | |
| | 30-34 yrs | 23 (67.6) | 11 (32.4) | 34 (100) | |
| | 35-39 yrs | 10 (76.9) | 3 (23.1) | 13 (100) | |
| | 40-44 yrs | 12 (92.3) | 1 (7.7) | 13 (100) | |
| | 45-49 yrs | 2 (40.0) | 3 (60.0) | 5 (100) | |
| **Marital Status** | Single | 14 (48.3) | 15 (51.7) | 29 (100) | $\chi^2$ = 1.429 (3) p=0.699 |
| | Cohabiting | 9 (56.2) | 7 (43.8) | 16 (100) | |
| | Divorced | 8 (44.4) | 10 (55.6) | 18 (100) | |
| | Married | 109 (56.2) | 85 (43.8) | 194 (100) | |
| **Education Background** | No Education | 33 (47.1) | 37 (52.9) | 70 (100) | $\chi^2$ = 11.803 (5) **p=0.038** |
| | Primary Incomplete Up to Class 3 | 14 (46.7) | 16 (53.3) | 30 (100) | |
| | Primary Complete Up to Class 8 | 26 (54.2) | 22 (45.8) | 48 (100) | |
| | Secondary Education incomplete | 28 (50.0) | 28 (50.0) | 56 (100) | |
| | Secondary Education Complete | 17 (68.0) | 8 (32.0) | 25 (100) | |
| | Tertiary College and above | 21 (80.8) | 5 (19.2) | 26 (100) | |
| **Occupation** | Formal Employment | 36 (70.6) | 15 (29.4) | 51 (100) | $\chi^2$ = 13.101 (4) **p=0.011** |
| | Casual | 18 (56.2) | 14 (43.8) | 32 (100) | |
| | Self employment | 10 (76.9) | 3 (60.0) | 13 (100) | |
| | Farming | 2 (40.0) | 3 (60.0) | 5 (100) | |
| | Pastoralism | 4 (25.0) | 12 (75.0) | 16 (100) | |

### 4.2.2 Whether Cultural factors determine utilization of SBAs

Slightly more than half (56.8%) reported that cultural factors determine utilization of Skilled birth attendants while 43.2% did not associate culture as a culture determining utilization of Skilled birth attendants as indicated in figure 4.13 below.

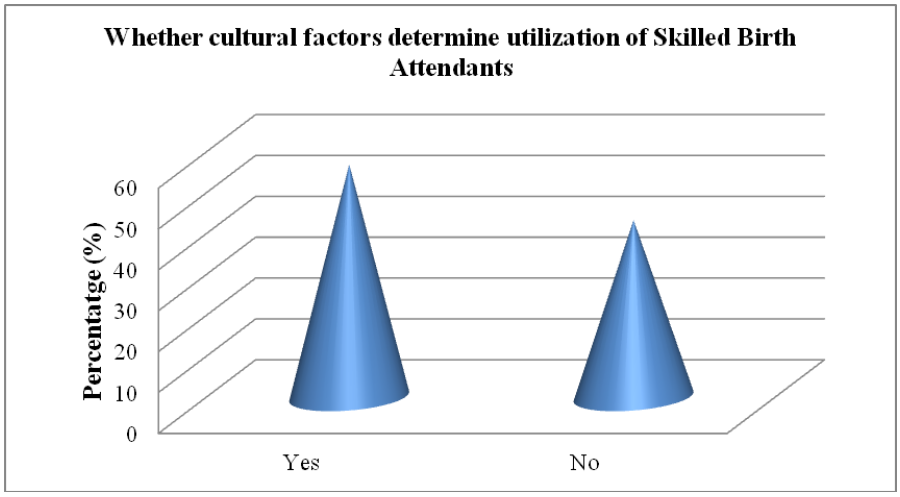



**Figure 4.1 Cultural factors determining utilization of SBAs**

### 4.2.3 Social-cultural beliefs that prohibit utilization of SBAs

Majority (61%) of the respondents, affirmed that culture prohibits utilization of skilled births attendants while 39% said culture does not in any way prohibits skilled birth attendants utilization. This was further confirmed by the following statement:

*……''it is a sign of cowardice for a woman to deliver in a health facility….''* (FGD,002).

This was also emphasized by another FGD participant.

*……'' They even throw the umbilical cord instead of giving us to go and burry in the goats shade for more wealth and blessings….''* (FGD,001)

Nearly a fifth of the respondents (19.9%) believed that bad /evil eyes cultural belief prohibited skilled birth delivery followed by delivering in health facility which was seen as cowardice (18%). This was followed by denial of umbilical cord and being seen by male attendants during delivery (13.7%). Naming of children (11.8%) and the belief that the infants will be killed (9.9%) also accounted for the cultural beliefs that prohibit utilization of SBAs. Non acceptance by husbands (3.1%) was the least cultural belief that prohibited utilization of SBAs as shown in table 4.2 below.

**Table 4.2: Cultural beliefs that prohibit utilization of Skilled Birth Attendants**

| **Variable** | **Frequency (n=116)** | **Percentage (%)** |
|---|---|---|
| Delivering in health facility is a cowardice | 29 | 18 |
| Umbilical cord will be thrown away hence a curse | 22 | 13.7 |
| Taboo to be seen by men | 22 | 13.7 |
| Child will be seen by "bad/evil eyes" | 32 | 19.9 |
| Male nurse conducting delivery | 16 | 9.9 |
| Naming of children delayed | 19 | 11.8 |
| Husband will not accept | 5 | 3.1 |
| The infant will be die/killed | 16 | 9.9 |

### 4.2.4 Myths/taboos associated with ANC and SB delivery

Infertility and diseases (27.3%) were the greatest myths/taboos attributed with ANC and SB delivery. Other myths /taboos associated with ANC and SB delivery include cultural belief (20.5%), children are wealth (15.9%), religion and that children are from God hence no need of family planning (13.6%) respectively. 9.1% of the respondents were however not aware of any myths/taboos associated with ANC and SB delivery. Most women do not see the need for SB delivery. This was further emphasized by one participant:

….. *'' I can't incur expenses to go to deliver in hospital and risk dying there instead i use the little money i get to buy food for my family''…* (FGD, 003).

**Table 4.3: Myths/taboos associated with ANC and SB delivery**

| **Variable** | **Frequency (n=44)** | **Percentage (%)** |
|---|---|---|
| Children are from God and they are not supposed to be controlled | 6 | 13.6 |
| Children are wealth | 7 | 15.9 |
| Family panning cause infertility, diseases etc | 12 | 27.3 |
| Religion prohibit family planning | 6 | 13.6 |
| Cultural belief | 9 | 20.5 |
| Not aware of its importance | 4 | 9.1 |

### 4.2.5 Family planning practice in the community

Slightly more than half of the respondents (52.5%) agreed that family planning is practiced in the community while slightly less than half (47.5%) disagreed that family planning is practiced in the community as shown in figure 4.2 below.

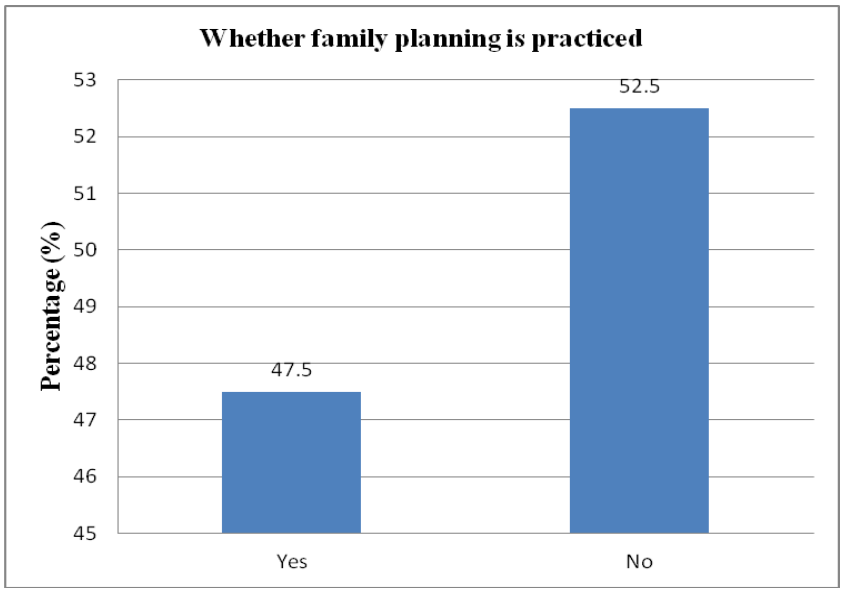



**Figure 4.2 Family planning practices in the community**

### 4.2.6 Persons the women discussed ANC and Skilled Birth Delivery issues with

Nearly a third of the respondents (30.1%) discussed issues of ANC and SB delivery with health workers followed by discussion with husbands (25.7%) and friends (20.5%). Others

included discussion with traditional healers (8.4%), religious leaders (4.4%), the least to discuss with issues related to ANC and SB delivery was discussion with the fiancé (2.8%).

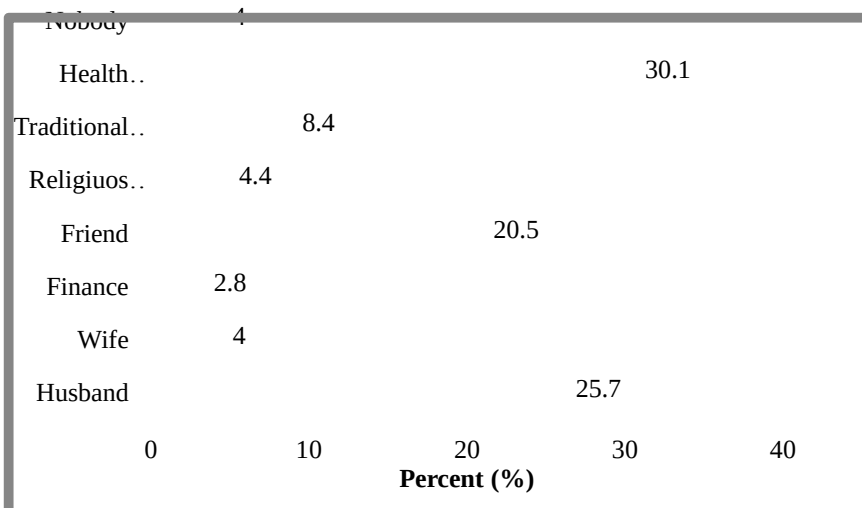



**Figure 4.3 Persons the women discussed ANC and Skilled Birth Delivery issues with**

Majority of the respondents (51.9%) attributed cultural effects to utilization of SBAs. Culture was not statistically significant to utilization of SBAs ($\chi^2$ = 0.131 (1) p=0.718) Family planning practice was practiced by most respondents (63.5%) thus statistically significant ($\chi^2$ = 7.703 (1) p=0.006). The main source of earning a living among the respondents was charcoal selling (62.1%), small scale business (59.8%) and herding (44.1%). Majority (66.7%) had nothing as their source for a living. What the respondents do for a living was statistically significant with utilization of SBAs ( $\chi^2$ = 18.107(6) p=0.006).Social cultural factors associated with ANC and skilled birth delivery were not statistically significant ($\chi^2$ = 0.00 (1) p=0.992). this is shown in table 4.3 below.

**Table 4.3 Social cultural factors influencing Utilization of SBAs**

| Variable | | Ever delivered at health facility | | | $\chi^2$, (dx) |
|---|---|---|---|---|---|
| | | Yes (%) | No (%) | Total (%) | |
| **Whether Culture prohibits SBA** | Yes | 27 (51.9) | 25 (48.1) | 52 (100) | $\chi^2$ = 0.131 (1) p=0.718 |
| | No | 110 (54.7) | 91 (45.3) | 192 (100) | |
| **Whether family planning practiced** | Yes | 75 (63.5) | 42 (36.5) | 117 (100) | $\chi^2$ = 7.703 (1) **p=0.006** |
| | No | 61 (45.9) | 72 (54.1) | 133 (100) | |
| **Social Cultural associates with ANC and SB delivery** | Yes | 13 (65.0) | 7 (35.0) | 20 (100) | $\chi^2$ = 0.00 (1) p=0.992 |
| | No | 85 (64.9) | 46 (35.1) | 131 (100) | |
| **What do you do for a living** | Herding | 26 (44.1) | 33 (55.9) | 59 (100) | $\chi^2$ = 18.107 (6) **p=0.006** |
| | Small Scale Business | 49 (59.8) | 33 (40.2) | 82 (100) | |
| | Basketry and Weaving | 10 (55.6) | 8 (44.4) | 18 (100) | |
| | Selling Charcoal | 18 (62.1) | 11 (37.9) | 29 (100) | |
| | Nothing | 8 (66.7) | 4 (33.3) | 12 (100) | |
| | Any Other | 12 (85.7) | 2 (14.3) | 14 (100) | |
| **Whom do you discuss with ANC & Skilled Birth Delivery** | Husband | 31 (51.7) | 29 (48.3) | 60 (100) | $\chi^2$ = 13.931 (7) p=0.052 |
| | Wife | 5 (50.0) | 5 (50.0) | 10 (100) | |
| | Fiancee | 2 (28.6) | 5 (71.4) | 7 (100) | |
| | Friend | 30 (62.5) | 18 (37.5) | 48 (100) | |
| | Religious Leaders | 3 (27.3) | 8 (72.7) | 11 (100) | |
| | Traditional Healers | 8 (38.1) | 13 (61.9) | 21 (100) | |
| | Health Workers | 49 (66.2) | 25 (33.8) | 74 (100) | |
| | Nobody | 4 (40.0) | 6 (60.0) | 10 (100) | |

### 4.3 Health systems factors influencing utilization of SBAs

#### 4.3.1 Distance to health facilities

Nearly a quarter of the of the respondents (24.8%) access health facilities more than 20 kms from their residence while almost another quarter (24%) leave between 10-20 km away while only 10% access health facilities within less than a kilometer range. Poor transportation led to the fact that pregnant women were more likely to give birth at home or at a traditional birth attendant's home. As much as the women are encouraged to seek SBA services, the limited number of functional ambulances made it impossible to serve all eligible pregnant women in need. On average the dispensaries referred 5-10 cases to the main hospital in a week as shown in table 4.4 below.

……*"Only 1/3 of the referral cases come in the hospital due to the challenge of transport."….. (*Key Informant,001).

Lack of trust in health workers and health professionals led women to delay medical care. Communities commonly consider childbirth a normal process that does not require medical professionals (Koblinsky *et. al.*, 2006). This discourages them from travelling long distances to seek SBAs instead they view delivery as a normal and natural act. This assumption was further supported by an FGD participant:

……"*There is no need for going far for delivery and yet it is a natural act, so i just deliver at home!.....all my children have been delivered at home and they are well and grown-ups now……,* (FGD,003).

**Table 4.4 Distance to health facilities**

| Variable | Frequency (n=262) | Percentage (%) |
|---|---|---|
| <1km | 27 | 10.3 |
| 1-4km | 49 | 18.7 |
| 5-10km | 58 | 22.1 |
| 11-20km | 63 | 24 |
| >20km | 65 | 24.8 |

**4.3.2 Means of transport to health facility**

Majority of the respondents (58.4%) access health facility by walking, followed by use of motorcycles (18.3%) while those using vehicles were 8% and bicycles 5.7%. Those using other means were 9.5%. One key informant reaffirmed these findings;

…..'*Access to healthcare service is still a challenge, facilities are very far apart and women have to walk long distances to health facilities''...* (Key Informant,004). This is shown in figure 4.4 below.

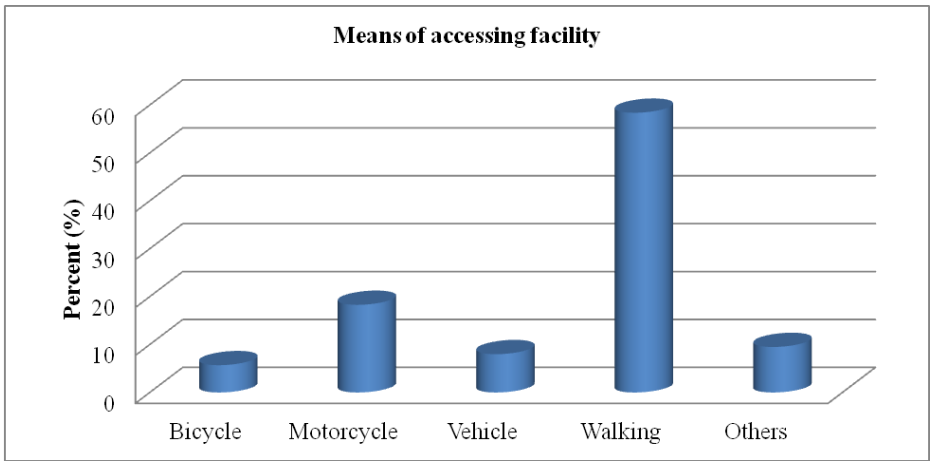



**Figure 4.4 Means of transport to health facility**

### 4.3.3 Awareness on the existence of SBAs

82% of the respondents have heard about skilled birth attendants while 18% said they have never heard of skilled birth attendants.

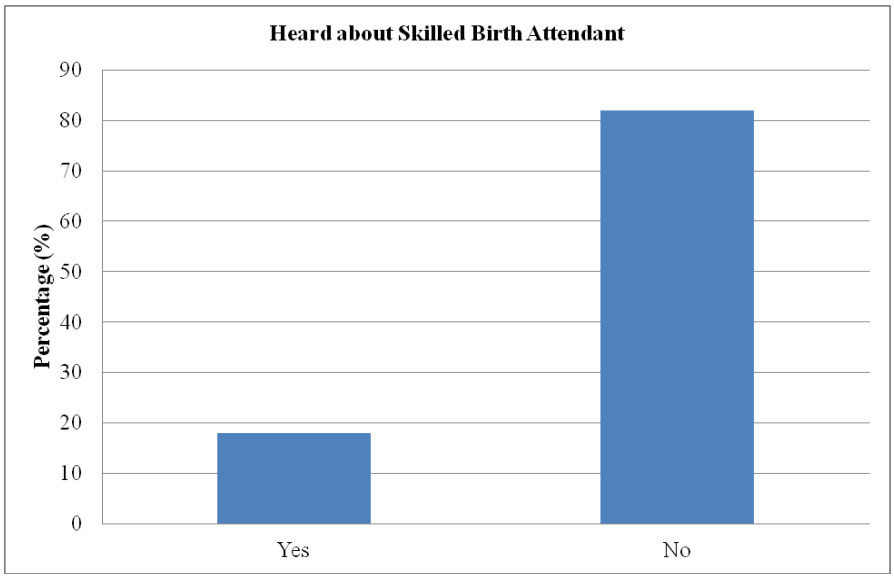



**Figure 4.5 Heard about Skilled Birth Attendant**

### 4.3.4 Source of information on SBAs

Health workers (57.6%) were the greatest source of information on skilled birth delivery followed by TBAs (17.1%), friends/peers (12.7%). Husbands and mass media as a source of information for skilled birth attendants accounted for 9.4% and 2.9% of the respondents respectively religious leaders (0.4%) were the least source of information on skilled birth delivery services as shown in figure 4.6 below.

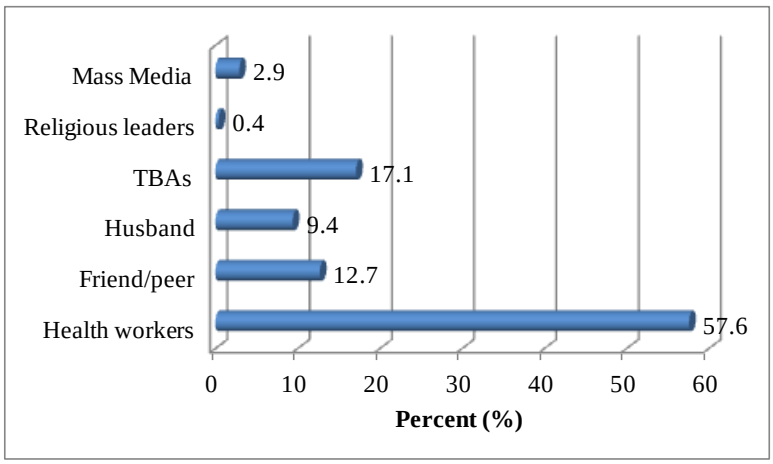



**Figure 4.6 Source of information on Skilled Birth Attendant**

### 4.3.5 Access to ANC services and Skilled Birth delivery services

Majority of the respondents (54.7%) do not access ANC services skilled birth delivery services while 45.3% accessed ANC and Skilled birth delivery services.

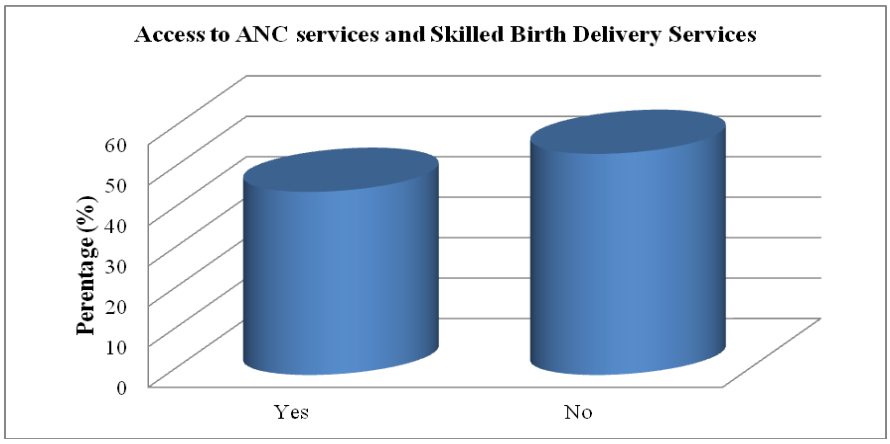



**Figure 4.7 Access to ANC services and Skilled Birth delivery services**

**4.3.6 Sources of service Delivery**

The key informants (both SBAs from private facility and public facility) reported that women sought care in labour when already too late for prompt intervention. Shortage of SBAs was cited by the key informants as hindering delivery by skilled attendants. Most facilities have one SBA who when called for the other duties away from then facility, the facility will be closed. Most facilities are manned by patient attendants who cannot assist in delivery services.

*…..“My staffs are overwhelmed by the workload, when they are called to Lodwar for meetings and workshops, the facilities remain closed hence clients are denied quality’’…..* (Key Informant,004).

Similar sentiments were made by another FGD participant,

*…..‘’facilities are always closed hence no services and clients who come from far will not risk coming because they are not sure of getting the services or even getting facilities open’’.....(FGD, 002).*

**Table 4.5: Sources of service delivery**

| Variable | Frequency (n=116) | Percentage (%) |
|---|---|---|
| Nearest private clinic | 4 | 3.4 |
| Nearest dispensary | 81 | 69.8 |
| Nearest Health center | 21 | 18.1 |
| Nearest Hospital | 7 | 6 |
| Traditional healers | 3 | 2.6 |

Table 4.5 above shows nearest dispensaries (69.8%) were the commonest source of service delivery for the respondents, followed by Health Centres (18.1%), hospitals (6%). Private clinics (3.4%) and traditional healers (2.6%) were the least sources of health service delivery services.

### 4.3.7 Alternative sources of accessing delivery services

TBAs were the biggest alternative source for accessing delivery services (29.2%) followed by Traditional healers (10.8%). 6.6% of the respondents had nowhere to access health delivery services as shown in figure 4.8 below.

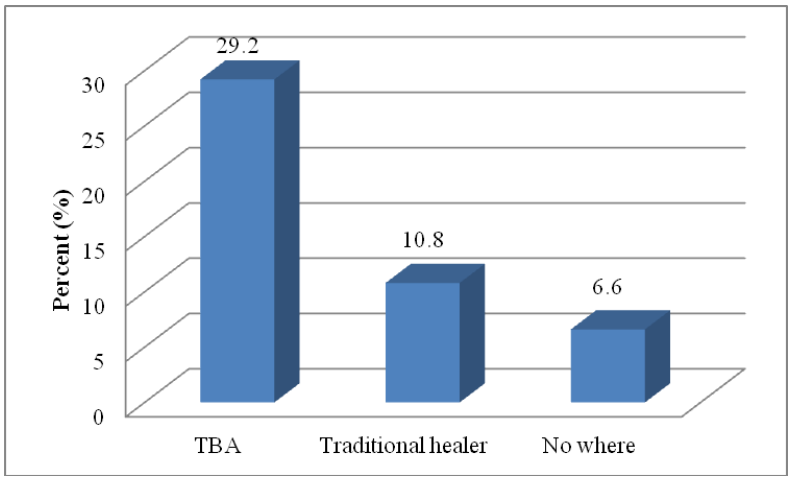



**Figure 4.8 Alternative sources of accessing delivery services**

**Focused Antenatal Care**

**Table 4.6 ANC attendance Visits**

| Variable | Frequency (n=266) | Percentage (%) |
|---|---|---|
| 1st | 101 | 38 |
| 2nd | 79 | 30 |
| 3rd | 56 | 21 |
| 4th | 27 | 10 |
| More than 4 | 3 | 1 |

Table 4.6 above indicates that majority of the respondents (38%) had only attended one ANC visit while 2nd visit (30%), 3rd visit (21%) and 4th visits accounted for 10%. Only 1% of the respondents had attended more than four ANC visits.

Focused antenatal care was not utilized to the optimal by the antenatal mothers. This was as a result of many factors including high illiteracy and knowledge on important of seeking early and focused antenatal visits during pregnancy period.

…..‘*’I don’t know how to read the dates for going back to clinics, so i missed many visits to the clinic”*, (FGD, 004).

### 4.3.8 Availability of enough drugs and equipment needed

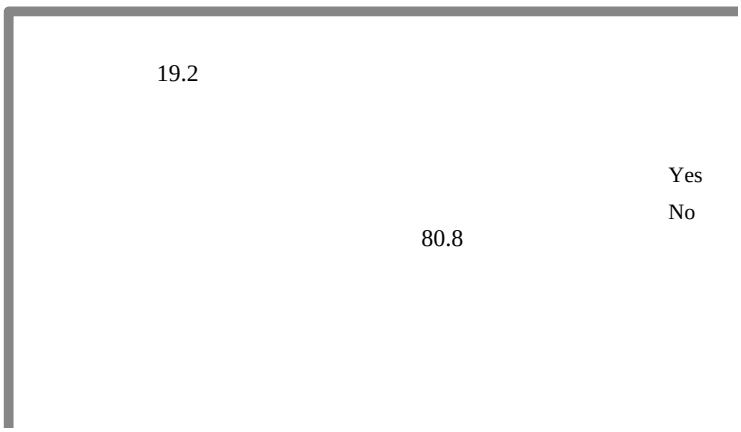



**Figure 4.9: Availability of enough drugs and equipment needed**

Figure 4.9 above shows majority of the respondents (80.8%) confirmed that facilities had enough drugs and necessary equipment while only 19.2% had of the contrary opinion.

### 4.3.9 Maternal, Neonatal and Child Health services

Family planning services, PMTCT, Treatment of all diseases, Treatment of STI, immunization, GBV, General health information were the most common Maternal neonatal and child health services offered at health facilities (27.3%). This was followed by Family planning, PMTCT, treatment of all diseases, immunization and Family planning, PMTCT, General health information package of services at 9.1% respectively as shown in table 4.7 below.

**Table 4.7: MNCH services offered at health facilities**

| Variable | Frequency (n=121) | Percentage (%) |
|---|---|---|
| Family planning services | 3 | 2.5 |
| Prevention of mother to child transmission | 5 | 4.1 |
| Treatment of all illness | 1 | 13.7 |
| PMTCT, Treatment of all diseases, Treatment of STI, Immunization, GBV | 8 | 6.6 |
| Family planning services, PMTCT, Treatment of STI, General health information/counseling | 15 | 12.4 |
| Family planning services, PMTCT, Treatment of all diseases, Treatment of STI, immunization, GBV, General health information | 33 | 27.3 |
| Family planning, PMTCT, General health information | 11 | 9.1 |
| Family planning services, Treatment of all diseases, immunization, General health information, Obstetric care | 14 | 5.8 |
| PMTCT, Treatment of all diseases, immunization, GBV, General health information | 7 | 5.8 |
| Family planning, PMTCT, Treatment of all diseases, Immunization | 11 | 9.1 |
| Family planning, PMTCT, Treatment of STI | 7 | 5.8 |
| Family planning services, PMTCT, immunization | 6 | 5 |

**Parity/pregnancy**

Majority of the respondents (73.3%) were not expectant at the time while 26.7% were expectant as shown in figure 4.10 below.

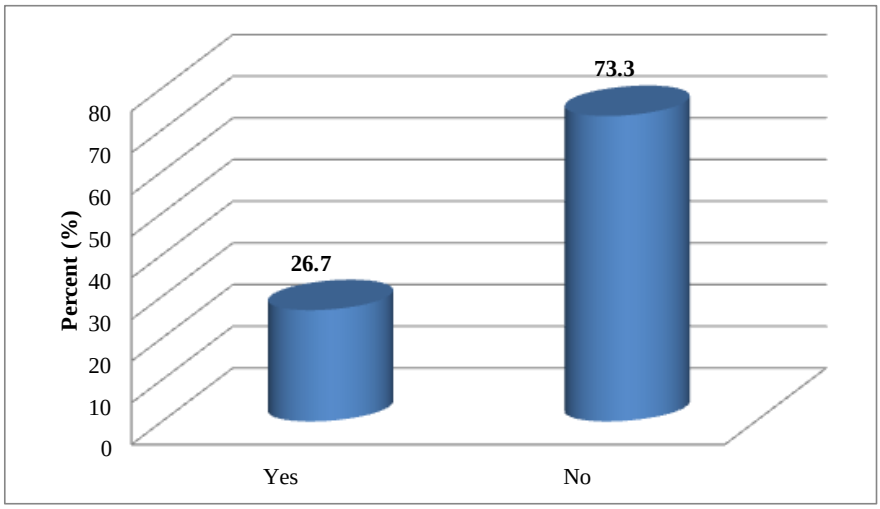



**Figure 4.10 Parity/pregnancy**

**Ever delivered in a health facility**

63.7% of the respondents reported that they had not delivered in a health facility before while only 36.3% said they had delivered in a health facility as shown in figure 4.11 below.

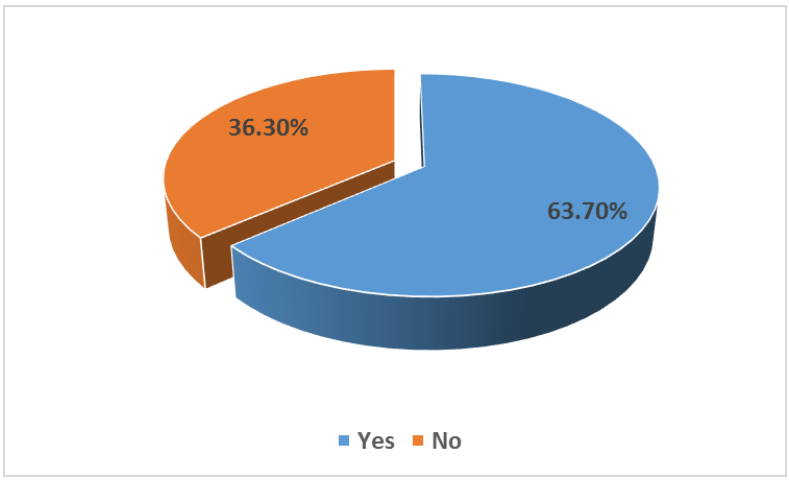



**Figure 4.11 Ever delivered in a health facility**

### 4.3.10 Staff handling of clients

Majority of the respondents (73%) said that staff were polite while handling them and 15% said the facilities were closed most of the time while 12% of the staff were rude as shown in figure 4.12 below.

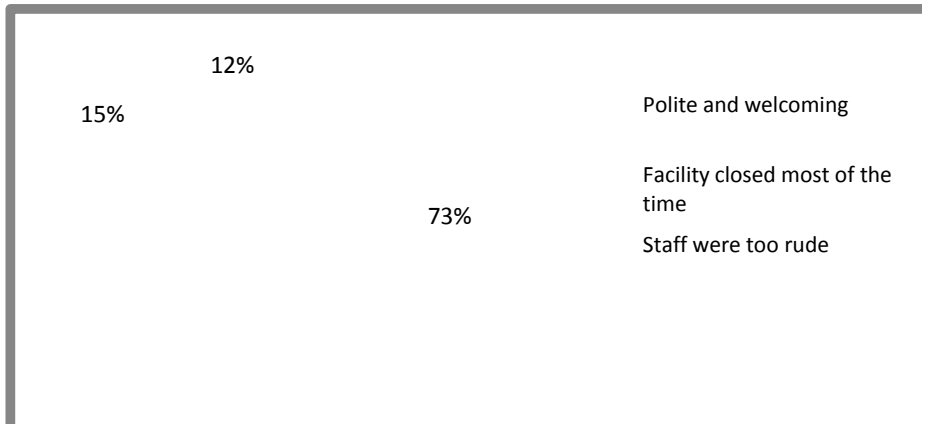



**Figure 4.12 Staff handling of clients**

**Facilities equipped with adequate facilities and drugs**

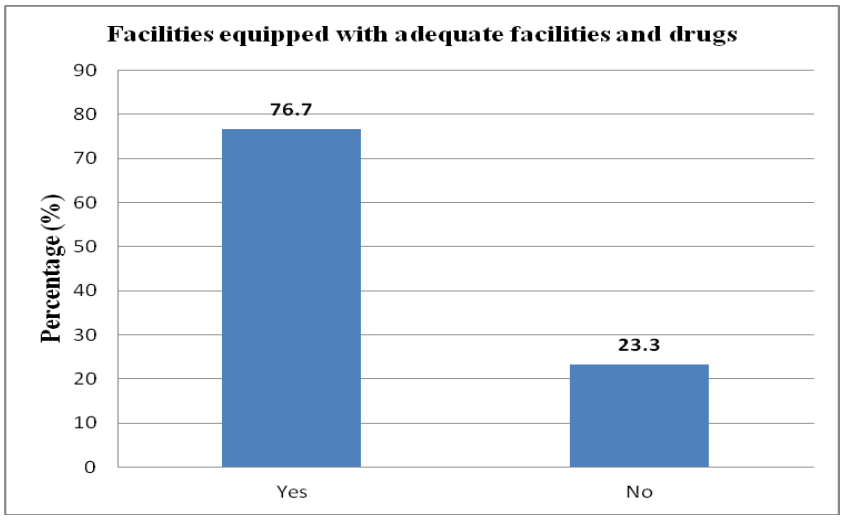



**Figure 4.13: Facilities equipped with adequate facilities and drugs**

Figure 4.13 above indicates that majority of the facilities (76.7%) are equipped with adequate facilities and drugs while 23.3% of the facilities are not fully equipped with adequate facilities and essential drugs. The county government is in the process of improving service delivery in terms of equipping and staffing the health facilities. This statement was further echoed by another Key Informant.

*…….As we talk now, the facilities are receiving maternal neonatal health equipments''…..* (Key informant, 007).

**Birthing experience**

**Table 4.8 Birthing experience and perception of health workers**

| **Variable** | **Frequency (n=171)** | | | **Percentage (%)** | | |
|---|---|---|---|---|---|---|
| | Excellent | Good | Fair | Excellent | Good | Fair |
| What is your perception of health care behavior during delivery? | 3 | 70 | 14 | 3.4 | 80.5 | 16.1 |
| How do you describe your birthing experience with health facility staff? | 6 | 60 | 18 | 7.1 | 71.4 | 21.4 |

Table 4.8 above shows that 80.5% of the respondents reported to have had good perception of health care behavior during delivery, while 16.1% reported having fair perception and

only 3.4% reported of excellent perception of health care behavior during delivery. On the other hand, majority (71.4%) of the respondents reported having good birthing experience with health facility staff while 21.4% had fair experience. Only 7.1% reported excellent birthing experience with the health facility staff.

### 4.3.11 Handling by service provider

Majority of the respondents (66.7%) reported to having been welcomed wee and handled friendly while 31.1% were moderately welcomed. Only 2.2% reported to having been handled poorly by harsh and rude service providers as shown in table 4.9 below.

**Table 4.9 Handling by Service Provider**

| Variables | Frequency (n=90) | Percentage (%) |
|---|---|---|
| Good-friendly, welcoming handled me well and gave me the service I required | 60 | 66.7 |
| Moderate-welcomed me but asked too many unnecessary question before giving me service | 28 | 31.1 |
| Bad- was harsh rude and denied me services | 2 | 2.2 |

**Missed services at health facility**

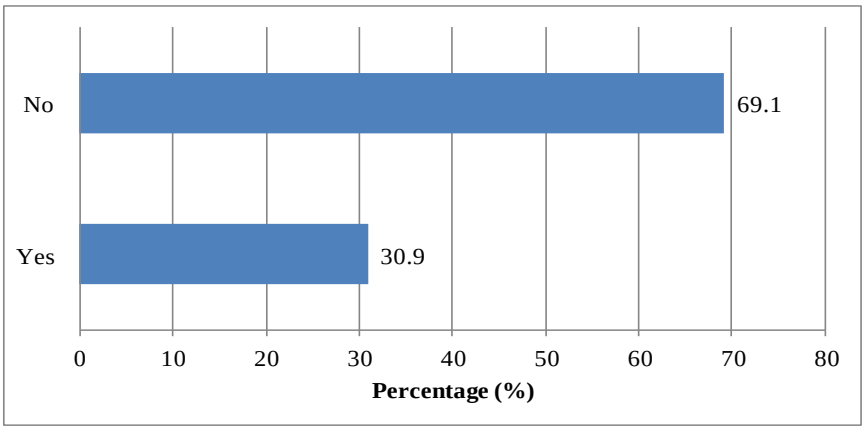



**Figure 4.14: Missed service at the facility**

Figure 4.14 above shows 69.1% of all the respondents reported to having missed services they needed at some point in health facilities while nearly a third (30.9%) reported to having not missed the services they expected at the health facilities. Due to staff shortages, most facilities are often closed when the staff goes for leave or for other official duties like training etc. This was a concern to most women during FGD.

……‘’*This had led to inconsistency in service provision and unreliable health services’’*...(FGD,001).

### 4.4 Challenges and barriers to utilization of SBAs

#### 4.4.1 Challenges to utilization of skilled birth attendants

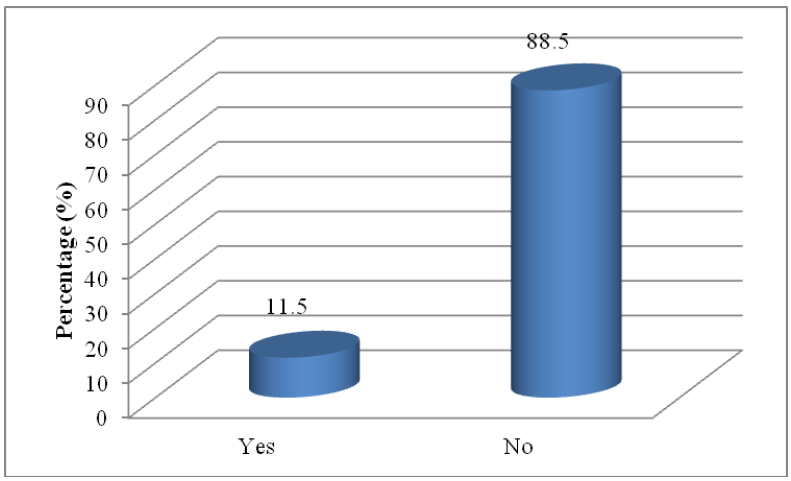



**Figure 4.15: Problem with utilization of SB delivery services**

Figure 4.15 above indicates that majority of respondents (88.5%) had problems with utilization of skilled birth delivery services at the health facilities while 11.5% had no problems in utilizing skilled birth attendants' services.

**4.4.2 Reasons for not utilizing SB deliveries**

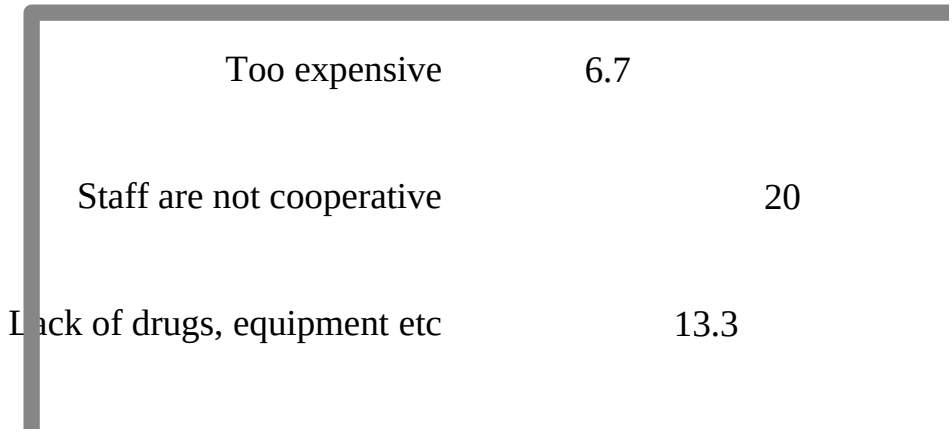



**Figure 4.16 Reasons for not utilizing SB deliveries**

Figure 4.16 above shows that majority of the respondents (60%) cannot access skilled birth delivery services due to long distances to this facilities, 20% cannot access the services due to uncooperative staff while lack of drugs/ equipment's and high expenses incurred during service delivery (13.3% and 6.6%) respectively was attributed as reasons for not utilizing skilled birth delivery services.

**Health systems factors affecting utilization of Skilled Birth Attendants**

Majority of the respondents (52.5%) walk between 1- 5 kms to the nearest health facility. Distance to health facility was statistically significant to utilization of SBA ($\chi^2$ =10.573 (4) p=0.032). The most available means of accessing the facility was by motorcycle and walking (62.5% and 50.3% respectively. Means of transport to health facility was statistically significant ($\chi^2$ = 18.713 (4) p=0.001).Majority of the respondents reported to have heard about SBA (57.1%) while 59.6% were informed about the SBAs by the health workers while 60.0% of the respondents confirmed seeking ANC and SB delivery services at the facilities. Source of information on SBA was not statistically significant ($\chi^2$ = 1.616 (1) p=0.204). This is shown in Table 4.10 below.

**Table 4.10 Health systems factors affecting utilization of SBA**

| Variable | | Ever delivered at health facility | | | $\chi^2$, (df) |
|---|---|---|---|---|---|
| | | Yes (%) | No (%) | Total (%) | |
| Distance to health facility | Less than 1 km | 28 (62.2) | 17 (37.8) | 45 (100) | $\chi^2$ =10.573 (4) **p=0.032** |
| | 1- 5 kms | 49 (65.3) | 26 (34.7) | 75 (100) | |
| | 5-10 kms | 31 (52.5) | 28 (47.5) | 59 (100) | |
| | 10-20 kms | 25 (41.7) | 35 (58.3) | 60 (100) | |
| | More than 20 kms | 6 (37.5) | 10 (62.5) | 16 (100) | |
| Means of Transport | Bicycle | 5 (26.3) | 14 (73.7) | 19 (100) | $\chi^2$ = 18.713 (4) **p=0.001** |
| | Motorcycle | 40 (62.5) | 24 (37.5) | 64 (100) | |
| | Walking | 75 (50.3) | 74 (49.7) | 149 (100) | |
| | Others | 2 (100) | 0 (0) | 2 (100) | |
| Heard about SBA | Yes | 117 (57.1) | 88 (42.9) | 205 (100) | $\chi^2$ = 1.616 (1) p=0.204 |
| | No | 21 (46.7) | 24 (53.3) | 45 (100) | |
| who told you about SBA | Health Workers | 81 (59.6) | 55 (40.4) | 136 (100) | $\chi^2$ = 11.173 (5) **p=0.048** |
| | Friend/Peer | 16 (51.6) | 15 (48.4) | 31 (100) | |
| | Husband | 7 (30.4) | 16 (69.6) | 23 (100) | |
| | TBAs | 21 (50.0) | 21 (50.0) | 42 (100) | |
| | Religious Leaders | 0 (0) | 1 (100) | 1 (100) | |
| | Mass Media | 6 (85.7) | 1 (14.3) | 7 (100) | |
| Seeking ANC and Skilled Birth Delivery at Health Facility | Yes | 114 (60.0) | 76 (40.0) | 190 (100) | $\chi^2$ = 11.154 (2) **p=0.004** |
| | No | 20 (35.1 | 37 (64.9) | 57 (100) | |

### 4.5 Knowledge Attitude and Practices on utilization of SBAs

#### 4.5.1 Attitude towards Staff during ANC visits

More than half (57.4%) of the respondents viewed health personnel attitude during Antenatal care services visits was good while slightly over a quarter perceived the staff attitude as Fair. 12.9% of the respondents viewed the attitude of the staff as excellent. Only 2% of the respondents said the staff attitude was bad and even they were not attended at all as shown in table 4.10 below.

**Table 4.11: Staff attitude during ANC Visits**

| Variable | Frequency (n= 101) | Percentage (%) |
|---|---|---|
| Excellent | 13 | 12.9 |
| Good | 58 | 57.4 |
| Fair | 26 | 25.7 |
| Bad | 2 | 2 |
| Not Attended | 2 | 2 |

### 4.5.3 Knowledge on improving Antenatal and Skilled Birth delivery

**Table 4.12: Knowledge/Ways of improving ANC and SB delivery service and utilization**

| Variable | Frequency (n=93) | Percentage (%) |
|---|---|---|
| More health facilities in e.g. remote areas | 22 | 23.7 |
| More health staff | 10 | 10.8 |
| Motivate staff | 18 | 19.4 |
| Enhance health promotion/awareness | 15 | 16.1 |
| Capacity building/trainings for health workers | 12 | 12.9 |
| Services should be free especially in Private/FBO facilities | 2 | 2.2 |
| More out reaches needed e.g. pastoralist | 2 | 2.2 |
| Provide mothers with all the pack that are needed during deliveries | 9 | 9.7 |
| Increasing delivery equipments | 2 | 2.2 |
| Close monitory patients to avoid negligent | 1 | 1.1 |

Table 4.12 above indicates respondents various views and reasons on how they felt on utilization of skilled birth attendants can be improved. 23.7% of the respondents recommended more health facilities especially in remote areas, more staff to be deployed to health facilities (19.4%), improved health education and promotion (16.1%), more trainings and capacity building to health workers (12.9%), motivate mothers with incentives like

delivery packs (9.7%), provision of free services and increased delivery equipment's at 2.2% respectively. Close monitoring and surveillance on patients care and management for negligent avoidance was the least recommended (1.1%).

**Knowledge Attitude and Practices affecting Utilization of Skilled Birth Attendants**

Most respondents (60%) had an excellent perception towards handling by health care workers during delivery, moderate perception (57.1%0 and fair perception (56.2%) . perception of health care workers handling during delivery was not significantly associated with the utilization of SBAs ($\chi^2$ = 0.027 (2) p=0.987) while on the other hand the people to whom the respondents discuss with ANC and SB delivery issues was significantly associated with utilization of SBAs ($\chi^2$ = 13.931( 7) p=0.052). This is shown in table 4.13 below.

**Table 4.13 Knowledge Attitude and practices affecting utilization of SBA**

| Variable | | Ever delivered at health facility | | | ($\chi^2$ ( df ) |
|---|---|---|---|---|---|
| | | Yes (%) | Nom (%) | Total (%) | |
| Perception of Health Care workers behaviour during Delivery | Excellent | 3 (60) | 2 (40.0) | 5 (100) | $\chi^2$ = 0.027 (2) p=0.987 |
| | Good | 108 (57.1) | 81 (42.9) | 189 (100) | |
| | Fair | 18 (56.2) | 14 (43.8) | 32 (100) | |
| whom do you discuss with ANC and SB delivery issues | Husband | 31 (51.7) | 29 (48.3) | 60 (100) | $\chi^2$ = 13.931 ( 7) **p=0.052** |
| | Wife | 5 (50.0) | 5 (50.0) | 10 (100) | |
| | Fiancee | 2 (28.6) | 5 (71.4) | 7 (100) | |
| | Friend | 30 (62.5) | 18 (37.5) | 48 (100) | |
| | Religious leaders | 3 (27.3) | 8 (38.1) | 12 (100) | |
| | Traditional Healers | 8 (38.1) | 13 (61.9) | 21 (100) | |
| | Health care workers | 49 (66.2) | 25 (33.8) | 74 (100) | |
| | Nobody | 4 (40.0) | 6 (60.0) | 10 (100) | |

**Predictors of Utilization of SBAs**

To establish characteristics that were determinants to SBA, further analysis by use of binary and multinomial logistic regression where applicable among independent variables that had strong statistically significant to skilled birth attendants was done. The study results shown in table 4.14 indicates that the predictors of utilization of skilled birth attendants are FP practice OR=0.488 (10.286 – 0.831), p=0.008 and attended ANC OR=3.047 (1.6 – 5.8801), p=0.001. Others were what respondent does for a living OR=11.284 (1.894 – 67.230), p=0.008, and means of transport to health facility OR = 6.84 (21.075 – 27.168), p<0.001.

**Table 4.14: Predictors of skilled birth attendant (SBA)**

| Variable | | | | | | | | 95.0% C.I. for EXP(B) | |
|---|---|---|---|---|---|---|---|---|---|
| | | B | S.E. | Wald | df | Sig. | Exp(B) | Lower | Upper |
| Step 1[a] | FP practice(1) | -0.718 | 0.272 | 6.982 | 1 | 0.008 | 0.488 | 0.286 | 0.831 |
| | Attended ANC | | | 11.494 | 2 | 0.003 | | | |
| | Attended ANC(1) | 1.114 | 0.329 | 11.494 | 1 | 0.001 | 3.047 | 1.6 | 5.801 |
| | Attended ANC(2) | -20.385 | 4.02E+04 | 0 | 1 | 1 | 0 | 0 | . |
| | Constant | -0.099 | 0.192 | 0.268 | 1 | 0.605 | 0.906 | | |
| No | Intercept | -15.968 | 1.248 | 163.784 | 1 | 0 | | | |
| | [Age=1] | 15.781 | 1850.52 | 0 | 1 | 0.993 | 7.1356 | 0 | .[b] |
| | [Age=2] | -0.236 | 1.042 | 0.051 | 1 | 0.821 | 0.79 | 0.103 | 6.082 |
| | [Age=3] | -0.246 | 0.992 | 0.062 | 1 | 0.804 | 0.782 | 0.112 | 5.459 |
| | [Age=4] | -0.311 | 0.977 | 0.102 | 1 | 0.75 | 0.733 | 0.108 | 4.967 |
| | [Age=5] | -0.984 | 1.028 | 0.916 | 1 | 0.339 | 0.374 | 0.05 | 2.804 |
| | [Age=6] | -0.797 | 1.184 | 0.453 | 1 | 0.501 | 0.451 | 0.044 | 4.587 |
| | [Age=7] | -2.599 | 1.428 | 3.313 | 1 | 0.069 | 0.074 | 0.005 | 1.221 |
| | [Age=8] | 0[c] | . | . | 0 | . | . | . | . |
| | [Does=1] | 1.75 | 0.852 | 4.215 | 1 | 0.04 | 5.753 | 1.083 | 30.572 |
| | [Does=2] | 1.351 | 0.838 | 2.598 | 1 | 0.107 | 3.863 | 0.747 | 19.979 |
| | [Does=3] | 1.923 | 0.973 | 3.901 | 1 | 0.048 | 6.838 | 1.015 | 46.084 |
| | [Does=4] | 1.331 | 0.901 | 2.182 | 1 | 0.14 | 3.785 | 0.647 | 22.141 |
| | [Does=5] | 2.423 | 0.911 | 7.083 | 1 | 0.008 | 11.284 | 1.894 | 67.23 |
| | [Does=6] | 0.898 | 1.075 | 0.697 | 1 | 0.404 | 2.454 | 0.298 | 20.182 |
| | [Does=7] | 0[c] | . | . | 0 | . | . | . | . |
| | [Transport means=1] | 15.738 | 0.589 | 715.027 | 1 | 0.000 | 6.8406 | 21.075 | 27.1687 |
| | [Transport means=2] | 14.465 | 0.333 | 1.88E+03 | 1 | 0.000 | 1.9156 | 9.703 | 36.273 |
| | [Transport means=3] | 13.239 | 0.675 | 384.918 | 1 | 0.000 | 5.6185 | 14.768 | 21.469 |
| | [Transport means=4] | 14.833 | 0 | . | 1 | . | 2.7706 | 27.587 | 271.587 |
| | [Transport means=5] | 0[c] | . | . | 0 | . | . | . | . |

This implies that women who are not using family planning are 0.48 times compared to those using less likely to deliver at health facility and those attending ANC are 3.047 times likely to deliver at health facility compared to those not attending ANC. Similarly those with a source of income e,g herding and basketry are more likely to deliver at health facility compared those without source of income (living).

# CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

This chapter covers the summary of the entire study, implications of the study findings, conclusions made, recommendations made from the study and gaps requiring further research which were not addressed in this study.

## 5.2 Discussion of findings

### 5.2.1 Demographic, social economic and socio cultural factors

The overall mean age of the respondents was a 26.8±3.95 year ranging from 15 to 49 years age-group. Majority of the women were married, with mean number of three children. Majority of the respondents (39.5%) had no education at all and 22.8% only acquired primary level of education up to class 3 while only 21.2% had acquired primary level of education up to class 8. The median age at first birth was 18± 2.3 years. 66.7% of the respondents were unemployed.

The findings of this study showed that the proportion of women who delivered in the health facility was 42.8% whereas the proportion who had skilled assistance was 41.4%. In this study antenatal attendance was low at 45.3%.

Various social factors were found to influence utilization of SBAs. Women who had acquired tertiary level of education were more likely to utilize SBAs compared to those with primary level of education. In this study, age, level of education and religion influenced utilization of SBAs. These research findings were similar to studies by Lawn et al, 2005 and Agarwal *et al*, 2007 which showed

that women's education or literacy levels are strongly associated with use of reproductive health and maternal health services. Lack of birth preparedness and complication readiness including knowledge on danger signs in pregnancy, labour and delivery led to delivery by unskilled attendant. These findings were similar to the findings of United Nations report (UNFPA, 2004).

Various barriers were associated with non-utilization of SBAs in this study. Lack of coordinated transport and referrals, limited number of SBAs, infrastructure as well as the women rating towards health facility staff led women of reproductive age not to seek the services of skilled personnel at birth in the study area.

### 5.2.2 Health system factors

A functioning health system is important in the provision of health care services including skilled care delivery. This study found out that most of the health facilities lacked adequate equipment and SBAs. Most dispensaries did not even offer the any maternity services, in the case of Lolupe dispensary, there was only one nurse who works day and even on night call during emergencies. Lack of mechanisms to attract and retain SBAs discouraged them to work in remote areas. There were not enough drugs in most health facilities and access to these facilities was not easy as women travel long distances and not even sure of getting the facility open. Various barriers associated with non utilization of SBAs in this study were reported to have influenced utilization of SBAs. This included limited number of SBAs, poor infrastructure.

The CRHC reported shortage of SBAs in the health facilities. The county is a hardship area hence fewer SBAs prefer working in the region. Previously the high turnover of SBAs had compromised availability of SBAs in various parts of the County before devolution. Most of the SBAs were retreating to their counties for fear of been retained in counties far away from home, but the situation is slowly changing as with devolution it is not easy to move out as before. The area chief reported minimal involvement of the community in ensuring utilization of SBAs.

The CRHC reported that though the county government has procured 15 ambulances, they are still not enough to cover the expansive county and sub counties which sometimes could not coordinate and refer women in labour to the hospital from their own homes. The funding of maternal health programs in the sub county was largely by the county government and little is seen from the partners. Most of the partners supported nutrition and HIV/AIDS related programs.

The community health volunteers reported to have had cold reception from the community when advocating for skilled delivery. This was attributed to the fact that they were perceived as being paid to bother the community.

The key informants (both SBAs from private facility and public facility) reported that women sought care in labour when already too late for prompt intervention. Shortage of SBAs was cited by the key informants as hindering delivery by skilled attendants. Most facilities have one SBA who when called for the other duties away from then facility, the facility will be closed. Most

facilities are manned by patient attendants who cannot assist in delivery services.

The means of transport was reported to be unreliable especially during the night in most parts of the sub county with motorcycles being the most available. Women in labour had to 'trek' all the way to the hospital if they cannot afford a taxi and sometimes even availability of any vehicle was rare due to the remoteness and lack of connectivity in far flung villages. This was further coupled by the poor terrain in the region (rocky, thorny and sandy) and scorching heat and sun. The poverty level in the sub county was reported to be quite high (84%) by a KII thus hindering affordability of transport to the health facility. Women utilized the little resources they could get on food and hence transport to the health facility when they could deliver at home was not cited as a priority by the respondents.

### 5.2.3 Antenatal Care Services.

The objectives of focused antenatal care are five. These include early detection and treatment of problems, prevention of complications using safe, simple and cost effective interventions, birth preparedness and complication readiness, health promotion using health messages and counseling and provision of care by a skilled attendant ((KNBS ICF Macro, 2010). The county's facilities are distant apart which hinders movement in some areas. World Health Organization recommends that women should attend four comprehensive personalized visits one of which should be in the first trimester before 16 weeks gestation (MOH-DRH/DOMC/DLTLD/JHPIEGO, 2007). Focused antenatal care was not utilized to the optimal by the antenatal

mothers. This was as a result of many factors including high illiteracy and knowledge on important of seeking early and focused antenatal visits during pregnancy period.

### 5.2.4 Knowledge Attitude and practices

The findings of this study showed that proportion of women who delivered in the health facility was only 63.7% whereas the proportion who had skilled birth assistance was 41.4%. This means that not all deliveries in the hospital were attended by SBAs. These estimates compares well with the national rates (44% versus 43%) observed in the KDHS 2008-2009 but higher than the national coverage for rural areas (37%). The higher rate of utilization in the study area compared to the region may be attributed to the fact that the study area was accessible to the hospitals and had the highest number of health facilities equipped to conduct deliveries. The County referral hospital was situated in the study district. Lack of awareness on the dangers of unskilled delivery, birth preparedness in pregnancy, labour and delivery led to delivery by TBAs.

Almost all skilled deliveries in the study area occurred in a health facility setting. This was similar to findings in the KDHS 2008/2009 where almost all skilled care at delivery was offered in a health facility apart from North Eastern region. There were few retired midwives and even where there were, women preferred to ‘trek’ (walk) all the way to the hospital since they would get some incentives in terms of food and baby clothing’s which was made possible through free maternity program. Different findings were reported by Mpembeni and colleagues in a Tanzania study where 35% of those who delivered in a health facility, were

delivered in the hospital while 65% delivered in dispensaries or in health centers (Mpembeni *et. al.*, 2007).

A number of socio-demographic and economic factors were found significantly influence the use of skilled birth attendants. They included level of education, religion, partner's/husband's occupation, parity, area of residence, type of housing and ownership of the house.

Women with formal education have their own different perspectives on skilled care at birth and have the knowledge to make informed decisions. Women's education or literacy levels are strongly associated with use of reproductive health and maternal health services (Lawn *et. al*, 2005, Agarwal *et. al.*, 2007). In Turkana Central, levels of education are increasing as a primary education is compulsory by the Government. Poor, rural women are more likely to have lower education and are less likely to make use of available services. Poor women with low socio status in the family tend to delay decision making when complications arise (WHO! UNICEF! UNFPA! World Bank, 2013).

The highest MMR was among illiterate women and MMR fell as education level rose (WHO, 2005). Illiterate women face a relative risk of maternal death 3.25 times higher than literate women.

Women who made the decision with their husbands to attend ANC were more likely to be delivered by skilled attendant. This was attributed to the fact that they got support from their husbands during delivery in terms of organizing early for means of transport to the skilled birth attendant. The role of husbands was to support and encourage women throughout pregnancy, encourage mothers to

attended ANC, accompany their wives/partners to the health facility and during childbirth (MOH-DRH/DOMC/DLTLD/JHPIEGO, 2007), Similar findings were reported in Change Project study in Homa Bay District where women who involved their loved ones were more likely to plan early for delivery hence utilize SBAs (Moore et al, 2002). Male involvement is currently a priority of ministry of health especially in the county and at the national level, Division of Reproductive Health (MOH, 2010). A similar study in Tanzania found that women who discussed with their husbands or partners while pregnant on where to deliver had a higher proportion of women delivering with SBAs compared to those who did not (Mpembeni *et al.*, 2007)

Birth preparedness is not only a strategy just for the community but also for the care provider at the facility level. The SBAs interviewed noted that majority of the still births in the hospital occurred as the clients came when already in second stage of labour.

In certain instances, a caesarean section may be needed to save the mother and/or her baby. Many women however may not believe a caesarean procedure to be useful. The respondents appeared to have good reason not to trust doctors' advice to have a caesarean delivery. Their fear of caesarean delivery is not simply based on ignorance but may reflect real concerns about medical practice. There is a social stigma attached to caesarean deliveries. WHO recommends that caesarean section rates should be in the range of 5 to 15% of all deliveries to minimize maternal and neonatal mortality and morbidity (AMDD working group on indicators, 2004).

### 5.2.5 Barriers towards Utilization of SBAs

Availability of TBAs, emergency nature of labour, poor and unreliable means of transport incase labour starts at night, staff attitude and the understanding that hospitals are for complications were among the reasons mentioned for deliveries with unskilled personnel. TBAs are supposed to act as a link to the hospital but since their services are either cheap or free, women ended up utilizing them during delivery. From the findings of this study a high proportion of the mothers (54.7%) delivered unassisted. This estimate was higher than the 18% observed in a study in western province (Moore *et al.*, 2002) and further lower than the national coverage which is at 7% (KNBS ICF Macro, 2010). TBAs in the study region reported to have been trained on importance of PMTCT and infection prevention; hence clients who did not know their HIV status or did not have basic supplies for birth like clean gloves and *lessos* were turned away. They ended up delivering alone, without assistance in their own houses.

As much as access to health facilities was insignificant, transport and referral mechanisms at night were reported by clients as the reasons for opting for unskilled birth attendants. The referral mechanisms in the sub county were poor. There was only one functional ambulance that served the larger Turkana Central Sub County. This made it impossible to coordinate more than two referrals during the night. Security had been of concern limiting access to 24 hour referral mechanisms. Majority of women reported to walk to the health facility in labour since the only affordable and available means of transport was motor cycle

which was not safe in labour. On average the dispensaries referred 5-10 cases to the main hospital in a week.

Poor transportation led to the fact that pregnant women were more likely to give birth at home or at a traditional birth attendant's home. As much as the women are encouraged to seek SBA services, the limited number of functional ambulances made it impossible to serve all eligible pregnant women in need. Lack of trust in health workers and health professionals led women to delay medical care. Communities commonly consider childbirth a normal process that does not require medical professionals (Koblinsky *et. al.*, 2006).

This portrayed the fear/distrust the community had on the health facility. Respondents reported to have been left alone during labour and delivery hence preferred to deliver at home alone. Similar findings were reported in the Change Project in Homa Bay district (Moore *et al.*, 2002). Staff shortage was a challenge towards ensuring availability of skilled birth attendants as most of the health facilities operated below the required health provider client ratio (United Nations, 2007). The County referral hospital reported to have 87 nurses with required capacity of 138 nurses (a nurse at the county referral hospital). The county referral hospital reported high staff turnover due to various social problems hence nurses would seek transfer to other health facilities with no replacement, but with the advent of devolution at least this has reduced. The increase in women delivering in the hospital was not reciprocated by increase in number of skilled birth attendants hence clients reported to deliver without assistance even in the hospital.

The infrastructure had not been upgraded to meet the requirements. As much as utilization of SBAs was key to reducing maternal mortality, more than half of the health facilities in the sub county were not fully equipped to ensure clean and safe deliveries. Provision of supplies and equipment from the county was quite erratic. Items like sterile gloves would be out of stock even for a month. Most facilities also lack power to support delivery at night and staff thresholds were still very low with facilities having at least one staff instead of an average of four per standard norms in dispensaries. Despite maternity services being declared free services, still few deliveries were reported. Most health facilities are not receiving health sector services and the few than receive complained that the reimbursement takes long to be disbursed to facilities hence sometimes clients are forced to cost share. Similar findings were reported in a Nepal based study (Baral *et al*., 2010).

### 5.2.6 Implications of the Findings

Findings from this study provide important data on trends of utilization of skilled birth attendants among women of reproductive age which gives a picture of the scenario in a rural setting in the country. Given the interventions through free maternity program in the study area, this presents a window of opportunity for accelerating the utilization of skilled birth attendants together with the supporting partners. The program catered for the cost of most deliveries by skilled birth attendants in the study area. Though this is one of the many attempts to increase SBAs there is need for more sustainable measures for ensuring delivery by SBAs in Turkana Central Sub County and the entire country, ensuring SBAs for deliveries is currently only a possibility at the facility level. At the same time, planning to have all or most of the deliveries at the facility level, in the present

situation is not practical, as there are no adequate numbers of health care providers with necessary equipment and supplies to deal with such a contingency. Hence for the study interventions to make impact there is need to address these barriers within the community and women in need.

**5.3 Conclusion**

1. Among the mothers interviewed, utilization of SBAs was still low with a high number of deliveries being conducted by unqualified persons despite the high ANC attendance.

2. The level of knowledge on pregnancy outcomes (level of education, including knowledge of danger signs in pregnancy, labour and delivery including after delivery) were associated with utilization of SBAs. This leads to rejection of the null hypothesis and adoption of the alternative hypothesis thus it states 'the level of knowledge on pregnancy outcomes determines utilization of SBAs among women of reproductive age.

3. Barriers related to delivery by unskilled attendants included; availability of TBAs, Poor and unreliable transport especially at night, limited number of SBAs, Poor referral systems, limited infrastructure. These interventions can reduce maternal mortality and child mortality and morbidity to make achievement of the SDGs/MDGs a reality.

4. The findings of this study indicated that some social cultural and cultural factors: level of education, parity, residence, type of housing and house ownership do influence utilization of skilled birth attendants among women of reproductive age while no cultural factors:

birth eye and child reborn should not be seen first by an outsider influenced utilization. This led to rejection of the null hypothesis and adoption of the alternative hypothesis which states 'Social cultural factors influence utilization of SBAs among women of reproductive age.

5. Health system factors (availability of SBAs; equipment and supplies, distance to health facilities, SBAs attitude and motivation etc.) were associated with utilization of SBAs. This leads to rejection of the null hypothesis and adoption of the alternative hypothesis thus it states 'the health system factors influences utilization of SBAs among women of reproductive age.

6. The major predictors in the study were; Age of the respondents, Education level, source of living, respondents occupation, family planning practice, distance to health facilities, means of transport, source of information on ANC and Skilled Birth delivery services, access health facility, services offered, perception of health workers perception.

**5.4 Recommendations**

1. Women should be equipped with knowledge, higher social and economic status to be able to make informed decision concerning their own health and pregnancy outcomes in order for them to access timely skilled care at delivery with adequate preparation.

2. Health system barriers such as transport and communication, poor referral systems, limited infrastructure and social cultural beliefs need to be addressed by all stakeholders.

3. Health education should be enhanced for the WCBA to develop positive attitude and practices towards utilization of SBAs.

**5.5 Further Research**

1. This study did not involve male participants as husbands and partners. There is need for research involving the male counterpart.

2. There is need for a longitudinal study to study the changes and the interventions on the impact of free maternity program.

3. There is a discrepancy between the ANC attendance and deliveries by skilled attendants (91.4% versus 41.4%). There is need to address this grey area and to research the possible causes of the difference as well as how the gap can be addressed.

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# APPENDICES

## Appendix i: Informed Consent

I am Peter Ekaran Etee, a post graduate student pursuing Masters Studies in Public Health (MPH) at Kenyatta University. I am undertaking a research on **''**predictors of utilization of skilled birth attendants among women of child bearing age in Turkana central sub county, Turkana County, Kenya and request you kindly to participate in this survey which is voluntary and the study involves no risk to you as a participant and the community as a whole. The information given is confidential and will be useful in improving maternal neonatal health services among antenatal care attendants in the whole county. You are free to contact the KUERC through address: P.O. Box 43844-00100 Nairobi, telephone 8710901/12, email chair.kuerc@gmail.com or ercku2008@gmail.com in case of any inquiry. The filing of the questionnaire/interview will take about 20-30 minutes to fill.

**Purpose of the Study:** This study aims at understanding the predictors that determine utilization of skilled birth attendants in this community. The researcher wishes to learn how those factors influence the utilization of skilled birth attendants among the women of child bearing age.

**Benefits:** This study is purely for academics. It has no direct benefit to you as a participant.

**Confidentiality:** The answers to the questions in this study will be kept confidential. No names will be used in the final write up. The questionnaires will be coded and original destroyed after one year. Neighbours may know that you have participated in the study but they will not know the answers that you gave to our questions. Are you willing to participate? 1. Yes 2. No 3.

Signature of the participant:……..

**Appendix ii: Quantitative data collection questionnaire**

Date.....

Study Site.....Code of the interviewer .....

**PARTICIPANTS' INSTRUCTIONS**

Do not write your name; tick only one correct response and multiple responses where applicable. Only Women of child bearing age (15-49 years) are eligible for this study.

**Part One: Demographic, social economic and socio-cultural factors**

**Socio – Demographic Details please *tick***

1. What is your age in years?

a) 10-14 years b)15-19 years c) 20-24 years d) 25- 29 years
e) 30- 34 years f) 35- 39 years g) 40 – 44 years h) 45-49 years
i) 50 years and above

2. Marital status

a) Single b) Cohabiting c) Estranged/divorced d) Married

3. What is your religious status?

a) Christian (catholic, protestant) b) Muslim c) Other

4. Educational background

a) No education b) primary incomplete Up to Class 3 c) primary complete Up to class 8 d) Secondary education incomplete e) Secondary education complete f)Tertiary college and above

5. What do you do for a living?

a) Herding b) Small scale business e.g. selling vegetables, shop/kiosk etc c) basketry and weaving d) Selling charcoal e) brewing f) nothing g) any other (please specify).

6. Are you employed?

a) Yes b) No

7. If employed, what is your occupation?

a) Formal employment (Teacher, civil servant, NGO worker etc.)

b) Casual laborer c) Self-employment/business d) Farmer e) Pastoralist

8. What is your husband's occupation?

a) Formal employment (Teacher, civil servant, NGO worker etc.) b) Casual laborer c) Self-employment/business d) Farmer e) Pastoralist

**Socio cultural factors**

9. Is there any part of your culture that prohibits utilization of skilled Birth Attendants?

a.) Yes b.) No

10. If yes please specify……

11. Is family planning practiced in your community?

a) Yes (if yes go to No. 13) b) No (if No. go to No.12)

12. Why do you think it is not practiced (please state)

……

13. Are there any socio cultural factors/myths that are associated with ANC and Skilled Birth delivery in your community? Please state

……

14. Whom do you discuss with ANC and Skilled Birth delivery issues?

a) Husband b)Wife c) Fiancee d) Friend e) Religious leaders

f) Traditional healers g) Health workers h) Nobody

i) Any other (specify)…….

**Part Two: Health system factors influencing accessibility of maternal, neonatal and child health services**

15. How far is your nearest health facility in Kms

a) Less than 1 km b) 1-5 kms c) 5-10 kms d) 10- 20 kms e) more than 20 kms

16. How do you access the facility?

a) Bicycle b) Motorcycle c)Vehicle d) walking e) Other (specify)

17. Have you heard about skilled birth attendance or Health facility delivery?

a) Yes b) No

18. If yes, who told you about it?

a) Health worker (s) b) Friend/Peer c) My Husband d) Traditional birth attendants (TBA) e) Religious leaders f) Mass media g) Others (specify)……

19. Do you go for antenatal and delivery services at the health facility?

a) Yes (go to No.21) b) No (go to No. 22)

20. If yes where do you get these services?

a) Nearest Private clinic b) Nearest Dispensary c) Nearest Health Centre d) Nearest Hospital e) Traditional healers f) others (specify)……..

21. If No, where do you seek antenatal care and skilled birth attendants' services?

a) Traditional Birth Attendants b) Traditional healers c) No where

22. How many visits have you attended?

a) 1 b) 2 c) 3 d) 4 e) 5 and above f) None

23. Which maternal neonatal health services are being offered in the health facility? (tick all correct answers)

i. Family planning services (Contraceptives, condoms)

ii. Prevention of Mother to Child Transmission (PMTCT)

iii. Treatment of all the diseases

iv. Treatment of sexually transmitted Infections/diseases

v. Immunization

vi. Gender based violence (GBV)

vii. General health information/counseling

viii. Obstetric care ix. Other (please specify)……

24. Are you expectant now? a) Yes b) No

25. Have you ever delivered in health facility?

a) Yes b) No

26. If yes how were the staffs handling you at the facility?

a) Polite and welcoming b) Facility most of the time is closed

c) The staffs were too rude d) Other……..

27. Was the facility equipped with adequate facilities and drugs

a) Yes b) No

28. What is your perception of health care behaviour during delivery?

29. How would you describe your birthing experience with health facility staff?

30. Are there any cultural factors that determine your utilization of SBAs? a) Yes b) No

If yes please explain .....

31. If you have ever assessed a facility skilled delivery, how would you describe how you were handled by service provider?

a) Good-Friendly, welcoming, handled me well and gave me the service i required

b) Moderate-welcomed me but asked too many unnecessary questions before giving me service c) Bad, he/she was harsh rude and denied me service

32. Have you ever visited health facility but missed the service you required?

a) Yes b) No

33. If yes in no.31, state the reason for not getting the service

a) The queue was long b) I had no money for the service c) I found neighbors and felt ashamed d) The service provider refused to give the service/ was harsh

e) The clinic was closed f) Any other (Please specify)……

**Part three: Challenges/barriers to utilization of Skilled Birth Attendants**

**Challenges**

34. Have you had any problem with utilization of SB delivery services?

a) Yes (if yes go to No. 55) b) No

35. If yes state the problem(s)

……

36. What were the staff attitude/ friendliness during ANC visit?

a) Excellent b) Good c) Fair d) Bad e) Not attended

37. Did the facility have enough supply of drugs and equipments needed?

a) Yes b) No

38. How do you think we can improve ANC and SB delivery service delivery and utilization?

**THANK YOU**

**Appendix iii: Key informant interview guide**

1. Does the facility offer Antenatal and skilled delivery services?
2. What is your own view about utilization of antenatal and facility service deliveries in the facility?
3. What Antenatal and maternity services do you offer in your facility?
4. What are your operation hours?
5. Which are the days you offer Antenatal services?
6. Do you have a separate service waiting area/shelter in the facility?
7. Would you say that the antenatal clients are utilizing the antenatal and skilled birth deliveries?
8. Which antenatal services are mostly sought for by the antenatal attendants in the facility?
9. What in your view would you say hinder/encourage the antenatal clients to utilize antenatal care and skilled birth attendants services?
10. What are the challenges you face as a health provider of offering these services?
11. Suggest ways to scale up utilization of antenatal and skilled birth deliveries by the clients.

**County Reproductive Health Coordinator**

1. What is your antenatal care coverage?
2. What is the total number of deliveries for the last one year in your catchment population?
3. How many have been delivered in the health facility?
4. What is the level of utilization of SBAs in your catchment area?
5. Are there any other interventions in you catchment area aimed at increasing utilization of SBAs?

6. How do the health facilities get their equipments and supplies (from where and how often)?

7. Have they been successful? Explain

8. What challenges do you face in enhancing utilization of skilled birth attendants in your catchment population?

9. Are there any cultural barriers related to SBA utilization?

**The Area Chief**

1. How many home deliveries have been reported in your office in the last one year?

2. Are you conversant with the government policy concerning SBAs?

3. In your catchment area, are there systems you have put in place to assist a pregnant woman in case of an emergency?

4. What is your role in ensuring utilization of SBAs in your catchment area?

5. In your opinion, has the free maternity policy been of any assistance in enhancing utilization of SBAs? Explain

6. Are there any other interventions in you catchment area aimed at increasing utilization of SBAs?

7. What challenges do you face in enhancing utilization of skilled birth attendants in your catchment population?

8. Are there any cultural barriers related to SBA utilization?

**Skilled Birth Attendants**

a) What is your antenatal care coverage?

b) What is the total number of deliveries for the last one year in your catchment population?

c) How many have been delivered in the health facility?

d) What is the level of utilization of SBAs in your catchment area?

e) Are there any other interventions in you catchment area aimed at increasing utilization of SBAs?

f) Have they been successful? Explain

g) What challenges do you face in enhancing utilization of skilled birth attendants in your catchment population?

h) Are there any cultural barriers related to SBA utilization?

**Community Health Workers (CHWs)**

1. What is your role in promoting utilization of SBAs?

2. In your opinion, what is the level of utilization of SBAs in your catchment area?

3. In your opinion, are there mechanisms/strategies in place in enhancing utilization of SBAs? Explain

4. What challenges do you face in promoting utilization of SBAs in your catchment area?

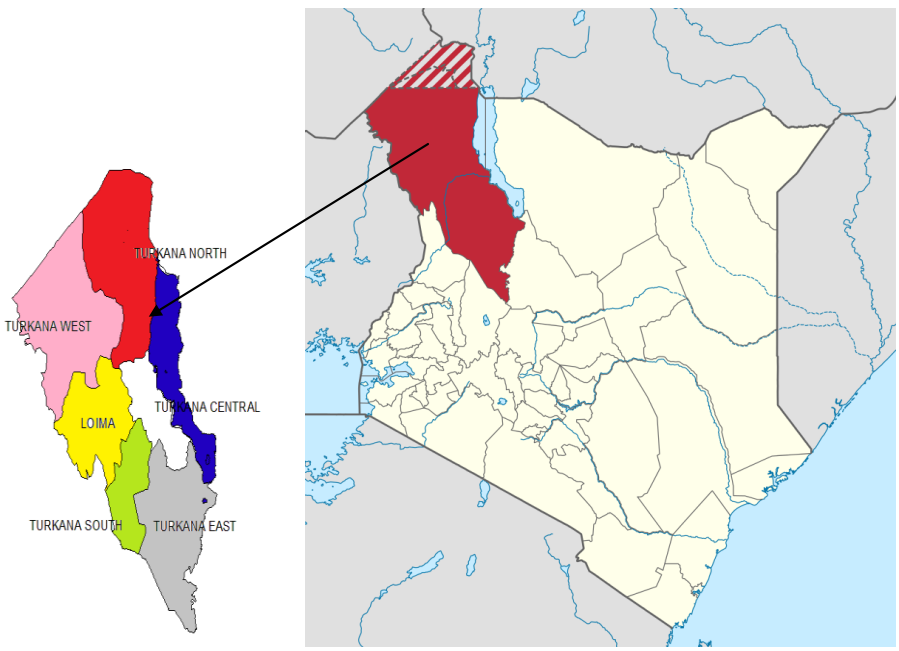
5. Are there any cultural barriers related to SBA utilization?

**Focused Group Discussion (FGD) Guide**

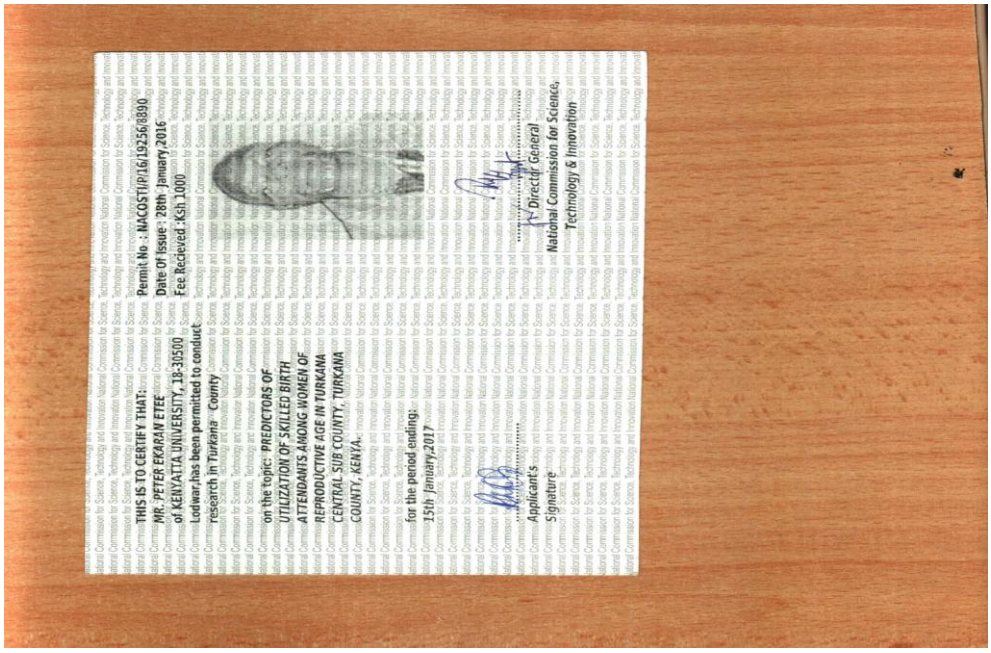
1. What is your perception of health caring behaviour during delivery?
2. What systems are in place to assist pregnant woman in case of an emergency in your community?
3. What is your view on delivery by skilled birth attendants?
4. What determines where you will deliver your baby?
5. Suggest ways of improving utilization of SBA

**Appendix iv: Map showing study area**

Map of Kenya showing Turkana County and its sub counties



**Appendix v: Research permit**



THIS IS TO CERTIFY THAT:
MR. PETER EKAAAN ETEE
of KENYATTA UNIVERSITY, 18-30500
Lodwar,has been permitted to conduct
research in Turkana County
on the topic: PREDICTORS OF UTILIZATION OF SKILLED BIRTH ATTENDANTS AMONG WOMEN OF REPRODUCTIVE AGE IN TURKANA CENTRAL SUB COUNTY, TURKANA COUNTY, KENYA.
for the period ending:
15th January,2017
Applicant's Signature
Permit No : NACOSTI/P/16/19256/8890
Date Of Issue : 28th January,2016
Fee Recieved :Ksh 1000
Director General
National Commission for Science, Technology & Innovation

REPUBLIC OF KENYA

RESEARCH CLEARANCE PERMIT

Serial No. A 7691

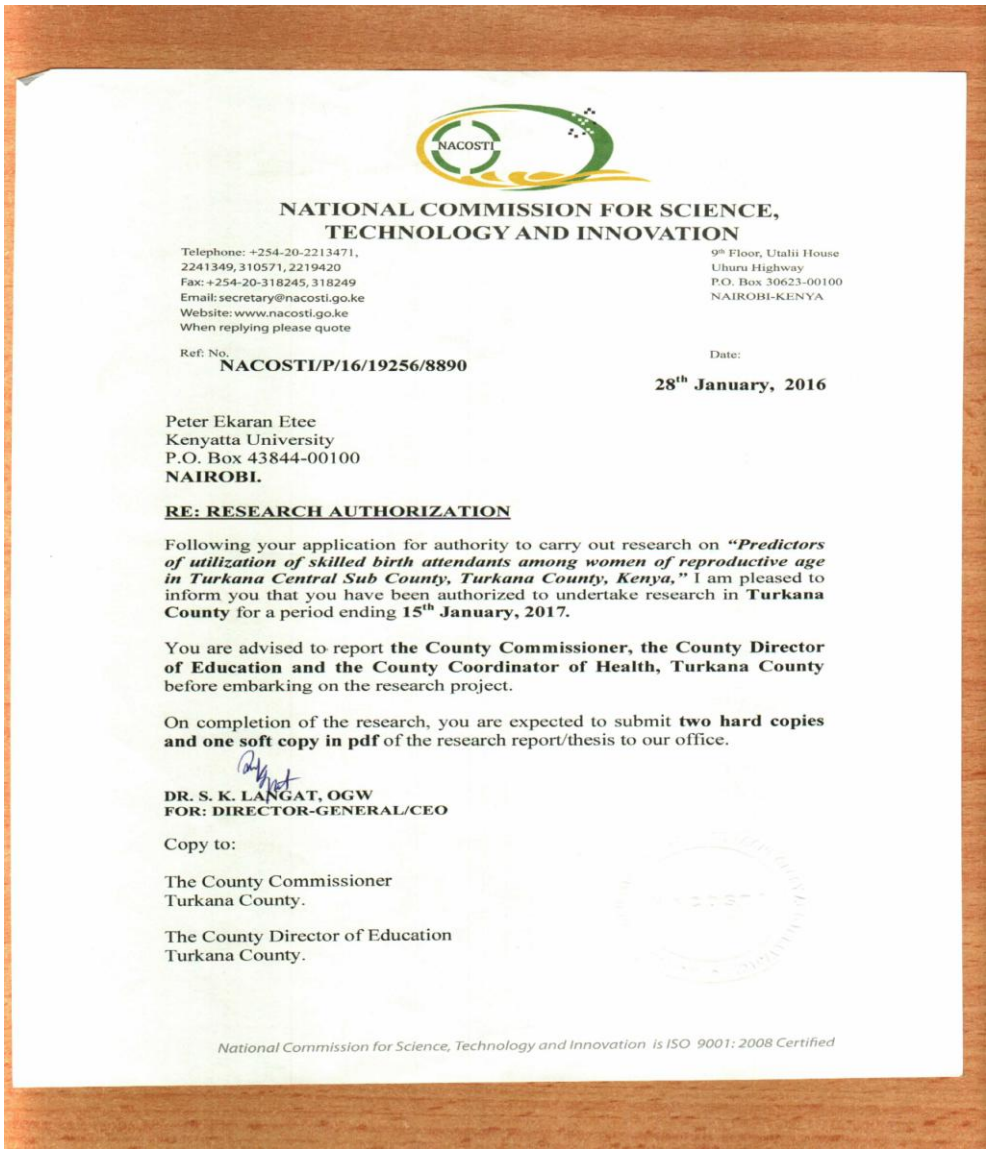
CONDITIONS: see back page

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

National Commission for Science, Technology and Innovation

**Appendix vi: Research authorization**



NACOSTI

**NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION**

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2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/16/19256/8890**

Date: **28th January, 2016**

Peter Ekaran Etee
Kenyatta University
P.O. Box 43844-00100
**NAIROBI.**

**RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on ***"Predictors of utilization of skilled birth attendants among women of reproductive age in Turkana Central Sub County, Turkana County, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Turkana County** for a period ending **15th January, 2017.**

You are advised to report **the County Commissioner, the County Director of Education and the County Coordinator of Health, Turkana County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

**DR. S. K. LANGAT, OGW**
**FOR: DIRECTOR-GENERAL/CEO**

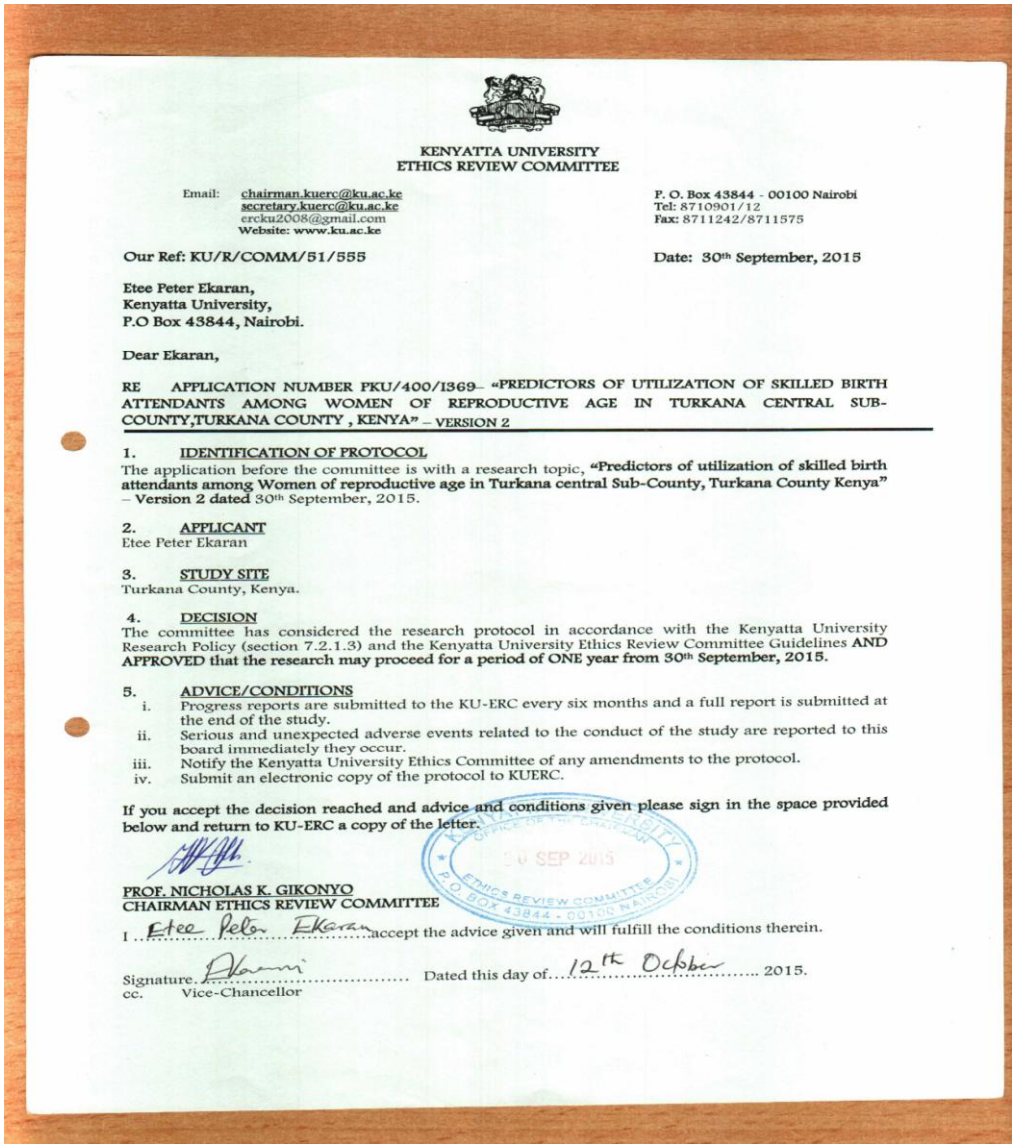
Copy to:

The County Commissioner
Turkana County.

The County Director of Education
Turkana County.

*National Commission for Science, Technology and Innovation is ISO 9001: 2008 Certified*

**Appendix vii: Ethical clearance: Kenyatta University Ethics Review Committee**



KENYATTA UNIVERSITY
ETHICS REVIEW COMMITTEE

Email: chairman.kuerc@ku.ac.ke
secretary.kuerc@ku.ac.ke
ercku2008@gmail.com
Website: www.ku.ac.ke

P. O. Box 43844 - 00100 Nairobi
Tel: 8710901/12
Fax: 8711242/8711575

Our Ref: KU/R/COMM/51/555

Date: 30th September, 2015

Etee Peter Ekaran,
Kenyatta University,
P.O Box 43844, Nairobi.

Dear Ekaran,

RE APPLICATION NUMBER PKU/400/1369– "PREDICTORS OF UTILIZATION OF SKILLED BIRTH ATTENDANTS AMONG WOMEN OF REPRODUCTIVE AGE IN TURKANA CENTRAL SUB-COUNTY,TURKANA COUNTY , KENYA" – VERSION 2

1. IDENTIFICATION OF PROTOCOL
The application before the committee is with a research topic, **"Predictors of utilization of skilled birth attendants among Women of reproductive age in Turkana central Sub-County, Turkana County Kenya" – Version 2 dated** 30th September, 2015.

2. APPLICANT
Etee Peter Ekaran

3. STUDY SITE
Turkana County, Kenya.

4. DECISION
The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (section 7.2.1.3) and the Kenyatta University Ethics Review Committee Guidelines **AND APPROVED that the research may proceed for a period of ONE year from 30th September, 2015.**

5. ADVICE/CONDITIONS
i. Progress reports are submitted to the KU-ERC every six months and a full report is submitted at the end of the study.
ii. Serious and unexpected adverse events related to the conduct of the study are reported to this board immediately they occur.
iii. Notify the Kenyatta University Ethics Committee of any amendments to the protocol.
iv. Submit an electronic copy of the protocol to KUERC.

**If you accept the decision reached and advice and conditions given please sign in the space provided below and return to KU-ERC a copy of the letter.**

PROF. NICHOLAS K. GIKONYO
CHAIRMAN ETHICS REVIEW COMMITTEE

I Etee Peter Ekaran accept the advice given and will fulfill the conditions therein.

Signature ..... Dated this day of 12th October 2015.

cc. Vice-Chancellor